



Darwin Initiative Annual Report



Darwin Project Information

Project Ref Number	EIDPO028
Project Title	Phase II – Building university capacity to train and support Cambodian conservationists
Country(ies)	Cambodia
UK Contract Holder Institution	Fauna & Flora International
Host country Partner Institution(s)	Royal University of Phnom Penh (RUPP), Ministry of Environment (MoE)
Other Partner Institution(s)	The Harrison Institute (UK)
Darwin Grant Value	£ 134,975
Start/End dates of Project	01 April 2009 to 31 March 2011
Reporting period	01 April 2009 to 31 March 2010: Annual Report No.1.
Project Leader Name	Neil Furey, PhD
Project website	(presently under reconstruction)
Author(s) and main contributors, date	Neil Furey, PhD (Project Leader) and Rath Sethik (Project Coordinator), 29 April, 2010.

1. Project Background

Cambodia is biologically one of the richest yet least-known nations in the world. It forms an important part of the Indo-Burma Hotspot and holds many of the best remaining forests and wetlands in mainland Southeast Asia, with countless endemic and globally threatened species. Although understanding of Cambodian biodiversity remains poor, recent years have seen an astonishing rise in the number of vertebrate species documented in-country (Daltry, 2008). Owing to the shortage of Cambodian scientists however, most of this research has been led by foreign biologists. The dearth of national scientists is the result of decades of underinvestment in the education sector and the deliberate destruction of the education system by the Pol Pot regime. As a result, Cambodia's present-day ability to manage its natural heritage is severely hampered by a chronic shortage of skilled people and biological information.

This has alarming implications, because Cambodian biodiversity faces escalating pressures from a variety of threats, including major new extractive industries, and because the urgent need for improved understanding and management of in-country biodiversity will have serious repercussions on its fast-growing human population, over half of whom depend on forests and other natural resources for their survival. As a consequence, the lack of national capacity and reliable biodiversity data has been highlighted in all recent priority-setting exercises, including the National Biodiversity Strategy and Action Plan (2002).

Intended to “build capacity in conservation and applied research at Cambodia’s premier universities”, the original project responded to these issues by launching Cambodia’s first Masters of Science curriculum and peer-reviewed periodical (the *Cambodian Journal of Natural History*) and by establishing new resources for education and applied research at the Royal University of Phnom Penh (RUPP). The latter included a national zoological collection and herbarium and a conservation library. The post-project seeks to maximise the impact of these activities and aims to ‘**Strengthen and consolidate Cambodia’s conservation science capacity by developing the Centre for Biodiversity Conservation (CBC) as the national hub for original research, postgraduate education, information dissemination and inter-agency collaboration**’.

2. Project Partnerships

Fauna & Flora International's (FFI) principal partner for the post-project is the **Royal University of Phnom Penh (RUPP)**, which had a central role in identifying the need for and designing both the original and post-project. The partnership between the two organisations is expressed in a Memorandum of Understanding (MoU) which was renewed during the reporting period to better reflect their evolving relationship and specific aims of the post project. Under the original project, development and delivery of the MSc curriculum was largely managed by FFI, while integration of the students and curriculum into the university system was directed by RUPP. As the post-project has progressed however, RUPP has become increasingly involved in the MSc programme and CBC research activities initially led by FFI. For instance, three Darwin Research Scholars now engaged by the project also hold permanent positions at the RUPP and are thus ideally placed to sustain the project's long term goals.

The project is governed by a steering committee comprising members of FFI and RUPP which meet on a regular basis to ensure smooth implementation and joint ownership. Day-to-day project activities are managed by two individuals: one (Dr Neil Furey, Project Leader) employed by FFI, and the other (Rath Sethik, Project Coordinator) representing the RUPP. Both operate out of the project offices at the RUPP, report back to their parent organisations every week and otherwise liaise as needed on a daily basis.

The project has benefited from very positive relationships with the Harrison Institute (UK) and Aberdeen University, and several other organisations employing British expertise in Cambodia e.g. Frontier, Conservation International and the Wildlife Conservation Society. These partnerships have provided a variety of financial, technical and in-kind support and have led to the inclusion of the CBC in multi-year funding proposals to further strengthen scientific capacity in-country. One such proposal recently proved successful (DI: 18-002), while others are currently pending. In addition, the project has benefitted from the help of a diverse array of individuals from many organisations who delivered MSc modules, mentored final-year theses and/or contributed to the *Cambodian Journal of Natural History* through submission of papers, peer-review assistance and service on the journal's editorial board.

During the reporting period, FFI took several steps to enhance its support to the project, including the permanent appointment of Dr Neil Furey (Project Leader) in Phnom Penh to increase mentoring for project staff, partners and students at the RUPP. Steps were also undertaken to deepen the project's ties to the Ministry of Environment (MoE: CBD focal point) and Ministry of Agriculture, Forestry and Fisheries (MAFF: national CITES authority). For instance, arrangements were made during the year for staff from the MoE (which also contributes trainers to the project) to attend selected courses on the MSc curriculum, while students benefitted from the use of Phnom Tamao Wildlife Rescue Centre for studies which was graciously provided by MAFF.

