



Submit by 21 January 2005

**DARWIN INITIATIVE APPLICATION FOR GRANT ROUND 13 COMPETITION:STAGE 2**

Please read the Guidance Notes before completing this form. Applications will be considered on the basis of information submitted on this form and you should give a full answer to each question. Please do not cross-refer to information in separate documents except where invited on this form. The space provided indicates the level of detail required. Please do not reduce the font size below 11pt or alter the paragraph spacing. Keep within word limits.

**1. Name and address of organisation**

<b>Name:</b> Dr Paul Bates	<b>Address:</b> Harrison Institute, Bowerwood House, St Botolphs Road, Sevenoaks, Kent, TN13 3AQ
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**2. Project title (not exceeding 10 words)**

Taxonomic initiative for Southeast Asian bat studies (Vietnam, Thailand, Cambodia and Lao PDR)
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**3. Project dates, duration and total Darwin Initiative Grant requested**

Proposed start date:		Duration of project:			
Darwin funding requested	Total	2005/06	2006/07	2007/08	2008/09
	£139,800	£47,580	£47,500	£44,720	£

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

<p>To increase capacity in bat taxonomy in mainland Southeast Asia in order to promote and facilitate the conservation of bat biodiversity including species that are globally threatened.</p> <p>The project will assist the host countries to implement the obligations of the CBD, particularly those associated with the <i>Global Taxonomy Initiative</i> (and Articles 7, 8, 12, 17 &amp; 18) by addressing the taxonomic impediment occasioned by the shortage of trained taxonomists and curators within the study area. It will:</p> <ul style="list-style-type: none"> <li>• provide training and capacity building to promote taxonomic research by in-country scientists and thereby support the compilation of inventories, monitoring and conservation planning</li> <li>• repatriate taxonomic information from UK, and other developed nations, to host country institutions</li> <li>• promote regional and international networks of taxonomists interested in SE Asian bat biodiversity through collaborative research, workshops/ conferences (hosting and participation in) and the exchange of information</li> <li>• provide a role model for similar projects in other taxonomic groups</li> </ul>
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**5. Principals in project. Please provide a one page CV for each of these named individuals**

Details	Project Leader	Main project partner or co-ordinator in host country (Thailand)	Main project partner or co-ordinator in host country (Vietnam)
<b>Surname</b>	Bates	Bumrungsri	Thông
<b>Forename (s)</b>	Dr Paul	Dr (Mr) Sara	(Mr) Vũ Đình
<b>Post held</b>	Director	Lecturer	Team leader of Researchers
<b>Institution</b>	Harrison Institute	Dept. of Biology	Vietnamese Academy of Sciences
<b>Department</b>		Prince of Songkla University	Institute of Ecology and Biological Resources
<b>Telephone</b>			
<b>Fax</b>			
<b>Email</b>			

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

Project Ref No: 162/11/09: Biodiversity assessment of limestone karst dependent bats in Myanmar

**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)**

**Achievements (50 words)**

**8. Please list the overseas partners that will be involved in their project and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. What steps have been taken to ensure the benefits of the project will continue despite any staff changes in these organisations? Please provide written evidence of partnerships.**

**Overseas Partners: Vietnam:** Mr Vũ Đình Thông, Institute of Ecology and Biological Resources (IEBR), Nghia Do, Cau Giay, Hanoi, **Thailand:** Dr Sara Bumrungsri, Department of Biology, Faculty of Science, Prince of Songkla University, Hat Yai, Songkhla, Thailand 90112 **Cambodia:** Dr Seak Sophat, Department of Environmental Science, Royal University of Phnom Penh, Blvd of Conf. of Russia, Phnom Penh, c/o **Lao PDR:** Dr Bounam Pathoumthong, Faculty of Science, National University of Laos, P.O. Box 7322, Vientiane **Philippines:** Imelda Pangga, Database Branch, ASEAN Regional Centre for Biodiversity Conservation, P.O. Box 35015, Laguna 4031

The project has been developed in response to requests for assistance with bat taxonomy and biodiversity studies from the scientific colleagues (local and expatriate) in Vietnam, Thailand, Cambodia and Lao PDR.

