





Submit by Monday 30 November 2009

DARWIN INITIATIVE APPLICATION FOR GRANT FOR ROUND 17: STAGE 2

Please read the Guidance Notes before completing this form. Where no word limits are given, the size of the box is a guide to the amount of information required. Information to be extracted to the database is highlighted blue.

1. Name and address of organisation (NB: Notification of results will be by post)

Name:	Address:
Paul Bates	Harrison Institute, Bowerwood House, 15 St Botolph's Road, Sevenoaks, Kent, TN13 3AQ, UK.

2. Project title (not exceeding 10 words)

Enhancing taxonomic capacity to underpin tropical biodiversity conservation (SE Asia)

3. Project dates, duration and total Darwin Initiative Grant requested

		duration of project: 3yrs 6 months End date: Oct. 2013			Proposed start date: April, 2010		
Darwin funding2010/112011/122012/20132013/14Totalrequested£ 66,195£ 64,020£ 59,680£ 0£ 189,895	95	Total £ 189,895	2013/14 £ 0	2012/2013 £ 59,680	2011/12 £ 64,020		

4. Define the purpose of the project (extracted from logframe)

To enhance taxonomic capacity in SE Asia by developing a university-based, taxonomic training centre of international standard in Thailand and a regional taxonomic network with collaborating institutions in Cambodia and Lao PDR

5. Principals in project. Please provide a one page CV for each of these named individuals. You may copy and paste this table if you need to provide details of more than one overseas project partner.

Details	Project Leader	Main project partner and co-ordinator in host country/ies	Main project partner and co-ordinator in host country/ies
Surname	Bates	Satasook	Sethik
Forename (s)	Paul	Chutamas	Rath
Post held	Director	Dean of Science, Assoc. Professor Director of Nat History Museum, PSU	Biodiversity Conservation Co- ordinator, Royal University of Phnom Penh
Institution (if different to above)		Prince of Songkla University (PSU)	Centre for Biodiversity Conservation (RUPP)
Department	Zoology	Biology	Environmental Science
Telephone			
Email			

Details	Main project partner and co-ordinator in host country/ies
Surname	Kouangvichit
Forename (s)	Souphab
Post held	Associate Professor, National University of Laos (NUoL)
Institution (if different to above)	
Department	Environmental Science
Telephone	
Email	

6. Has your organisation received funding under the Darwin Initiative before? If so, give details.

Reference No	Project Leader	Title
162/11/09	Paul Bates	Biodiversity assessment of limestone karst dependent bats in Myanmar
14-011	Paul Bates	Taxonomic initiative for Southeast Asian bat studies (Vietnam, Thailand, Cambodia, and Lao PDR)

7. IF YOU ANSWERED 'NO' TO QUESTION 6 describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)

Aims (50 words)				
Activities (50 words)				
Activities (50 words)				
Achievements (50 words)				

8. Please list all the institutions involved including the UK/collaborative (where there are partners <u>in addition</u> to the applicant organisation) and host country partners that will be involved, and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. This section should illustrate the capacity of host country partners to be involved in the project. Please provide written evidence of partnerships. Please copy/delete boxes for more or fewer partnerships.

Lead UK institution and website where available:	Details (including roles and responsibilities and capacity to engage with the project):			
	Focal person: Dr Paul Bates, Director			
Harrison Institute – www.harrison- institute.org	Background: The Harrison Institute is a UK registered charity which is CITES listed and has a zoological reference collection of international reputation. The Institute facilitates biodiversity conservation in the Old World tropics by training staff and students from host country institutions in mammal taxonomy, conducting collaborative research, developing scientific networks, liaising with conservation NGOs (workshops and targeted research), and disseminating taxonomic information through a range of media (TV, radio and newspaper articles) and over 240 peer-reviewed publications, including monographs.			
	Roles/responsibilities: The Institute will manage the project throughout its duration. Dr Bates and Dr Hammond will conduct training in taxonomy and field studies, co-supervise the four Darwin PhD students, and train and encourage other postgraduate and undergraduate students to participate in the project (especially field and museum activities and attending workshops). They will assist with enhancing taxonomic libraries (pdfs and books), voucher specimen collections and databases and Dr Bates will participate in field surveys. They will help develop a strong international network of experts associated with the project by inviting visiting international researchers to contribute to its training workshops/conference, which they will co-organise with the host institutions. They will ensure effective communication between the different stakeholders involved in research and conservation and will facilitate discussions on inter-institutional protocols and the signing of MoUs. They will participate in the design of the SE Asian Taxonomic Network website, which will be hosted on the Institute server.			
	Capacity: The Institute has successfully completed two previous DI projects in SE Asia (see above) and in recent years has successfully co- supervised 10 MSc and 12 PhD students from UK and Asia. In addition, it has promoted/participated in a wide range of collaborative capacity building projects in the region sponsored by a range of organisations, including: British Council (PMI2) project in Thailand; a CEPF project in Cambodia; and a Rufford Foundation project in Lao PDR. It has contributed to the IUCN Red List through participation in workshops in India, Thailand and Java and co-organised workshops which seek to integrate the research and conservation communities in SE Asia.			

Lead host country Partner and website where available:

Department of Biology, Prince of Songkla University.

http://www.sc.psu.ac.th/eng/ Department/ Biology/background.asp

Natural History Museum, Prince of Songkla University

http://www.sc.psu.ac.th/eng/ Services/Museum.html

http://www.nhm.psu.ac.th/ museum

Details (including roles and responsibilities and capacity to engage with the project):

Focal person: Assoc Prof. Dr Chutamas Satasook,

18-002

Background: The Department of Biology offers undergraduate, masters, and doctoral programmes and is active in collaborative, international research and publications. It includes a dynamic Natural History Museum, which, in addition to zoology, has an herbarium of international reputation. It has strong collaborative links with sister organisations in Thailand such the Centre for Thai National Reference Collections of the National Science Museum, Bangkok and the Queen Sirikit Botanical Gardens, Chiang Mai and conservation organisations such as the Biodiversity Training and Research [BRT] Thailand; the Office of Natural Resources and Environmental Policy and Planning, the CBD focal point; and the Departments of Forestry and Natural Resources and National Parks. It also has MoUs with the Universities of Aberdeen and Bristol and the Harrison Institute and has been designated by PSU as a 'Centre of Excellence for Biodiversity in Peninsular Thailand'.