3. Project progress

3.1 Progress in carrying out project activities

Output 1. Some delays were experienced in preparatory activities towards '**formalization of the Centre for Biodiversity Conservation (CBC) as an independent unit within the RUPP**' due to the arrival of the new project leader and subsequent two-month absence of the RUPP project counterpart on an overseas study tour. However, consultation processes were completed leading to the joint approval of a revised MoU between FFI and RUPP which strongly emphasizes the commitment of organisations towards the project purpose as a whole. This has laid the all-important groundwork for staff to pursue subsequent consultations to develop regulations and establish a management committee for the CBC (Activity 1.1). Though not scheduled for year 1, informal discussions to identify potential candidates for the post of CBC Director within and outside of RUPP establishment also took place during the reporting period (Activity 1.2). On finalisation of institutional arrangements for the CBC as planned in year 2 of the project, a transparent recruitment process will be undertaken to fill the post, as will

subsequent activities to organise an opening ceremony and related media releases (Activity 1.3).

Output 2. Significant progress was achieved in implementing activities aimed at '**enhancing the Masters of Science in Biodiversity Conservation programme as a permanent fixture at RUPP**' during the reporting period. With assistance from trainers provided by the RUPP and a large variety of organisations, all bridging courses and MSc modules were completed as planned (Activity 2.1), with the latter divided equally between the 1st (February-June) and 2nd (September-January) semesters each year. Relative to February 2009, the project also experienced an increase in the number of students entering the MSc course in the first quarter of 2009 (Activity 2.2; Annex 3.1). In addition, the number of individuals trained was further increased in the 2nd 2009 semester by allowing other RUPP staff and students to attend selected MSc modules on a stand-alone basis (eight additional individuals received 16 RUPP course certificates as a result). Similar arrangements were made for ten staff from the Ministry of Environment to attend MSc courses in the 1st 2010 semester (full details will be provided in forthcoming reports). Development of the MSc curriculum was also undertaken, allowing preparation of a new '*Biodiversity Management*' module, which will be introduced in May 2010.

Satisfactory progress was also achieved in coaching Cambodian postgraduates to replace international lecturers (Activity 2.3), with one RUPP staff member (Mak Sithirith, PhD) assuming responsibility for the important '*Integrated Natural Resources Management*' module and activities to similarly transfer a module in '*Environmental Law*' to another permanent RUPP member (Lay Chanthy, PhD candidate) underway. Four final-year MSc students successfully defended their research theses on a range of conservation-orientated subjects during the reporting period (Activity 2.4), while 11 additional MSc students and four BSc students are presently developing their theses in liaison with a variety of domestic and international organisations in Cambodia (a full list of thesis titles and collaborating organisations is given in Annex 3.2). To enhance support to final-year students, formal procedures governing thesis development and supervision were also introduced and the current student cohort (class of 2010-11) will begin developing their thesis proposals during the 2nd 2010 semester.

Output 3. Substantial progress was achieved in activities to engage '**a permanent cadre of national scientists ('Darwin Research Scholars') to advance biodiversity science in Cambodia**'. During the reporting period, six Darwin Research Scholars were recruited and their terms of reference finalised (Activity 3.1). Three of the scholars also hold positions at the RUPP (Ith Saveng, Ly Viboth and Meas Seanghun), two at the Ministry of Environment (Neang Thy and Seng Rathea), while the most recently recruited individual (Kris Meanrith) will complete his degree at the RUPP in July 2010. Excepting Mr. Meanrith, all of the research scholars are now actively undertaking personal research projects in collaboration with other organisations in Cambodia and applying for PhD scholarships and small grants (Activity 3.2-3.3). Significant success was achieved in the latter regard, with 3-year PhD scholarships secured for Ith Saveng (bats) and Ly Viboth (medicinal plants) through partnerships with the Harrison Institute (UK) and Museum National d'Histoire Naturelle (France) respectively. In addition, funding for 15 weeks of training overseas and ongoing field research activities was obtained for Neang Thy (herpetology), Ith Saveng, Seng Rathea (protected area management) and Meas Seanghun (zooplankton) from La Sierra University (US), Earthwatch (UK), Zoo's Victoria (Australia) and Global Taxonomy Initiative (Belgian Focal Point).

Though not scheduled to do so until the last quarter of year 2, the project's scholars were similarly active in helping to organise guest lectures at the RUPP (Annex 3.3) and activities to disseminate their research findings (Activity 3.4). For instance, excluding papers published by project staff and Darwin scholars in 2009 (see Table 2), by the end of year 1 three additional papers were completed for peer-review publication (Annex 3.4), while five more were under preparation. All will be submitted to appropriate journals in year 2 of the project.