Staff of IEBR, Vietnam and Prince of Songkla University, Thailand have been active in seeking assistance in taxonomic training and capacity building. A short workshop outlining the aims of the taxonomic initiative was held in Vietnam (Aug, 2004) (see attached letter) and is planned for Feb, 2005 (see attached) in Thailand. In addition, assistance has been requested from FFI, WCS and CI staff working on bat projects in Cambodia and we have received an enthusiastic response to our proposal for collaboration from the Vice Rector of the Royal University of Phnom Penh (see attached). In Lao PDR, where we have not previously worked, we have had requests for assistance from WWF biodiversity consultants and National Museum, Paris staff. We are in correspondence with WCS, Lao who have put us in contact Dr Bounam Pathoumthong of the Faculty of Science at the National University of Laos (see attached).

Each institution in the four host countries will be responsible for liaising with their respective Ministries of Education and for ensuring that within-country activities have the correct permissions and MoUs. They will also provide trainees and laboratory facilities and organise support for field studies.

Our experience from Myanmar suggests that once a Darwin project is initiated within a university, its scope and momentum increases considerably. Other students, in addition to those selected as Darwin trainees, wish to join various aspects of the study, benefiting from (1) contact with the visiting specialists, (2) participation in workshops (3) opportunities for field studies and (4) availability of new specialist equipment. This reduces the impact of any subsequent staff changes.

The bat taxonomy website will be hosted by ARCBC. We have previous experience of working with ARCBC and Imelda Pangga, Chief of the Database Branch has agreed to host our database (see attached).

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

Consultation has taken place with a range of NGOs working with host governments and communities in the four participating countries. These include Fauna and Flora International (FFI) in Vietnam, and the Wildlife Conservation Society (WCS) in Cambodia and Lao PDR (see above). Further consultation will take place throughout the lifetime of the project.

## PROJECT DETAILS

**10. Is this a new initiative or a development of existing work (funded through any source?) Are you aware of any other individuals/organisations carrying out similar work, or of any completed or existing Darwin Initiative projects relevant to your work? If so, please give details explaining similarities and differences and showing how results of your work will be additional to any similar work and what attempts have/will be made to co-operate with and learn lessons from such work for mutual benefits.**

This is a new initiative that has developed from:

- our involvement since 1990 in bat biodiversity studies in Southern/SE Asia, including a Darwin Initiative project in Myanmar [162/11/09]: for further details see [www.harrison-institute.org](http://www.harrison-institute.org)
- participation in various programmes of the Chiroptera Conservation and Information Network of South Asia (CCINSA), including a CAMP workshop in Madurai in 2001
- participation in initiatives such as the IUCN's Southeast Asian Mammal Databank (a regional CAMP workshop in Bangkok in May, 2004)
- discussions with members of the ASEAN Regional Centre for Biodiversity Conservation (ARCBC)

There are two existing Darwin Initiative projects in SE Asia with a focus on taxonomic training:

- *Taxonomic training for a neglected biodiversity hotspot within Lao PDR* (Ref: 13007)
- *Taxonomic capacity building in support of biodiversity conservation in Thailand* (Ref: 13003)

The proposed project complements both these existing Darwin projects but also differs in a number of substantive ways. Two of the most important are:

- it is concerned with vertebrate zoology – the existing Lao PDR project is botanical and the Thai project is concerned with invertebrate zoology (insects) [We are currently liaising with Dr Mark Newman of the RBG Edinburgh concerning his experiences of conducting work in Lao PDR]
- it includes Vietnam and Cambodia and seeks to build a regional network of bat taxonomists by promoting cross border co-operation, outputs of which will include regional web-based identification keys, workshops and collaboration in scientific research and publications – the two existing projects are each based in a single country.