Roles/responsibilities: Dr Chutamas Satasook, as Director of the Natural History Museum, Dean of Science, and Associate Professor of the Department of Biology has been involved from the start in the design of the proposed project since she sees it as crucial to the long term development of taxonomic capacity in peninsular Thailand and SE Asia generally. PSU will support the salaries of the two Thai PhD students and host and manage the project in Thailand. It will support the enhancement of its collections (for which it already has permanent staff as curators) and will supervise the establishment of a taxonomic library by appointing a dedicated, part-time staff member to gather pdfs, reprints, books...which will be collated, catalogued and made available to future researchers. PSU will provide academic supervision for all 4 doctoral candidates (including those from Lao and Cambodia); will host and co-organise meetings, workshops, and field studies in Thailand. It will greatly encourage undergraduates and other postgraduates to attend workshops and participate in field, laboratory and museum studies. Through the media department of the Natural History Museum, it will co-design the SE Asian Taxonomic Network website and an exhibit on the importance of taxonomy to be displayed in the Museum.

Capacity: The Department of Biology is already hosting well respected PhD and MSc International Animal Ecology courses, with students from a range of countries in Asia. In addition, Dr Sara Bumrungsri (who was trained at Aberdeen University) has supervised two further students from the Department in PhDs in bat ecology. The Department has successfully completed one previous DI project with the Harrison Institute (DI: 14-011), in which it co-supervised 5 Darwin MSc students in mammal ecology and taxonomy. It has contributed to the IUCN Red List through participation in workshops in Thailand and Java and has instigated outreach programmes involving school children and the public and also the Departments of Forestry and Natural Resources and National Parks.

Partner Name and	Details (including roles and responsibilities and capacity to				
website where	engage with the project):				
available:					
	Focal person: Rath Sethik, Biodiversity Conservation Co-ordinator				
Centre for Biodiversity					
Conservation (CBC),	Background: The Centre for Biodiversity Conservation (CBC) is part of				
Department of	the Department of Environmental Science and offers MSc courses in				
Environmental Science,	biodiversity conservation. It also supports a new and expanding Natural				
Royal University of	History Museum, which is primarily a mammal and herpetological				
Phnom Penh (RUPP)	research collection. It is funded through FFI and, indirectly the Darwin				
	Initiative.				
http://www.conservationcamb odia.org/					
index.php?option=com_frontp	Roles/responsibilities: The current project has been discussed in				
age&Itemid=1	detail with Mr Rath Sethik and Dr Neil Furey (Head of Academic				
	Development). RUPP will support the salary of Ith Saveng (the PhD				
	candidate). They will also actively participate in the SE Asian				
	Taxonomic Network, including the exchange of students, loan of				
	specimens and trans-boundary field studies. In addition they will				
	promote the participation of undergraduate and other postgraduate				
	students in field and museum studies and workshops.				
	Consister The Control of Diadiusraity Conservation is supported by				
	Capacity: The Centre of Biodiversity Conservation is supported by a				
	variety of sources including the Darwin Initiative (through FFI). It has dynamic leadership and commitment to become a national centre of				
	expertise in biodiversity conservation and research. The proposed				
	project complements and enhances this aim.				

Partner Name and	Details (including roles and responsibilities and capacity to				
website where	engage with the project):				
available:					
	Focal person: Assoc. Prof. Souphab Kouangvichit				
Faculty of					
Environmental Science,	Background: The Faculty of Environmental Science is an integral part				
National University of	of the NUoL, which is the most prestigious university in Lao PDR.				
Laos (NUoL)	Currently, the department is trying to enhance its capacity to train MSc				
	students and for this it requires its own staff to be trained to PhD level.				
	Roles/responsibilities: The Faculty will provide Mr Bounsavane				
	Dounangboubpha as a PhD candidate for training at PSU, Thailand. He				
	will conduct his research in Thailand and Lao. Mr Bounsavane has				
	been involved in detailed discussions with colleagues from the UK,				
	PSU and RUPP about the aims and objectives of this project.				
	Capacity: Following the completion of Mr Bounsavane Dounang-				
	boubpha's MSc on mammal taxonomy (previous Darwin Initiative				
	project), he has recently started to teach taxonomy to undergraduate				
	students. Currently, the Faculty has a small, informal mammal				
	collection. The proposed project will integrates this into a new, better				
	resourced and managed university/national collection. It will also allow				
	the Faculty to conduct research and MSc supervision in taxonomic				
	related projects. Additional students will be encouraged to take part in				
	field studies and in aspects of the taxonomic research and collections				
	management.				
	S S				

9a. Have you consulted stakeholders not already mentioned above? If yes, please give details:				
Ms Emily Woodfield, Country Director, and Dr Neil Furey, Head of Academic Development, University Capacity Building Programme, FFI Cambodia (see letter of support).				
David Emmett, Indo-Burma Regional Director of Conservation International, Cambodia (see letter of support).				
Dr.Surachit Waengsothorn, Centre for Thai National Reference Collections, Science Museum, Bangkok, under administration of Thailand Institute of Scientific and Technological Research (TISTR)				
Dr Gabor Csorba, Deputy Director, Hungarian Natural History Museum (see letter of support).				
Dr Emma Teeling, School of Biology and Environmental Science, University College Dublin (see letter of support)				
9b. Do you intend to consult other stakeholders?				
If yes, please give details:				
A range of additional stakeholders (in research institutions, conservation NGOs and government ministries) will be consulted if the project is approved.				
9c. Have you had any (other) contact with the government not already stated? If yes, please give details:				
No, since all three principal partner universities in Thailand, Cambodia, and Lao PDR are part of the Ministry of Education and they collaborate closely with other government sectors such as the Ministry of Natural Resources and Environment.				
9d. Is any liaison proposed with the CBD/CMS/CITES focal point in the host country?				
Dr Sirikul Bunpapong, Director, Office of Natural Resources and Environmental Policy and Planning, Thailand (see letter of support).				
9e. Will your project support any work in the UK Overseas Territories? In No If yes, please give brief details stating which Territory/ies will be involved. Involved.				