Output 4. Substantial progress was also achieved towards '**Continued growth and improvement of the national zoological reference collection, herbarium and journal as resources for conservation scientists nationwide**'. Firstly, a series of collaborative expeditions to collect zoological voucher specimens for CBC collections were undertaken during the reporting period (Activity 4.1), which included:-

- April '09: A survey of frog consumption and trade in several provinces, in collaboration with and funded by the Angkor Centre for Conservation of Biodiversity, Cambodia.
- July '09: A 10-day herpetological survey in Phnom Samkos Wildlife Sanctuary (SW Cambodia) in collaboration with Dr Lee Grismer of La Sierra University, US.
- August '09: A 10-day herpetological study in Monduliri province (E Cambodia) in collaboration with Dr Jodi Rowley of the Australian National Museum (involving 12 RUPP students).
- October '09: A herpetological survey in Virachey National Park, Ratanakiri province (NE Cambodia). [cut short due to the ill health of one expatriate team member, since fully recovered].
- November '09: A bat survey in Preah Vihear province (N Cambodia) in collaboration with Dr Gabor Csorba of the Hungarian Museum. Funded by the CEPF via the Harrison Institute (UK).
- December '09: Evaluations at a previously unexplored site in Phnom Samkos, focussing on habitat assessments and species inventories for large mammals, bats and amphibians.
- February '10: The first in a two-part study of bats, amphibians and reptiles in Veun Sai (Ratanakiri province) in collaboration with Dr Gabor Csorba. Funded by Conservation International.
- March '10: An ongoing monitoring study for mammals utilising eight transect lines and four saltlick sites at Phnom Samkos Wildlife Sanctuary (allowing opportunistic collecting activity).

Secondly, as the collections and taxonomic expertise of the CBC have become better known, several organisations in Cambodia have begun donating material in return for species identifications e.g. Angkor Centre for Conservation of Biodiversity, Conservation International, and arrangements are underway for others to follow suit e.g. Frontier, Wildlife Conservation Society. As a consequence, a significant number of voucher specimens were added to the zoological collection during the reporting period, which now hosts >750 specimens (a three-fold expansion compared to late 2008). The herbarium enjoyed a similarly significant acquisition rate as a result of intensive collecting activity in the Central Cardamom Mountains (SW Cambodia) in liaison with Sud Expert Plantes (France) and repatriation of >2,000 colonial-era specimens from the Museum National d'Histoire Naturelle in Paris.

The first call for manuscripts for the 2009 and 2010 volumes of the *Cambodian Journal of Natural History* were issued on 15 April and 31 December 2009 respectively, and peer-review processes were subsequently initiated for all eligible manuscripts submitted (Activity 4.2). The 2009 edition of the *Cambodian Journal of Natural History* was released in December 2009 with a print run of 400 copies (Annex 3.5) and dissemination completed in the first quarter of 2010 (Activity 4.3). A softcopy of the 2009 and 2008 issue of the journal can be downloaded from <http://www.fauna-flora.org/reports.php> and a copy of the guest editorial written by Rath Sethik (Project Coordinator) for the 2009 issue ('*Lessons learnt in establishing a Masters programme in Biodiversity Conservation at the Royal University of Phnom Penh*') is provided in Annex 3.6. The forthcoming issue of the journal is planned for release in July-August 2010, at which time another call for submissions for the following edition will be disseminated.

3.2 Progress towards Project Outputs

As will hopefully be apparent from notes in section 3.1, the project made significant progress towards its stated outputs during the reporting period and is now well-placed to achieve these. Though delays were experienced in activities relating to the projects first output, the approval of a new MoU strongly reflecting the commitment of both organisations towards the specific purpose and outputs of the post-project is viewed as an important step. In addition, through the consultations which led to this development, project partners (and in particular the new Project Leader) gained improved mutual understanding and are consequently better-equipped to pursue its completion. These consultations and the increasingly positive relationships with other project partners and stakeholders also suggest that important assumptions relating to the

first output remain true (see Annex 2). As a consequence, the project considers the relevant output indicators to be appropriate and is entirely confident that the first output will be achieved by its close.

Substantial progress towards the projects remaining outputs (2-4) was achieved during the reporting period. This positive trend is firmly set to continue, such that the project is unlikely to experience serious difficulties in achieving these within its lifespan. Measurement of output indicators has proceeded smoothly and output level assumptions are still believed to apply (Annex 2). For example, the increase in MSc applicants and interest expressed by other students and MoE management in having their staff attend individual modules suggests that the 2nd and 3rd output assumptions of sufficient interest in the MSc course still hold true. Similarly, the project's recent achievements in obtaining additional funding for research scholars, organising collecting expeditions and producing the *Cambodian Journal of Natural History* suggest the same for the remaining assumptions relating to the 3rd and 4th outputs.