**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 proposed project supports the *Global Taxonomy Initiative* (30%) of the CBD by addressing the 'taxonomic impediment' (the shortage of trained taxonomists and curators) the deficiencies of which impact 'on our ability to conserve... our biological diversity.' It directly supports the objectives of the 6<sup>th</sup> meeting of the COP which highlighted the need for 'capacity building [in taxonomy] at the national and regional levels... and to initiate the setting-up of national and regional networks to aid the Parties in their taxonomic needs in implementing the CBD. It also meets the 5 Operational objectives of the *Global Taxonomy Initiative* and the objectives of Resolution 22 of the 3<sup>rd</sup> IUCN World Conservation Congress (Bangkok, November, 2004) which seeks 'to continue supporting IUCN's involvement in promoting and delivering taxonomic capacity building.'

In addition, it assists the host countries in the implementation of Article 7 (Identification and Monitoring) (15%), Article 12 (Research and Training) (15%), Article 17 (Exchange Information) (15%) and Article 18 (Technical and Scientific Cooperation) (15%). The results of the research will contribute to Article 8 (In-situ Conservation) (10%).

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

The project meets various needs outlined in Vietnam's Biodiversity Action Plan (BAP), most particularly those concerned with training and capacity building, which includes Taxonomy as one of six priority areas. Both Thailand and Vietnam include taxonomic training in bats (amongst other groups) and collection and preservation techniques (for Vietnam) as priorities.

The National biodiversity strategy and action plan (NBSAP) of Lao PDR emphasises the importance of international cooperation, training and capacity building.

The NBSAP of Thailand includes seven themes, all of which include research and training. The Biodiversity and Training Program (BRT) has funded some taxonomic studies, particularly plants and has given priority to "rare vertebrate groups, such as bats".

In addition, host country research and conservation institutions/NGOs have identified training in taxonomy as a priority since accurate taxonomic information is essential to prioritise species and site based conservation initiatives. Local scientists have identified six impediments that currently limit the scope of in-country taxonomic studies:

- restricted access to taxonomic information. Many important voucher specimens reside in foreign zoological collections, whilst relevant publications are in specialist journals, not available in the host country.
- the number of foreign taxonomists (especially in Western institutions) available for collaborative research is declining.
- much recent field data are restricted to low circulation reports, sometimes in a local language, and are not peer reviewed.
- most countries lack a national repository for voucher specimens and the relevant skills to curate such a zoological collection.
- some countries restrict the exchange of biological materials between international specialists leading to scientific isolation.
- in Southeast Asia most bat scientists have taken a national approach rather than a multi-national/regional approach to bat studies.

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

The project will help raise the profile of bats amongst conservation decision makers within the region. This will contribute to the sustainable livelihoods since:

- fruit bats are the primary means of seed dispersal for many tropical plant species in Southeast Asia and thereby promote forest regeneration
- over 200 species of tree within East Asia, including commercial species such as durian, mango, figs, guava and cashew nut are pollinated by fruit bats
- micro-bats eat insects equivalent to between one half and two-thirds their body weight and thereby act as effective, cheap and environmentally friendly vectors of pest control and a source of guano for agricultural fertiliser.

It will also help promote the value of biodiversity *per se* and thereby contribute towards the goal of a sustainable use of ecosystems.

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

The primary impact of the project will be to raise the profile of bats in SE Asia by:

- creating regional expertise in bat biodiversity studies
- providing information relevant to bat conservation by combining new and existing bat data into readily accessible web-based sources.

These data will be disseminated through:

- networks of bat taxonomists in SE Asia and internationally
- interaction with conservation NGOs working in SE Asia such as WCS, WWF, CI and FFI
- the project's own website on Southeast Asian bats to be hosted by ARCBC
- a series of international conferences and workshops
- specialist data bases and publications such as those of the IUCN's Southeast Asian Mammal Group and IUCN's Specialist Chiroptera Group.