PROJECT DETAILS

10. Please provide a Concept note (Max 1,000 words) (repeat from Stage 1, with changes highlighted)

(Some minor amendments made in response to DI recommendations at Stage 1) Mainland SE Asia is a 'hotspot' for rare and endemic biodiversity. Unfortunately, one third of its terrestrial vertebrates are threatened with extinction (IUCN Red List). National governments, through the CBD, are committed to biodiversity conservation and seek to deliver relevant initiatives. However, excepting certain larger mammals and other charismatic groups, there are few individuals who can identify and provide authorative data on species composition, distribution, ecology, and status of these diverse and threatened taxa.

Taxonomists (with their field guides, keys, databases, and molecular expertise) are uniquely qualified to:
identify, describe and document the biodiversity of ecosystems

- support the work of ecologists, conservationists, and molecular biologists
- advise on priorities for species and site-based conservation initiatives
- monitor biodiversity loss from the impacts of
 - o climate change
 - o habitat fragmentation
 - the spread of invasive alien species
 - the spread of disease (within biodiversity and from wildlife to man)
- assist with the enforcement of CITES
- support environmental impact assessments.

However, as the requirement for taxonomic expertise grows in the biodiversity-rich topics, the availability of taxonomists in Europe, North America and Japan is declining substantially (Systematics and Taxonomy Report, House of Lords-2007-2008).

<u>Strategy</u>

Following the success of DI project-14011, PSU Thailand requested assistance from the Harrison Institute to enhance taxonomic capacity in SE Asia by co-developing a regional centre for taxonomic research and training to be based in the PSU Natural History Museum; training to be initially focused on small mammal and bird taxonomy (as a role model) but with a future commitment to include a range of regional/international partners working on different vertebrate/invertebrate taxa.

Two supporting institutions in Cambodia and Lao PDR requested assistance to develop their own taxonomic capacity and to be part of a larger, supporting SE Asian taxonomic network. Together this would:

- counteract the decline in Western taxonomists
- reduce the impediment of working in isolation by promoting regional and international collaboration
- provide focal points for SE Asian governments to access locally generated biodiversity information relevant to the CBD (especially Articles 7,10,12,13,17 and Global Taxonomy Initiative) and support CITES
- provide a training centre at PSU with affordable fees (£1500/annum) and accommodation (£70/month) (compared to £15,800/annum fees for MSc course, NHM, London)
- provide taxonomic libraries and regionally-based depositories for voucher specimens

PSU currently lacks experience in conducting taxonomic research and collections management to an international standard. However, with suitable capacity building, it is uniquely qualified to be a taxonomic training base since it has:

- a vibrant Natural History Museum, funded by the University, with expanding research and education programmes
- previous positive experiences (DI project-14011) of training students from Lao PDR and Cambodia, and hosting regional/international training workshops and conferences
- an MoU with the Harrison Institute and other Western institutions promoting biodiversity/taxonomic research (including Bristol University, University College Dublin, Hungarian Natural History Museum)
- MoUs with the Queen Sirikit Botanical Garden, Chiang Mai and the Science Museum, Bangkok
- been designated by the University as a 'Centre of Excellence for Biodiversity in Peninsular Thailand'
- five campuses (Hat Yai, Phuket, Trang, Surat Thani, Pattani), which offer unparalleled opportunities for research/training in biodiversityrich areas of tropical forest, peat swamp, limestone karst, Ramsar sites, national parks, and coastal areas of Gulf of Thailand and Andaman Sea.

Outcomes

- 1. A SE Asian centre for taxonomic training and research based in the Natural History Museum, PSU. Training in:
 - a. Field study techniques (including ethical and responsible collecting policy)
 - b. Specimen preparation and collections management
 - c. Taxonomic analysis and interpretation
 - d. Multivariate statistics, technical drawing and photography
 - e. Introduction to GIS
 - f. Methodology of 'barcoding' and molecular systematics
 - g. Scientific writing and preparation of international publications
- 2. Four full time staff of PSU, NUoL and RUPP trained to PhD level in taxonomic research, and gualified to teach, research and co-supervise the next generation of in-country taxonomists.
- 3. Undergraduates and other postgraduate students from PSU/RUPP/NUoL encouraged to participate in field studies, laboratory and museum studies and workshops to maximise impact of training and encourage further interest in taxonomy.
- 4. Participation of staff from the Departments of Forestry, Natural Resources and National Parks and

international conservation NGOs in workshops and field studies to encourage collaboration between academic researchers and conservation bodies and increase skills base in in-country conservation organisations.

- 5. Taxonomic Network of PSU/ RUPP/NUoL (to be subsequently expanded) with its own website (hosted by Harrison Institute) and focal points to attract further national and international collaborative taxonomic studies. Network members will have MoUs and protocols to facilitate:
 - a. Student and staff exchanges for training and research
 - b. Trans-boundary field studies
 - c. Joint hosting of workshops/conferences
 - d. Joint publications in international journals.
- 6. Enhanced voucher specimen collections in PSU, RUPP and HI; a collection established in NUoL
- 7. Taxonomic libraries established and/or enhanced in all institutions
- 8. An exhibit at PSU Natural History Museum aimed at the public, especially school children, to explain the role of taxonomists (including Linnaeus and Charles Darwin).

Network Partners

<u>Prince of Songkla University</u> will become a regional centre for taxonomic training and a focal point for taxonomic research in peninsular Thailand. PSU recently appointed a HI/PSU-trained (MSc in DI-14011) taxonomist as curator of vertebrates its new Natural History Museum. This Museum is rapidly expanding in scope (mammals/herps/fish insects/marine invertebrates) and is increasing its international profile.

<u>Royal University of Phnom Penh</u> (RUPP) will be the focal point for the Taxonomic Network in Cambodia. The university recently appointed a HI/PSU-trained (DI-14011) taxonomist as curator of its new Natural History Museum. He is supported by a FFI staff member with a PhD in mammal ecology and taxonomy. Senior staff, as part of DI 14037 and EIDPO028 projects are committed to developing RUPP as a centre of biodiversity excellence.