3.3 Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Year 1 total (plus additional detail as required)
Training Measures		
2	Number of people to attain Masters qualification	4 Cambodians (now eligible to graduate, with more Cambodian students nearing graduation – see 4c)
3	Number of people to attain other qualifications	6 post-graduate diplomas (awarded to Cambodian students completing the 1 st year of the MSc curriculum only) and 16 course certificates (awarded to other Cambodian individuals who completed courses on a stand-alone basis)
4C	Number of postgraduate students receiving training	A total of 39 Cambodian students undertook bridging studies in late 2008 & 2009 (13 & 26 respectively), of which 13 and 16 entered the classes of 2009-2010 and 2010-2011 respectively (Annex 3.1).
4D	Number of training weeks provided	>70 weeks provided to each successful student, from the Bridging Course to the end of the MSc curriculum.
6A	Number of people receiving other forms of education/training (which does not fall into categories 1-5 above)	3 Darwin Research Scholars trained in animal taxonomy, specimen collection and preservation, including the curators of the zoological collection.
7	Number of training materials produced for use by host country	1 MSc module entitled ' <i>Biodiversity Management</i> ' developed with supporting materials (in addition to the 19 modules developed by the original project).
Research Measures		
8	Number of weeks spent by UK project staff on project work in the host country	80 weeks spent by FFI staff and other British experts including Dr Jenny Daltry, Dr Neil Furey, Dr Carl Traeholt, Dr Stephen Browne, Richard Paley, Emily Woodfield and Callum McCulloch (not including time spent in Cambodia spent by British members of the editorial board or peer reviewers).
11A	Number of papers published in peer reviewed journals	7 papers published by Darwin Research Scholars, project staff and partners in peer reviewed journals (see Table 2 below).
11B	Number of papers to be submitted to peer reviewed journals	3 ([see abstracts in Annex 3.4], with preparation of 5 additional papers underway at the end of the report period).

Code No.	Description	Year 1 total (plus additional detail as required)
12B	Number of computer based databases enhanced and handed over to the host country	2 (the 1 st relating to the zoological collections and the 2 nd to the conservation library, both housed at the RUPP).
13B	Number of species reference collections enhanced and handed over to the host country	2 (the zoological reference collection and herbarium, both permanently housed at the RUPP).
Dissemination Measures		
14A	Number of conferences/seminars/ workshops organised to present/disseminate findings	2 (An annual student research day in August 2009 and a bat conservation conference in October 2009, both held at the RUPP)
15A	Number of national press releases in host country	13 newspaper articles in Cambodia. Over 60 websites/blogs worldwide featured the honour bestowed on Darwin Scholar Neang Thy in March 2010 (Annex 3.7).
15C	Number of national press releases or publicity articles in the UK	2 (1 article about the project in the <i>Fauna & Flora News</i> magazine and 1 article in issue 16 of the Darwin newsletter)
19A	Number of national radio interviews/features in host county(ies)	2 (the 1 st comprising advertisements for the MSc course in July-August 2009 and 2 nd comprising an interview with Darwin Scholar Neang Thy in March 2010).
Financial Measures		
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work	£ 265,900 (from the MacArthur Foundation, Critical Ecosystems Protection Fund & Conservation International).*

* Note: This figure excludes the value of two three-year PhD scholarships and 15 weeks of overseas internships recently secured for the project's Darwin Research Scholars, as well as significant in-kind contributions, all of which will be detailed in forthcoming reports (see section 9).

Table 2 Publications

Type	Detail	Publishers	Available from	Cost £
Peer-reviewed Paper (by project staff and Darwin scholar)	Holden, J., Neang, T. 2009. Small carnivore records from the Cardamom Mountains, southwestern Cambodia. <i>Small carnivore conservation</i> 40:16-21.	IUCN/SCC Small Carnivore Specialist Group (SCSG).	http://smallcarnivores.org/	25 (per issue)
Peer-reviewed scientific journal	<i>The Cambodian Journal of Natural History</i> . Volume 2009, No. 1. (contains the papers listed below)	"The Centre for Biodiversity Conservation" (FFI and RUPP)	http://www.fauna-flora.org/reports.php	Free
Peer-reviewed paper (by project coordinator)	Rath, S. (2009) Guest Editorial: Lessons learnt in establishing a Masters Programme in Biodiversity Conservation at the RUPP. <i>Cam. J. Nat. Hist.</i> 2009:3-4.	as above	as above	n/a
Peer-reviewed paper (by partners / project staff)	Bradfield, D., Daltry, J. (2009) Short Communication: Progress in breaking the link between narcotics crime and rainforest loss in Cambodia. <i>Cam. J. Nat. Hist.</i> 2009: 5-6.	as above	as above	n/a
Peer-reviewed paper (by partners)	Goes, F. (2009) The status and distribution of green peafowl <i>Pavo muticus</i> in Cambodia. <i>Cam. J. Nat. Hist.</i> 2009: 7-15.	as above	as above	n/a
Peer-reviewed paper (by partners)	Neang, T. (2009) Liquid resin tapping by local people in Phnom Samkos Wildlife Sanctuary. <i>Cam. J. Nat. Hist.</i>	as above	as above	n/a