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

1: Southeast Asia will have a scientific bat community with the potential to develop and advise on bat research and conservation measures. It will complement existing bat groups in Europe, North America and the Indian Subcontinent (eg. the Chiroptera Conservation and Information Network of South Asia [CCINSA]). These groups produce newsletters, undertake collaborative projects, host regional conferences, encourage amateur enthusiasts, provide websites and have an ability to lobby and influence policy makers concerning the conservation of bats.

2: In-country scientists will have the capacity to conduct national and regional taxonomic studies of bats to an international standard.

3: Taxonomists (and other zoologists) within the host institutions will be familiar with the advantages of regional and international collaboration, greatly increasing the impact and sustainability of their work in a wide variety of research and conservation projects.

**16. Please give details of a clear exit strategy and state what steps have been taken to identify and address potential problems in achieving impact and legacy.**

As with the Myanmar project (162/11/09), from the outset, the Darwin team will maximise participation by students and scientists from within country and encourage interaction and collaboration with a wide range of international scientists, both in the research and conservation field – these will be invited to participate in as many aspects of the project as is feasible. This will ensure that after three years the project will have a broad base with contacts not just in bat taxonomy but in a wide range of relevant disciplines.

In addition, team members will be encouraged to apply for external funding to carry out further studies after the completion of the proposed Darwin project. As the teams grow in experience, this becomes an easier process. The local teams are already looking at possible sources of supplementary funds in both Thailand and Cambodia through a combination of the Wildlife Conservation Society (WCS) and the NSF, Systematic Biology and Biodiversity Inventories cluster.

To maximise the legacy, it is anticipated that the network will subsequently grow with the inclusion of other countries such as China, Malaysia and Indonesia (this idea will be explored at the 9<sup>th</sup> International Mammal Conference in Hokkaido). The Harrison Institute is already in close contact with a number of bat specialists (both UK and host country scientists) working in these latter countries.

**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 name and logo will appear on all websites and reports. All equipment will be marked with a logo sticker. All websites, publications and media press releases will acknowledge the support of the Darwin Initiative. All trainees will be referred to as Darwin Trainees.

**18. Will the project include training and development? Please indicate who the trainees will be and criteria for selection and that the level and content of training will be. 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?**

Training is an integral part of the project. Trainees will be postgraduate students at their respective universities. They will be selected jointly by the host country professors and the Harrison Institute based on their interest in the subject, previous experience in biodiversity studies and ability to speak and write English.

For management purposes, in the first year the project will concentrate on training students from Vietnam and Thailand. In the second year, those from Cambodia and Lao PDR will be included.

There will be two trainees from each of the host countries. One will specialise in 'classical' bat taxonomy for biodiversity surveys (including preparing, managing and curating reference collections) with initial training at the Harrison Institute. The other will specialise in the use of bat acoustics (echolocation) as a non-invasive means of identifying bat taxa. This latter student will receive in-country training in the field and laboratory. These two aspects of study will complement each other.

Because of the demands of taxonomy, including the need for experience in identifying specimens, the eight Darwin trainees will remain with the programme for the duration of the project. After the initial training, each student as part of their MSc course (or possibly PhD – recent experience has shown that sometimes students exposed to foreign training are 'encouraged' by their host institutions to upgrade to a PhD) will be assigned particular tasks, including taxonomic research of particular bat genera, voucher specimen preparation, collections management and bat echolocation studies of a particular genus. The effectiveness of the training will be reflected in how well the students complete these tasks and their associated theses.

It is fully expected that once the course starts other students (and staff) of the host country institutions will become interested. These students will benefit from interaction with the Darwin team. Additional funds will be sought from other funding bodies to ensure that the greatest number of students as possible benefit from the project. We have had previous experience of this in Myanmar.