<u>National University of Laos</u> (NUoL) will be the Network focal point in Lao. Following the award of MScs to three NUoL staff by PSU/HI (DI-14011), NUoL has started to teach taxonomy to undergraduates and requested help to develop as a national centre of biodiversity/taxonomic expertise.

11a. Is this a new initiative or a development of existing work (funded through any source)? Please give details:

This is a new initiative. However, all three partner institutions (PSU, RUPP, NUoL) participated in a previous Harrison Institute DI project [14-011: 2005-2008] on bat taxonomy and four Darwin trainees from this previous programme, all of whom now have permanent positions in their respective universities, will be trained to PhD level in the new project. The new initiative also builds on some recent capacity building work initiated in two further collaborative programmes: one on bat ecology, conservation, and taxonomy in Cambodia (\$20,000 [CEPF], 2009-2011) and the other on computer modelling to predict ecological requirements and distribution of conservation dependent bats in Thailand (£39,951 [British Council], 2008-2010).

11b. Are you aware of any other individuals/organisations/Darwin Initiative projects carrying out similar work?

If yes, please give details explaining similarities and differences, and explaining how your work will be additional to this work and what attempts have been/will be made to co-operate with and learn lessons from such work for mutual benefits:

The Natural History Museum London in conjunction with Queen Sirikit Botanical Gardens, Chiang Mai (DI:13003) – *Taxonomic capacity building in support of biodiversity conservation*. This project was similar in its emphasis on taxonomy but differed in its focus on insects and did not include the development of a regional taxonomic network. PSU currently collaborates with this QSBG in the study of a range of invertebrates.

FFI in conjunction with the Royal University of Phnom Penh (DI: 14037) – *Building university capacity to train future Cambodian conservationists.* This project complements the proposed project as one of its former MSc student, Ith Saveng, is a PhD candidate in the current initiative. Dr Neil Furey of FFI Cambodia will co-supervise Saveng and assist with the implementation of the SE Asian Taxonomic Network.

Royal Botanic Gardens Edinburgh with the National University of Laos (DI: 13007) – *Taxonomic training for a neglected biodiversity hotspot within Lao PDR.* This project, which was botanical, trained a much larger number of trainees (30) but in less depth than is proposed in the current project.

12. Please indicate which of the following biodiversity conventions your project will contribute to: - At least one must be selected.

- Only indicate the conventions that your project is directly contributing to.

- No additional significance will be ascribed for projects that report contributions to more than one convention

Convention on Biological Diversity (CBD)	☐ Yes
CITES	indirectly
Convention on Migratory Species (CMS)	indirectly

What problem is this project addressing and how was it identified? (150 words)

Continental SE Asia retains internationally important populations of many declining and threatened taxa. However, currently there is only limited taxonomic capacity world-wide and virtually no in-country capacity in SE Asia to study the composition and distribution of these diverse species and thereby promote their conservation.

Following the success of the Harrison Institute's Darwin Project (14-011), Prince of Songkla University recognised it could play a significant future role in supporting the CBD in Thailand/SE Asia by establishing a teaching facility for taxonomy in its Biology Department and training capacity in its Natural History Museum. It requested assistance from the Harrison Institute to train its staff to international standard in order to achieve this aim.

RUPP, with the support of FFI, and NUoL also have strong aspirations to become centres of excellence in biodiversity research in Cambodia and Lao respectively. They also requested help in training staff and networking with international expertise.

What will change as a result of this project? (150 words)

With the establishment of a prestigious, in-country centre of taxonomic expertise in Thailand with a network of two smaller centres in Cambodia and Lao, reinforced by protocols and MoUs (network to be expanded later), there will be increased capacity in continental SE Asia to:

(1) research tropical biodiversity

(2) advise on priorities for conservation

Following this Darwin project, together these centres will:

- have sufficient critical mass and expertise to act as focal points for further national, regional, and international taxonomic research projects, including trans-boundary studies
- attract high quality local and international students with an interest in biodiversity
- have enhanced research collections and research facilities, with expanded taxonomic libraries
- be part of an active regional and international academic network for the exchange of information, students and staff
- have enhanced linkages to in-country conservation NGOs and government ministries and other stakeholders concerned with biodiversity conservation.

Why is the project important for the conservation of biodiversity? (150 words)

- Many rare, endemic, and threatened taxa in SE Asia are currently at risk from:
 - climate change
 - habitat fragmentation and destruction
 - rapid expansion of monoculture plantations (especially palm oil and rubber)
 - spread of invasive alien species
 - human predation and consumption.

In response to these factors, taxonomists, with their in-depth knowledge of the more obscure as well as the charismatic taxa are uniquely qualified to:

- identify species most at risk of extinction and/or in need of conservation initiatives
- advise on IUCN status
- give meaning to predictions of extinction rates
- provide expert identification skills for ecologists and conservationists
- add new data on species distributions and thereby reassess their conservation status
- assist with the enforcement of CITES.

With the decline of Western taxonomists, the role of well-trained and well-supported in-country taxonomists is becoming ever more important.

How does this relate to one or more of the biodiversity conventions? (150 words)

The project is directly related to the CBD in relation to the cross-cutting theme of the Global Taxonomy Initiative since it will reduce the taxonomic impediment by:

- establishing new centres of taxonomic expertise and training in the biodiversity-rich tropics
- increasing the number of professional taxonomists
- increasing skills in zoological collections management and curation
- repatriating taxonomic information
- conducting taxonomic research and publishing taxonomic data
- providing taxonomic focal points in a SE Asian Taxonomic Network

In addition, the project will specifically contribute to:

- Article 7 identifying components of SE Asia's biodiversity important for conservation
- Article 12 training in-country staff and students to conduct a range of taxonomic projects
- Article 13 increasing public awareness of the role of taxonomy in conservation
- Article 17 promoting the exchange and repatriation of biodiversity information
- Article 18 facilitating a regional and international taxonomic network.

13. How will the results of the project be disseminated; how will the project be advertised as a Darwin project and in what ways will the Darwin name and logo be used? (max 200 words)

Dissemination: The results will be disseminated in a range of formats.