Type	Detail	Publishers	Available from	Cost £
Darwin Scholar)	2009: 16-25.			
Peer-reviewed paper (by partners)	Royan, A. (2009) Avifaunal inventory with annotated accounts for Botum-Sakor National Park, Southwest Cambodia. <i>Cam. J. Nat. Hist.</i> 2009: 26-39.	as above	as above	n/a
Peer-reviewed paper (by MSc student, staff and partners)	Oum, S., Hor, L., Han, S., Sonn, P., Simpson, B.K., Daltry, J. (2009) A comparative study of incentive-based schemes for Siamese crocodile <i>Crocodylus siamensis</i> conservation in the Cardamom Mountains. <i>Cam. J. Nat. Hist.</i> 2009: 40-57.	as above	as above	n/a
Abstracts from MSc theses (by MSc students)	Phan, C., Heng C., Lim, K., Chey K., Nop, N., Ith, S. (2009) Recent Masters Theses. <i>Cam. J. Nat. Hist.</i> 2009: 58-62.	as above	as above	n/a

3.4 Progress towards the project purpose and outcomes

Overall, we believe that significant progress was achieved towards the project purpose during the reporting period. Though formalisation of the CBC as an official body with the RUPP is scheduled for year 2 of the project, current indications suggest that its standing in Cambodia has already grown significantly. These include the:-

- Substantial interest shown by other organisations in hosting MSc students and engaging Darwin Research Scholars in research collaborations, as well as recent achievements in securing additional funding for their research activities;
- Growing quantity of voucher specimens donated by other organisations to the zoological collection and herbarium, in return for species identifications and other technical support.
- Continued willingness of NGO's and government ministries to enrol staff on the MSc programme (ca. 24% and 45% of 1st year students in 2009 and 2010 hailed from these employment backgrounds respectively; Annex 3.1);
- Continued submission of manuscripts to the *Cambodian Journal of Natural History*, such that the journal may be produced biannually from 2010 onwards.

As a result of this positive evidence and greater local ownership of the project, the project's purpose level assumptions are believed to still hold true and related indicators are regarded as an appropriate measure of project outcomes.

3.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

As noted under the original project, positive impacts on biodiversity, sustainable use and equitable sharing of biodiversity benefits have already been detected through the work of people and organisations trained and connected by the project. This influence is set to continue with increasing numbers of postgraduate students undertaking applied research at sites throughout Cambodia, and not least the activities of the Darwin Scholars. For instance, a recent paper by Darwin Research Scholar Neang Thy* concluded that incomes generated by resin collection in SW Cambodia can be significant and sustainable and reduce local dependencies on unsustainable logging, thereby promoting improved forest conservation. As a consequence, a series of best practices were recommended for its wider uptake. Though the impact of Thy's work may not be evident for years, such studies have potential to result in positive changes in the state of forest-dwelling biodiversity in Cambodia. Being essentially a capacity-building initiative, the primary impacts of this project are best viewed in terms of the number of Cambodians and organisations with improved capacity to address biodiversity information gaps and conservation needs. In this context, it is surely significant that the majority of students trained by the project

either quickly find employment within the conservation sector or are already in-service employees and therefore well-placed to apply their newfound skills and knowledge. As long as such individuals remain in the environmental and education sectors, which appears highly likely for the foreseeable future; as suggested in previous reports, the project's activities will have positive impacts on biodiversity management in Cambodia for decades to come.

* Neang, T. (2009) Liquid resin tapping by local people in Phnom Samkos Wildlife Sanctuary. *Cam. J. Nat. Hist.* 2009: 16-25.

4. Monitoring, evaluation and lessons

Methods of monitoring and evaluation employed by the project include weekly FFI meetings in Phnom Penh (where progress is discussed and peer-reviewed by other FFI staff in Cambodia), periodic steering committee meetings involving senior RUPP personnel and FFI project leaders, quarterly activity reports in English and Khmer to the Cambodian Ministry of Foreign Affairs, student application and class attendance records, grades for student assignments, examinations and theses, debriefings by lecturers on their perception of progress made and lessons learnt, regular mentoring sessions with students and thesis supervision records, monthly progress reports and dedicated fieldtrip reports prepared by Darwin Research Scholars, databases describing the holdings and use of items deposited in the reference collections and conservation library, distribution records for the *Cambodian Journal of Natural History*, and inventory and use records for all field equipment managed by the project.