## LOGICAL FRAMEWORK

19. 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>  <b>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</b></p> <ul style="list-style-type: none"> <li>• <b>the conservation of biological diversity,</b></li> <li>• <b>the sustainable use of its components, and</b></li> <li>• <b>the fair and equitable sharing of benefits arising out of the utilisation of genetic resources</b></li> </ul>			
<p><b>Purpose</b>            To increase capacity in bat taxonomy amongst in-country scientists in research institutions in mainland SE Asia.</p> <p><u>And</u>, to develop collaborative research links between taxonomists in different SE Asian countries.</p>	<p>Bat taxonomic studies of an international standard are conducted by in-country scientists within institutions of SE Asia.</p> <p>Collaborative regional studies are conducted by bat taxonomists.</p>	<p>Resultant publications are respected worldwide and the information generated is incorporated into international databases (eg IUCN Southeast Asian Mammal Database).</p> <p>Publications include authors from two or more institutes in different SE Asian countries.</p>	<p>The Southeast Asian scientific community continues to see the need for taxonomic expertise to increase its understanding of its rich biodiversity and thereby promote its conservation.</p> <p>A willingness to collaborate on a regional basis.</p>
<p><b>Outputs</b>            A Darwin website hosted by the ASEAN Regional Centre for Biodiversity Conservation (ARCBC)</p> <p>Four institutions in four SE Asian countries with international experience of taxonomic research and with an associated collection of bat voucher specimens</p> <p>A series of international publications and presentations on aspects of Southeast Asian bat taxonomy</p>	<p>Website dedicated to the identification and taxonomy of SE Asian bats</p> <p>A minimum of eight Darwin students and associated technicians from SE Asian institutions trained in taxonomic techniques and collections management to an international standard</p> <p>Radio and television broadcasts, information on websites and papers published in scientific journals</p>	<p>Website accessed regularly by the local and international scientific community</p> <p>MSc theses on bat taxonomy.            Participation in regional and international workshops and conferences.            Inputs into the website and other publications.            Well maintained specimen collections.</p> <p>Copies of all publications and information on broadcasts sent to the Darwin Initiative</p>	<p>Data on the website from scientifically objective studies and of an international standard</p> <p>Darwin trainees remain committed to the project</p> <p>Data worthy of publication are discovered during the project</p>

<b>Activities</b>	
Training	Training of students (and technicians) from each of the participating countries in aspects of collections management and bat taxonomy (especially morphology and morphometrics and other identification methods such as echolocation) relevant for field based studies
Workshops	Workshops (both field and laboratory based) hosted in each of the participating countries, involving host and participating country students, and UK experts
Website	Information collated on the systematics, distribution, echolocation, and conservation status of each bat species
Publications	Important taxonomic research findings to be published in peer reviewed publications

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

<b>Project implementation timetable</b>		
<b>Date</b>	<b>Financial year</b>	<b>Key milestones</b>
	Apr-Mar 2005/6 Apr-Mar 2006/7 Apr-Mar 2007/8	
<b>Pre-Darwin Phase</b> August, 2004  February, 2005		<b>Preparations for Darwin Initiative project</b>  Workshop in IEBR, Hanoi outlined objectives of proposed Darwin project Workshop in Prince of Songkla University, Thailand outlining objectives of Darwin project
<b>Darwin Phase 1</b>	<b>Apr-Mar 2005/6</b>	<b>Launch of project; induction of Darwin trainees from Vietnam and Thailand in bat taxonomy; introducing Cambodia and Lao PDR to the network</b>
Apr-May	Apr-Mar 2005/6	Newsletter on Harrison Institute website with information about the aims, objectives and activities of the project
May	Apr-Mar 2005/6	Two workshops in: 1: Royal University of Phnom Penh and 2: National Univ. of Laos outlining objectives of Darwin project
July/Aug	Apr-Mar 2005/6	Asian launch of Darwin project at Asian Bat Symposium at 9 <sup>th</sup> Mammalogical Congress, Hokkaido, Japan
Aug	Apr-Mar 2005/6	UK launch at 5 <sup>th</sup> Biennial Conference of Systematics Assoc.
Aug-Oct	Apr-Mar 2005/6	Training of 2 Darwin trainees – one from Viet and one from Thai at the Harrison Institute in aspects of bat taxonomy
Nov	Apr-Mar 2005/6	Workshop/field survey – Darwin trainees Thai/Viet
Mar	Apr-Mar 2005/6	Workshop in Hanoi: Darwin trainees from Viet, Thai, Cam, Lao
<b>Darwin Phase 2</b>	<b>Apr-Mar 2006/7</b>	<b>Induction of Darwin trainees from Cambodia and Lao PDR in bat taxonomy; broadening skills base of Thai and Viet trainees; networking with international bat taxonomists</b>
Apr	Apr-Mar 2006/7	Update website with information on Year 1 outputs and events
Apr-June	Apr-Mar 2006/7	Training of 2 Darwin trainees – one from Phnom Penh Univ and one from National Univ of Lao at the Harrison Institute in aspects of bat taxonomy