Internationally, by

- Taxonomic publications in peer-reviewed journals
- The SE Asian Taxonomic Network website
- Through the MoUs and protocols that will acknowledge the role of the Darwin project in promoting international dialogue and scientific co-operation.
- Through presentations at international conferences, workshops, and meetings
- Through participation in updating the IUCN Red List <u>www.redlist.org</u> and a range of other conservation initiatives

Nationally and Regionally, by

- Increased teaching capacity in three universities
- Increased dialogue with conservation NGOs and government ministries
- Enhanced, institutionally-based, specimen collections which will be accessed by national and international taxonomists
- Enhanced, institutionally-based, libraries (pdfs, reprints, and books)
- Student participation in workshops and conferences
- Participation in the SE Asian Mammal database or equivalent
- Through the media (TV, radio and newspaper).

<u>Branding</u>: The Darwin logo will be used at all times, for example on websites and on banners, posters and information packs for workshops and conferences. Enhanced libraries and specimens collections will have small placards acknowledging the role of Darwin and an acknowledgement will be included in published papers. The role of Darwin will be explained during media interviews.

14. What will be the long term benefits of the project in the host country or region and have you identified any potential problems to achieving these benefits? (max 200 words)

The long term benefit of the project in the host countries will be that:

- there is in-depth local capacity to conduct research in taxonomy and train a new generation of local students, without being reliant on Western taxonomists (a declining resource)
- the training will be at a cost that is financially viable to students and their institutions in SE Asia
- the training centres are located in the biodiversity rich tropics
- the training centres are based at universities that host zoological research collections (to be established in NUoL) and have existing links to conservation NGOs and Government Ministries
- there will be clearly defined Taxonomic Focal Points (listed on the website) within the SE Asian Taxonomic Network, who will be able to promote further taxonomic studies (with the range of taxonomic groups, vertebrate and invertebrate, to be expanded later)
- the Taxonomic Network can be subsequently expanded to include other countries and institutions in Asia and internationally.

We have tried to avoid problems by working with known students who are staff of prestigious, government universities. Both the staff and the universities have a proven track record of interest in taxonomy and have existing linkages to the conservation community.

15. State whether or not the project will reach a stable and sustainable end point. If the project is not discrete, but is part of a progressive approach, give details of the exit strategy and show how relevant activities will be continued to secure the benefits from the project. Where individuals receive advanced training, for example, what will happen should that individual leave? (Max 200 words)

The project will reach a stable and sustainable end point. The SE Asian Taxonomic Network members are all government universities with on-going financial support from the state who will have:

- experience of working together, with MoUs and protocols to promote and facilitate future studies
- agreements, formal and otherwise with the Harrison Institute and a range of international taxonomic experts
- a designated 'Focal Point' in each institution to facilitate and promote new taxonomic research
- experience of applying for national and international grants
- a developing relationship of working with conservation NGOs and Government Ministries
- institutionally based voucher specimen collections with professional museum curators (PSU/RUPP)
- institutionally based taxonomic libraries (designated librarian in PSU).

To further maximise sustainability, all interested undergraduate and postgraduate in the three host institutions will be encouraged to attend training workshops, and field and museum studies whilst the four Darwin PhD candidates have already successfully attained MScs in taxonomy; are staff members in Science/Museum Faculties; have published and worked together before; and are supported by on-going collaboration with international experts. In addition, the Harrison Institute is committed long term to conducting projects within the host institutions through a range of on-going projects.

16. If your project includes training and development, please indicate how you will assess the training needs in relation to the overall purpose of the project. Who are the target groups? How will the training be delivered? What skills and knowledge to you expect the beneficiaries to obtain. How will you measure training effectiveness. (max 300 words) You should address each of these points.

Assessment of training needs

Four Darwin trainees will be trained with British expertise to PhD level. Only staff with this qualification are permitted by university regulations to supervise new MSc/PhD students. In addition, to promote future interest and maximise skills transfer, under- and postgraduates at PSU/RUPP/NUoL will be encouraged to attend workshops and participate in field and museum studies. National Park and NGO staff will also be invited to workshops/field studies to increase

capacity and reinforce linkages.

Target groups

All students with an interest, but focused on four staff members. Two are curators of natural history museums (PSU/RUPP); two are lecturers in their faculties. All have worked together previously (DI-14011); published taxonomic papers in international journals; completed a taxonomic MSc. Three will have their salaries fully funded by their universities while they are PhD students.

Delivery of I training

Training will take place in PSU, where all four PhD candidates will be registered; also in the case of the Cambodian and Lao students in their home countries. Training will include hands-on skills transfer in the field, laboratory, and museum. Technical workshops will include presentations from visiting experts in taxonomy and zoogeography and will be open to all students.

Skills and knowledge to be obtained

These will include field techniques; responsible and ethical collecting policy; theories and techniques of taxonomy; analysis of data; technical skills (photography, drawing); the writing of scientific texts to an international standard, management and curation of zoological collections; and applying for funding.

Evaluation

The value of the training will be evaluated by regular reviews of the students' progress by the panel of supervisors; the submission of interim papers for publication; the quality of presentations at international workshops and conferences; the completion of the PhD studies; and the number of students who apply for future taxonomic training.

LOGICAL FRAMEWORK

17. Please enter the details of your project onto the matrix using the note at Annex 3 of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes. (Use no smaller than Arial 10 pt)

Project summary	Measurable Indicators	Means of verification	Important Assumptions			
		in response to DI recommendations at St				
Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.						
 Sub-Goal: To enhance taxonomic capacity in SE Asia - so that there is sufficient local expertise to identify and document the region's biodiversity advise on conservation priorities monitor the effects of environmental change assist with the enforcement of CITES support environmental impact assessments. 	 Government Departments and conservation NGOs use locally trained SE Asian taxonomists to help: inform and educate about the diversity of life in SE Asia update biodiversity databases such as the IUCN Red List and SE Asian Mammal Databank select priority species/sites for conservation funding monitor biodiversity loss for initiatives such as IUCN Countdown 2010 provide data for the Convention on Migratory Species and other initiatives assist with legislation underpinning CITES 	 SE Asian taxonomists are on the advisory boards of and/or list of contributors to: outreach programmes concerned with wildlife conservation in SE Asia IUCN Red List and SAMD CEPF Indo-China, assisting with setting priorities and project selection Ministry of Forestry and National Parks, and associated NGOs monitoring biodiversity Customs and Excise with respect to the enforcement of CITES 				
Purpose To enhance taxonomic capacity in SE Asia by developing a university- based, taxonomic training centre of international standard in Thailand and a regional taxonomic network with collaborating institutions in Cambodia and Lao PDR	 PSU, RUPP and NUoL have: Qualified staff (PhD is a minimum requirement of university regulations) to: (1) supervise future MSc/PhD students in taxonomy (2) teach a taxonomic training course to under-/postgraduates (3) conduct taxonomic research Functional and utilised research collections and libraries for taxonomic studies 	Students complete their PhD studies and are awarded postgraduate degrees. Research collections are of international importance and referred to in external publications. Network members publish in international journals.	Students and staff remain committed to conducting taxonomic/biodiversity research. PSU and RUPP continue to fund their respective Natural History Museums.			