The project team has regularly assessed the project's progress against the work plan and measurable indicators on the log frame and has also received visits from organizations providing matched funding (section 9), including visits from Dr Jyotsna Puri of the MacArthur Foundation and Dr Paul Bates of the Harrison Institute (UK). Positive verbal reports were received from these staff, but unfortunately no reports in writing. As suggested in previous project reports, it would be instructive to monitor the careers of students after they graduate and also to compare the capacity of people and organizations supported by the project against the original capacity needs assessment conducted by FFI in 2005. This study revealed widespread deficiencies in the environmental sector and provided the stimulus for the original project. In the forthcoming period, the project team will explore options in both regards.

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

n/a

6. Other comments on progress not covered elsewhere

Although no changes were made to the project design during the reporting period, project activities were enhanced through the refinement of policies and procedures on matters such as the MSc curriculum (e.g. facilitating other individuals from the RUPP and MoE to attend selected modules on an individual basis), MSc students (e.g. increased mentoring and introduction of procedures governing thesis development and supervision) and reference collections and conservation library (e.g. improvement of databases and loan protocols). As the project progresses, staff will continue to refine operational procedures to improve project efficiency.

7. Sustainability

As described in section 3.4, growing evidence suggests that the project's and CBC's profile increased significantly during the reporting period. Particular efforts were undertaken to promote the project's work through press releases and interviews timed to coincide with major project events and outputs (Annex 3.7), dissemination of articles through the FFI website and *Fauna & Flora* magazine and increased collaborative activities with a variety of stakeholder organisations in Cambodia and overseas.

As formulated in the project document, the project's exit strategy is to 'create the Centre for Biodiversity Conservation as a dynamic, self-sustaining hub for original research, postgraduate education, information dissemination and inter-agency collaboration'. While the original project focused on establishing a rigorous training programme, the post-project focuses on consolidating these achievements and leaving in place permanent staff and infrastructure to continue providing training, learning resources and networking opportunities for Cambodian students and scientists. One of the many advantages of establishing the CBC as an official centre is that it will receive an annual budget from the RUPP. The costs of the Khmer-staffed Centre will be relatively low and met through the RUPP budget, student fees, small grants, and as Darwin Scholars mature professionally, occasional consultancy work. As such, the Centre will be well placed to sustain the project's impact in the long term.

8. Dissemination

As noted in section 7, a range of activities to promote the project's work to interested members of the public were undertaken during the year. In addition to these, important dissemination activities included the following:-

- In August 2009, the project organised a one-day workshop at the RUPP where MSc students presented the findings of their thesis research through presentations and poster displays. The event resulted in several articles in national newspapers and periodicals (Annex 3.7) and attracted over 120 participants, including staff from conservation NGOs and related governmental organizations in Cambodia (Annex 3.8). As the RUPP has expressed interest in repeating the event each year, the prospects for it becoming a permanent fixture in the university calendar would appear very good.
- In October 2009, the project organised a two-day workshop on SE-Asian bat conservation at the RUPP, in collaboration with the Harrison Institute (UK). Bat specialists from seven countries spoke at the event (including two project staff), which was attended by a range of NGO and government staff, in addition to RUPP students and staff (Annex 3.8). As a result, the CBC became a member of a university-based taxonomic network in SE-Asia, which will provide funding opportunities for similar activities in coming years.
- The release of the latest issue of the *Cambodian Journal of Natural History* in December 2009 forms a key part of the project's overall dissemination strategy (Annex 3.5). As with all project-related outputs and events, the journal features the Darwin Logo and credits the Darwin Initiative as a major contributor. Its target audience includes conservation professionals, academics, government departments, nongovernmental organizations, students, and interested members of the public. While the journal is currently available for free, subscription fees may be required to finance its hardcopy publication in the long term.

9. Project Expenditure

During the reporting period, the project spent the agreed total amount of £68,925 with very minor deviations in the six major budget lines (Table 1 overleaf).

**Table 3 Project expenditure during the reporting period
(Defra Financial Year, 1 April 2009 to 31 March 2010)**

Item	Budget	Expenditure	Variance (%)
Salaries (specify by individual)			
Dr. Jennifer Daltry- Technical Advisor and Journal Editor			
Dr. Neil Furey- Project Leader			
Dr. Carl Traeholt- Chief Lecturer			
Dr. Mark Auliya- Lecturer: Species Conservation			
Richard Paley- Lecturer: Protected Area & Project Cycle Mgt			
Dr. Jorg Menzel- Lecturer: Research Method and Applied Statistics			
Dr. Knud Heller- Lecturer: Environment Law			
Poe Veasna- Accountant			
Rath Sethik (RUPP)- RUPP Coordinator			
Neang Thy (MoE)- Darwin Research Officer & Lecturer: Ecological Field Techniques			
Ith Saveng- Darwin Research Officer and Curator			
Darwin Research Officers			
Sour Sethy (MoE)- Lecturer: EIA			
Va Sovanna: Lecturer: GIS			
Various- Lecturer Bridging course			
Overhead costs			
Travel and subsistence			
Operation costs			
Capital Equipments (specify)			
Equipment for reference collection, furniture			
Field research equipments and consumables			
Teaching equipments and supplies			
Office equipments and consumables			
Others (specify)			
Health and medical insurance			
TOTAL			