Apr-May	Apr-Mar 2006/7	Field study in Thailand with particular emphasis on bat identification methods based on echolocation – Darwin trainees from Thai and Viet
July-Mar	Apr-Mar 2006/7	Continue working on bat data for bat identification guide website and prepare scientific publications
Oct-Nov	Apr-Mar 2006/7	Workshop in Phnom Penh on echolocation – Darwin trainees from Cam, Lao, Thai and Viet
Mar	Apr-Mar 2006/7	International workshop for SE Asian bat taxonomists to be held at Cuc Phuong Nat. Pk, Viet – including Darwin trainees from Viet, Thai, Cam, and Lao and international experts
<b>Darwin Phase 3</b>	<b>Apr-Mar 2007/8</b>	<b>Complete research for publications and website. Disseminate results to the widest possible audience both regionally and internationally; expand SE Asian network</b>
Apr	Apr-Mar 2007/8	Update Harrison Institute website with information on Year 2 outputs and events
Apr-Mar	Apr-Mar 2007/8	Continue working on bat data for bat identification guide website and prepare scientific publications
Apr-Mar	Apr-Mar 2007/8	Upgrade reference collections of voucher specimens in each of the four host countries – collections management including the identification of existing specimens
Aug	Apr-Mar 2007/8	Disseminate results of Darwin at 14 <sup>th</sup> Internat. Bat Conference in Mexico – Darwin trainees from Viet, Thai, Lao and Cam.
Aug	Apr-Mar 2007/8	Disseminate results of Darwin at 6 <sup>th</sup> Biennial Conference of Systematics Assoc.
Nov	Apr-Mar 2007/8	Workshop in Thailand to assess the outcomes of the project and finalise on the way forward for all Darwin trainees and technicians plus representatives from Malaysia, China, Indonesia to expand the project for the future
Dec	Apr-Mar 2007/8	Submit to ARCBC the final instalments of bat data for incorporation into the bat website
Mar	Apr-Mar 2007/8	Update Harrison Institute website with information on the final outputs and events

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

<b>PROJECT OUTPUTS</b>		
<b>Year/Month</b>	<b>Standard output number (see standard output list)</b>	<b>Description (include numbers of people involved, publications produced, days/weeks etc.)</b>