		18-002	
Outputs 1. A centre for taxonomic training and research based in the Natural History Museum and Department of Biology, Prince of Songkla University (PSU). 2. A SE Asian Taxonomic Network including PSU in Thailand, RUPP in Cambodia and NUoL in Lao PDR (to be subsequently expanded throughout the region).	Training for under- and post- graduates, especially four trainees (staff members of PSU, RUPP, & NUoL) to conduct taxonomic PhDs (to be completed in 2013) Four taxonomic publications. PSU to host training workshops on field, laboratory, and museum techniques (& ethical collecting policy) open to all students. PSU to host an international conference on SE Asian taxonomy and zoogeography open to all. Enhanced taxonomic libraries and research collections. MoUs and protocols supporting: • student exchanges for training and research • trans-boundary field studies and specimen loans • joint hosting of workshops and conferences • joint publications in international journals. Website for SE Asian Taxonomic Network hosted by HI with • contact details	 Students enrol for further taxonomic training. PhD graduates become national focal points within the Taxonomic Network. They continue to develop their respective taxonomic careers as: curators in the Natural History Museums of PSU, Thailand and RUPP, Cambodia lecturers and postgraduate supervisors at PSU and NUoL. Network pdf library and zoological collections used by an expanding group of young taxonomists. Collaborative taxonomic papers published by Network members in international journals There is an exchange of students between members of the network. There are trans-boundary field studies, workshops and research, the outputs of which are published in international journals. The website is accessed by a wide variety of end-users – taxonomists, ecologists, conservationists. 	Current levels of enthusiasm and support for learning taxonomy and carrying out taxonomic research are maintained within the university system of SE Asia. Deans of Science and Heads of Biology Departments maintain their commitment to: • supporting taxonomy/biodiversity research • positioning their institutions as centres of excellence in biodiversity studies • collaborating in trans-national studies and training programmes.
3. A preliminary outreach programme which includes:Designing Museum exhibits that explain the role of taxonomy.	 project information and future research & training opportunities Exhibits about taxonomy and taxonomists made for permanent and temporary display at the Natural History Museum of PSU. 	Exhibits will be counted, photographed and archived. Increased interaction between the	PSU continues to fund the Natural History Museum. National Park and NGO staff maintain their
 Training staff from National Parks and conservation NGOs in workshops and field studies. 	Increased capacity in the conservation community.	academic and conservation communities.	interest in developing new skills in biodiversity identification and monitoring.

Activities (details in workplan)

1.1 Training in field, laboratory and museum techniques (including a responsible and ethical policy for collecting voucher specimens) – participation of Darwin trainees and additional undergraduates and postgraduates also greatly encouraged 1.2 Four Darwin trainees to finalise PhD research topics with supervisors, collate literature, request international loans 1.3 Establish/enhance taxonomic libraries in PSU, RUPP, and NUoL - part-time librarian in PSU to collate and catalogue pdfs and reprints 1.4 Enhance (ethically) research collections in PSU, RUPP, and Harrison Institute. Establish small collection in NUoL. 1.5 Analyse data: primarily at PSU where maximum support and expertise is available 1.6 Four interim publications to be prepared by trainees 1.7 Darwin team members present papers and posters at international conferences and workshops 1.8 PSU to host international workshops on field, laboratory and collections management techniques 1.9 PSU to host international conference on SE Asian taxonomy and phylogeography 1.9.2 Write up and submit completed PhD studies 2.1 Harrison Institute to promote and facilitate MoUs between PSU, RUPP, and NUoL 2.2. Darwin team to draw up protocols for network collaboration, including student and staff exchanges, trans-boundary field studies. loan of voucher material 2.3 SE Asian Taxonomic Network website designed and uploaded on to the Harrison Institute server 3.1 Darwin team with the Natural History Museum, PSU to design exhibit on the role of taxonomy in biodiversity conservation 3.2 Training of staff from National Park (and other Departments) and NGOs (participation in field studies and workshops) to increase capacity and promote collaboration. Monitoring activities: Number of undergraduates and postgraduates participating in workshops, and field and museum activities can be counted. The progress of Darwin trainees will be monitored by regular discussions (e-mail, telephone and face to face discussions) of supervisors, PhD studies to be completed by October 2013 (latest). Publications can be monitored by submission and acceptance dates. Presentations will be listed in workshop and conference programmes and proceedings. Workshops can be counted and the delegates listed. Hosting a conference can be evaluated by the number of students, staff, and delegates who attend, from which countries and how much additional finance was raised. MoUs and protocols will be signed by network members and can be included as appendices in the Final Report. The website will be available to all on the internet. The exhibit can be photographed and included in the Final Report. Interaction with National Parks and NGOs can be evaluated by reviewing delegate lists for workshops and conferences and participation in field studies.

18-00218. Provide a project implementation timetable that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project.