Thus far, over **£265,000** of additional funding has been secured in direct support of the aims of the project:-

Donor	Duration	Amount secured (£)
MacArthur Foundation [Grant Code: 09-92411-000-GSS]	June 2009 - May 2012	260,000
Conservation International	February 2010 – September 2010	3,300
Critical Ecosystems Protection Fund [sub-grant provided by the Harrison Institute]	August 2009 – May 2010	2,600

In addition to the above, substantial support was also secured in the form of two, three-year PhD scholarships and 15 weeks of overseas internships for Darwin Research Scholars, in addition to significant in-kind contributions from RUPP, FFI, Zoo's Victoria, Conservation International and other organisations, all of which will be detailed in forthcoming reports.

10. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

At this intermediate stage of the project, we would simply like to draw attention to two recent honours bestowed on project staff which relate to Darwin Initiative investments in Cambodia.

The first was the recent award of the title of Officer of the Order of Sahemetri to Dr Jenny Daltry (Project Technical Advisor and Chief Editor for the *Cambodian Journal of Natural History*). This award is given to foreigners recognised for distinguished services to Cambodia, and was presented at a ceremony in January 2010 which was attended by the British Ambassador and a range of other dignitaries.

The second honour was the naming of a new species of reptile, a gecko presently known only from the Cardamom Mountains in SW Cambodia, after Darwin Research Scholar Mr. Neang Thy in March 2010 (named *Cnemaspis neangthyi*). This event attracted a great deal of media attention and resulted in features in over 60 websites and blogs worldwide, in addition to newspaper articles in Cambodia.

One newspaper article on each event is included in Annex 3.7 and we would be happy to supply any further information required.