May/2005	16A	Newsletter published on Harrison Institute website
May/2005	14A	2x 3 day workshops in Phnom Penh and Vientiane respectively outlining scope of the Darwin project
May/2005	15A	National press releases in Cambodia and Lao PDR
Aug/2005	14B	1 UK Darwin and 2 Darwin team members (1 Viet/1 Thai) present at 9 <sup>th</sup> International Mammal Congress (2 posters/ 1 oral – title already accepted [see letters])
Aug/2005	14B	1 UK Darwin and 2 trainees (Viet/Thai) present at 5 <sup>th</sup> Bien. Confer. of Systematics Assoc (2 posters/ 1 oral)
Aug-Oct/2005	2	2 Darwin trainees (one Thai and one Viet) to receive 12 weeks training at Harrison Institute towards MSc in bat taxonomy and collections management
Aug-Oct/2005	7	Production of a manual on the preparation/curation of voucher specimens
Aug/2005-Mar/2006	10/12A	A guide written on selected genera of SE Asian Vespertilionidae: to be hosted on ARCBC website
Nov/2005	8	3 week training in field/echolocation studies: 2 trainees Viet/Thai
Mar/2006	14A 4C	10 day workshop in Hanoi – bat taxonomy, collections management, identification of selected Vespertilionidae in Hanoi reference collection, introduction to echolocation - 8 Darwin trainees (Viet/Thai/Cam/Lao)
Apr/2006	16A	Newsletter updated on Harrison Institute website
Apr-June/2006	2	2 Darwin trainees (one Cam and one Lao) to receive 12 weeks training at Harrison Institute towards MSc in bat taxonomy, including collections management
Apr-May/2006	8 4C 15B	Field study and echolocation training in Thailand – Thai/Viet trainees with additional Thai zoology postgrads – with local press release
Apr/2006-Mar/2007	10/12A	Guide written on SE Asian Pteropodidae and Rhinolophidae: to be hosted on ARCBC website
Oct-Nov/2006	14A 4C 15A/19A	Workshop in Phnom Penh on bat echolocation – 4 Darwin trainees from 4 host countries and Cambodian zoology postgrads, with national press/radio release
Mar/2007	14A 15A	International bat taxonomy workshop in Cuc Phuong NP – all Darwin trainees, UK Darwin team and international bat taxonomists specialising in SE Asia
Mar/2007	11B	2 taxonomic papers to be submitted
Apr/2007	16A	Newsletter updated on Harrison Institute website
Apr/2007-Mar/2008	10/12A	Guide written on SE Asian Hipposideridae and assorted smaller Families of SE Asian bats: to be hosted on ARCBC website

Apr/2007-Mar/2008	13B	Darwin trainees undertake field surveys and provide additional material for reference collections, which are upgraded, in each of the 4 host countries
Aug/2008	14B	4 Darwin trainees and UK Darwin team disseminate results 14 <sup>th</sup> International Bat Conference
Aug/2008	14B	1 Darwin trainee and UK team disseminate results at 6 <sup>th</sup> Biennial Conference of Systematics
Nov/2008	14A 15A/18A	Workshop in Thailand to assess Darwin project with additional scientists from Malaysia, China, Indonesia, with national press and TV release
Mar/2008	11B	2 taxonomic papers to be submitted
Mar/2008	11B	Final submissions for bat taxonomy website at ARCBC
Mar/2008	16A	Newsletter updated on Harrison Institute website

## MONITORING AND EVALUATION

**22. 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.**

Although the aim of the project is to build a regional taxonomic network, for management purposes budgets and progress will be monitored separately for each host country. An outline budget has been drawn up for each Darwin trainee with costs included for participation in workshops, conferences and field and international training programmes. These have been summarised in Table 23 and will be administered by Mr Malcolm Peach (the Harrison Institute administrator).

In addition, each Darwin trainee will be assigned tasks (in agreement with their in-country supervisor), for example participating in a training programme, collating and inputting data on a particular bat genus into the taxonomic database or identifying and curating part of an existing or new reference collection. Trainee progress will be evaluated on a case by case basis.

The overall progress of the project will be evaluated against the diary of Outputs outlined in Section 21, with a series of reviews each six months. The project will be considered to have achieved its aims, if at the conclusion of the programme there is:

- a bat taxonomic website written by the Darwin team and hosted by ARCBC
- an institution in each of the four host countries with expertise in bat taxonomy that is actively collaborating in bat research and conservation projects
- a well curated collection of voucher specimens in each host country
- a series of collaborative publications on aspects of bat taxonomy written by the Darwin team
- the dissemination of results to the widest possible audience to promote bat conservation within Southeast Asia

Host country partners are an integral part of the project and will therefore be involved in all aspects of the planning, implementation and monitoring processes. Regular discussions will take place to assess real or potential problems and to coordinate appropriate actions to overcome impediments to the progress of the project.