	Activity	Months	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.1	Training programme in field, laboratory and museum techniques, relating to taxonomy, curation, dissemination of results	36	Х	Х	Х	Х	Х	x	Х	X	Х	X	Х	Х
1.2	Trainees to finalise research topics with supervisors, collate literature, request international loans, conduct field studies	24	х	х	х	х	X	x	х	х	х	х		
13	Establish/enhance taxonomic libraries in PSU, RUPP, and NUoL	36	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
1.4	Enhance research collections (and databases) of PSU, RUPP, NUoL and Harrison Institute. Train staff in a responsible and ethical collecting policy and collections management techniques	36	х	X	X	X	X	X	X	X	X	X	X	х
1.5	Data analysis at PSU	24					Х	Х	Х	Х	х	Х	Х	Х
1.6	Four interim publications to be prepared by trainees	6								Х	х	Х		
1.7	Darwin team members present papers and posters at international conferences and workshops	At least one annually			x				х				х	
1.8	PSU to host international workshops on field, laboratory and collections techniques and on	3 day events		Х		Х		x		X				
1.9	PSU to host international conference on SE Asian taxonomy and phylo-/zoogeography	~~~~~~											х	
1.9. 2	Write up and submit completed PhD studies	To be completed by Oct, 2013									Х	X	X	Х
2.1	Harrison Institute to promote and facilitate MoUs between PSU, RUPP, and NUoL	Meetings to coincide with workshops		Х		Х		х					х	
2.2	Darwin team to draw up protocols for network collaboration, including student and staff exchanges, trans-boundary field studies, loan of voucher material	6 Need for detailed consultation		X	X								x	
2.3	SE Asian Taxonomic Network website designed and uploaded on to the Harrison Institute server	3				X	×							
3.1	Darwin team with the Natural History Museum, PSU to design exhibit on the role of taxonomy in biodiversity conservation	6									х	х	х	

	18-002							
Partici n i	Ongoing X articipatio n in orkshops	x	x	x	>	x		

19. Please indicate which of the following Standard Measures you are likely to report against. You will not necessarily plan to cover all these Standard Measures in your project. Separate guidance on Standard Measures can be found at http://darwin.defra.gov.uk/resources/reporting/standard_measures/

Standard Measure No	Description	Tick if Relevan
1A	Number of people to submit thesis for PhD qualification (in host country)	Y
1B	Number of people to attain PhD qualification (in host country)	Y
2	Number of people to attain Masters qualification (MSc, MPhil etc)	
3	Number of people to attain other qualifications (ie. Not outputs 1 or 2 above)	
4A	Number of undergraduate students to receive training	Y
4B	Number of training weeks to be provided	Y
4C	Number of postgraduate students to receive training	Y
4D	Number of training weeks to be provided	Y
5	Number of people to receive at least one year of training (which does not fall into categories 1-4 above)	
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above)	Y
6B	Number of training weeks to be provided	Y
7	Number of (ie different types - not volume - of material produced) training materials to be produced for use by host country	Y
8	Number of weeks to be spent by UK project staff on project work in the host country	Y
9	Number of species/habitat management plans (or action plans) to be produced for	
-	Governments, public authorities, or other implementing agencies in the host country	
10	Number of individual field guides/manuals to be produced to assist work related to	Y
	species identification, classification and recording	'
11A	Number of papers to be published in peer reviewed journals	Y
11B	Number of papers to be submitted to peer reviewed journals	Y
12A	Number of computer based databases to be established and handed over to host	Y
12A		I
100	country	V
12B	Number of computer based databases to be enhanced and handed over to host country	Y Y
13A	Number of species reference collections to be established and handed over to host	Y
	country(ies)	
13B	Number of species reference collections to be enhanced and handed over to host	Y
	country(ies)	
14A	Number of conferences/seminars/ workshops to be organised to present/disseminate	Y
	findings	
14B	Number of conferences/seminars/ workshops attended at which findings from Darwin	Y
	project work will be presented/ disseminated.	
15A	Number of national press releases in host country(ies)	Y
15B	Number of local press releases in host country(ies)	
15C	Number of national press releases in UK	
15D	Number of local press releases in UK	Y
16A	Number of newsletters/websites to be produced	Y
16B	Estimated circulation of each newsletter/website in the host country(ies)	Ý
16D	Estimated circulation of each newsletter/ website in the Net country (ice)	Y
17A	Number of dissemination networks to be established	Y
17A 17B		T
	Number of dissemination networks to be enhanced/ extended	
18A	Number of national TV programmes/features in host country(ies)	
18B	Number of national TV programmes/features in UK	
18C	Number of local TV programmes/features in host country(ies)	Y
18D	Number of local TV programmes/features in UK	
19A	Number of national radio interviews/features in host county(ies)	Y
19B	Number of national radio interviews/features in UK	
19C	Number of local radio interviews/features in host country(ies)	Y
19D	Number of local radio interviews/features in UK	
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)	Y
21	Number of permanent educational/training/research facilities or organisations to be established and then continued after Darwin funding has ceased	Y
22	Number of permanent field plots to be established during the project and continued after Darwin funding has ceased	
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work	Y

PROJECT BASED MONITORING AND EVALUATION

20. Describe, referring to the Indicators in the Logical Framework, how the progress of the project will be monitored and evaluated, including towards delivery of its outputs and in terms of achieving its overall purpose. This should be during the lifetime of the project and at its conclusion. Please include information on how host country partners will be included in the monitoring and evaluation.

Darwin trainee progress will be tightly monitored by a committee headed by Dr Bates and Dr Chutamas Satasook. Outputs achieved will be compared to a pre-agreed schedule of work and there will be formal reviews every six months. There will be detailed supervision and training throughout. The number of other postgraduates and undergraduates involved in aspects of the project can be evaluated by reviewing delegate lists for workshops and participation in field studies.

The submission and acceptance of collaborative publications will be an on-going indicator of research quality and output. The presence of international experts at workshops will indicate the importance attached to the project by foreign taxonomists/zoogeographers directly related to the project. The ability of the international conference to attract foreign experts and local staff and students from the region will also indicate the value of the project to a wider scientific constituency.

The taxonomic libraries will be catalogued and therefore the number of publications included can be monitored. The same will apply to the voucher specimen collections, which can also be quantified and evaluated.

The MoUs and protocols will be physical entities which can be attached to reports. They will be instrumental in insuring that the SE Asian Taxonomic Network is a viable and functioning unit, which will promote future taxonomic research and training. The exhibit in the PSU Museum will also be a physical entity and the number of visitors to the Museum is recorded on a monthly basis.

FUNDING AND BUDGET

Please complete the separate Excel spreadsheet which will provide the Budget information for this application. Some of the questions below refer to the information in this spreadsheet.

NB: Please state all costs by financial year (April to March). Use current prices – and include anticipated inflation, as appropriate up to 3% per annum. The Darwin Initiative will not be able to agree increases in grants to cover inflation on UK costs once grants are awarded.

21. How is your organisation currently funded? (max 100 words)

The Harrison Institute is a registered charity (No: 268830) that is funded from a combination of sources:

- Its trust fund, which covers a proportion of its overheads
- Charitable donations from individuals
- Grants, such as those received from the Darwin Initiative, British Council, CEPF, Royal Society
- Commercial sponsorship from companies such as Total Oil, Premier Oil, Orient Express.

22. Provide details of all <u>confirmed</u> funding sources identified in the Budget that will be put towards the costs of the project, including any income from other public bodies, private sponsorship, donations, trusts, fees or trading activity. Please include any additional <u>unconfirmed</u> funding the project will attract to carry out addition work during or beyond the project lifetime. Indicate those funding sources which are confirmed.

Confirmed:

Harrison Institute together with RUPP has attracted \$20,000 from CEPF towards mammal projects in Cambodia (2009-2011), a proportion of this can be used towards the cost of travel, field work and equipment. PSU and Harrison Institute in conjunction with Bristol University raised £39951 towards bat studies in Thailand (2008-2010), a proportion of this has been used towards equipment and pre-Darwin project planning.

The Harrison Institute will contribute £XXX towards the project in terms of salaries, overheads and general running costs.

Unconfirmed:

If approved by Darwin, all project members will be required to look for additional sources of revenue to maximise the outcomes of the project, including additional outcomes. In the Harrison Institute's previous Darwin project [14011] £76,000 was raised in this way, representing an additional 54% of the original budget. The Harrison Institute has helped raise £69,555 from external sources for four projects in SE Asia in the last two years.

23. Please give details of any further funding resources (confirmed or unconfirmed) sought from the host country partner (s) or others for this project that are not already detailed in the Budget or Question 22. This will include donations in kind or un-costed support eg accommodation. (max 50 words per box)

Financial resources:

PSU will pay the salaries and academic fees of the two Thai Darwin PhD students for the duration of the project

RUPP will pay for the salary of the RUPP student.

Funding in kind:

PSU will also provide all Museum and Department facilities, including the use of specialist equipment to the two Thai, one Lao and one Cambodian student. RUPP and NUoL will also provide facilities free of charge.

FCO NOTIFICATIONS

Please check the box if you think that there are sensitivities that the Foreign and Commonwealth Office will need to be aware of should they want to publicise the project's success in the Darwin competition in the host country.

Please indicate whether you have contacted the local UK embassy or High Commission directly to discuss security issues (see Guidance Notes) and attach any advice you have received from them.

Yes (no written advice)

CERTIFICATION 2010/11

On behalf of the trustees of the Harrison Institute

I apply for a grant of £66,195 in respect of expenditure to be incurred in the financial year ending 31 March 2011 on the activities specified in the above application.

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful. (This form should be signed by an individual authorised by the lead UK institution to submit applications and sign contracts on their behalf.)

I enclose a copy of the organisation's most recent audited accounts and annual report, CVs for project principals and letters of support.

Annual report and accounts available at <u>http://www.charity-</u> commission.gov.uk/registeredcharities/ScannedAccounts/Ends30/0000268830_ac_20080405_e_c.pdf

Name (block capitals)	Dr Paul Bates
Position in the organisation	Director

Signed

ed			Date:	26 November,
		2		2009
	1 0	Jans		

	Check
Have you provided actual start and end dates for your project?	Х
Have you provided your budget based on UK government financial years ie 1 April – 31 March?	X
Have you checked that your budget is complete, correctly adds up and that you have included the correct final total on the top page of the	Х
application?	
Is the concept note within 1,000 words?	Х
Is the logframe no longer than 2 pages and have you highlighted any	Х
changes since Stage 1?	
Has your application been signed by a suitably authorised individual?	Х
(clear electronic or scanned signatures are acceptable in the email, but a wet	
signature should be provided in the hard copy version)	
Have you included a 1 page CV for the Project Leader, any other UK staff	Х
working 50%+ on this project, and for a main individual in each overseas	
partner organisation?	
Have you included a letter of support from the main overseas partner	Х
organisations?	
Have you checked with the FCO in the project country/ies and have you	Х
included any evidence of this?	
Have you included a copy of your most recent annual report and	Х
accounts? An electronic link to a website is acceptable.	
Have you read the Guidance Notes ?	Х

Stage 2 Application - Checklist for submission

Once you have answered Yes to the questions above, please submit the application, not later than midnight GMT on **Monday 30 November 2009** to <u>Darwin-Applications@ltsi.co.uk</u> using the application number (from your Stage 1 feedback letter) and the first few words of the project title **as the subject of your email**. However, if you are e-mailing supporting documentation separately please include in the subject line an indication of the number of e-mails you are sending (eg whether the e-mail is 1 of 2, 2 of 3 etc). **In addition**, a signed hard copy of the application and any supporting documents not available electronically should be submitted to the Darwin Applications, c/o LTS International, Pentlands Science Park, Bush Loan, Penicuik EH26 0PL **postmarked** not later than **Tuesday 1 December 2009**.

DATA PROTECTION ACT 1998: Applicants for grant funding must agree to any disclosure or exchange of information supplied on the application form (including the content of a declaration or undertaking) which the Department considers necessary for the administration, evaluation, monitoring and publicising of the Darwin Initiative. Application form data will also be held by contractors dealing with Darwin Initiative monitoring and evaluation. It is the responsibility of applicants to ensure that personal data can be supplied to the Department for the uses described in this paragraph. A completed application form will be taken as an agreement by the applicant and the grant/award recipient also to the following:- putting certain details (ie name, contact details and location of project work) on the Darwin Initiative and Defra websites(details relating to financial awards will not be put on the websites if requested in writing by the grant/award recipient); using personal data for the Darwin Initiative postal circulation list; and sending data to Foreign and Commonwealth Office posts outside the United Kingdom, including posts outside the European Economic Area. Confidential information relating to the project or its results and any personal data may be released on request, including under the Environmental Information Regulations, the code of Practice on Access to Government Information and the Freedom of Information Act 2000.