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2009/2010

Project summary	Measurable Indicators	Progress and Achievements April 2009 - March 2010	Actions required/planned for next period
<p>Goal: <i>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</i></p> <p><i>The conservation of biological diversity,</i></p> <p><i>The sustainable use of its components, and</i></p> <p><i>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></p>		<p><i>In the original project, positive impacts were detected through the work of people and organisations trained and connected by the project. This influence is set to continue with increasing numbers of postgraduate students undertaking applied research at sites throughout Cambodia and the activities of the Darwin Scholars in particular.</i></p>	
<p>Purpose: Strengthen and consolidate Cambodia's conservation science capacity by developing the Centre for Biodiversity Conservation (CBC) as the national hub for original research, postgraduate education, information dissemination and inter-agency collaboration.</p>	<p>At least 20 original research projects on topics relevant to the conventions conducted by CBC scientists and postgraduate students in collaboration with at least 10 different institutions. MSc curriculum, reference collections and journal continue to be delivered and enhanced to benefit scientists and decision-makers in every province.</p>	<p>Overall, significant progress was achieved towards the project purpose during the reporting period. Evidence suggests the national standing of the CBC has grown significantly. Related assumptions still hold true.</p>	<p>Finalisation of management regulations and committee for the CBC</p> <p>Continued delivery of the MSc curriculum & its transfer to Cambodian postgraduates</p> <p>Recruitment of additional Darwin Scholars to undertake original conservation research</p> <p>Publication of additional issues of the Cambodian Journal of Natural History</p>
<p>Output 1. The formalization of the Centre for Biodiversity Conservation as an independent unit within the Royal University of Phnom Penh (RUPP).</p>	<p>Centre for Biodiversity Conservation fully functioning, with its own director, regulations, operational budget, and capacity to generate funding.</p>	<p>Delays were incurred in formal activities to establish the CBC during the reporting period. As important enabling activities were undertaken however, and all related actions are scheduled for completion in year 2, the project remains on track and will prioritise activities in support of this output during the next period.</p> <p><u>Note: This indicator is considered an appropriate measure of project progress.</u></p>	
<p>Activity 1.1. Develop Centre for Biodiversity Conservation (CBC) regulations and establish a management committee.</p>		<p>Enabling activities during the reporting period included a series of discussions which led to approval of a revised MoU between RUPP-FFI that expresses the commitment of both organisations towards the official establishment of the CBC within the RUPP. Upon this basis, the project will finalise development of regulations and a management committee for the CBC during the next period.</p>	
<p>Activity 1.2. Recruit Director and develop Centre for Biodiversity Conservation operational plan and budget.</p>		<p>Though not scheduled for year 1 of the project, informal discussions to identify potential candidates for the CBC Director post within and outside of RUPP occurred during the reporting period. Upon finalisation of CBC regulations and management committee, a transparent recruitment process will be undertaken to fill the post.</p>	
<p>Activity 1.3. Organise official opening ceremony and press release.</p>		<p>Scheduled for the third quarter of year 2 (October-December 2010) of the project.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2009 - March 2010	Actions required/planned for next period
Output 2. Masters of Science in Biodiversity Conservation programme enhanced and continued as a permanent fixture at RUPP.	Courses and exams held every semester and at least 40 students trained during the project period. At least 3 international lecturers on the MSc course replaced by Cambodian trainers.	The project achieved significant progress towards this output during the reporting period. All courses and exams in each semester were completed as scheduled and additional RUPP staff and students and government officials attended courses on an individual basis. Further development of the MSc curriculum was undertaken. One MSc module was transferred to a Cambodian trainer during the reporting period, and activities to transfer a second module to another Cambodian trainer were initiated. Note: These indicators are believed to appropriately measure project progress.	
Activity 2.1. Run 8-week Bridging Course every year for 20-40 applicants to the MSc course.		The 8-week bridging course for 26 applicants was completed in accordance with the project's work plan and the successful candidates (the class of 2010-2011 = 16 students) initiated their studies in February 2010 (details for the latter are given in annex 3.1). Following processing of applications for the 6 th student cohort in August-September 2010, the bridging course will begin again in November 2010.	
Activity 2.2. Teach three terms of the MSc Biodiversity Conservation curriculum every year (12 modules and 40 students)		Delivery of the 12 taught modules that comprise the 1 st year of the MSc curriculum occurred smoothly, with modules divided equally between the 1 st (February-June) and 2 nd (September-January) semesters. Selected courses during the 2 nd 2009 and 1 st 2010 semester were made available on a stand-alone basis to RUPP staff and students and officials from the Ministry of Environment, resulting in a significant increase in the number of individuals trained. Further development of the curriculum was also undertaken, providing scope for preparation of a new module entitled ' <i>Biodiversity Management</i> ', which will be introduced in May 2010.	
Activity 2.3. Identify and coach at least three Cambodian postgraduates to replace international lecturers.		A national lecturer (Mak Sithirith, PhD) was coached to teach a key MSc topic ' <i>Integrated Natural Resources Management</i> ' during the reporting period and will henceforth deliver this module. Activities to similarly transfer a module in ' <i>Environmental Law</i> ' to another national lecturer (Lay Chanthy, PhD candidate) were initiated and the project will continue to actively pursue the engagement of additional national lecturers in the forthcoming period.	
Activity 2.4. Enable final-year students to conduct their research theses in collaboration with other projects and organisations in Cambodia.		Four final-year students successfully defended their theses during the reporting period and 11 MSc and 4 BSc students are currently undertaking their thesis research in collaboration with a variety of organisations in Cambodia (a list of these is given in annex 3.2). To enhance support to final-year students, a series of procedures governing thesis development and supervision was introduced during the reporting period. The class of 2010-11 will begin development of their thesis proposals during the 2 nd semester of 2010 (September 2010 to January 2011).	
Output 3. A permanent cadre of national scientists ('Darwin Research Officers') employed by the RUPP Centre for Biodiversity Conservation to advance biodiversity science in Cambodia.	5-10 full-time, postgraduate Cambodian scientists recruited to supervise students and pursue original lines of research on topics pertaining to the CBD and CITES.	The project achieved substantial progress towards this output during the reporting period. Six Cambodian scientists were recruited as Darwin Research Scholars, five of whom began original research projects relating to CBD and CITES. Substantial co-funding was secured for their research efforts, including two 3-year PhD scholarships, three training internships overseas and a variety of financial and in-kind support for field activities. As the project continues to recruit more scholars and as additional funding proposals are pending, similarly positive progress is expected in the	

Project summary	Measurable Indicators	Progress and Achievements April 2009 - March 2010	Actions required/planned for next period
		forthcoming period. Note: This indicator is believed to appropriately measure project progress.	
Activity 3.1. Using a transparent selection process, recruit 5-10 Darwin Research Officers and finalise their terms of reference.		A recruitment process entailing national advertisements and interviews of shortlisted candidates was completed during the reporting period. Six individuals (including three RUPP staff) were consequently engaged as Darwin Research Scholars (DRS) and their terms of reference finalised. The project is currently reviewing an additional candidate for the DRS post, and will continue to actively seek suitable candidates within and outside of the RUPP.	
Activity 3.2. Darwin Research Scholars develop original research proposals and apply for PhD scholarships and small grants.		Of the six Darwin Research Scholars, scholarships were secured for two (Ith Saveng and Ly Viboth) to undertake PhD's in Thailand and France (both will undertake their doctoral studies on Cambodian biodiversity) and a fully-funded one-month research internship in Malaysia was obtained for Ith Saveng. Two scholars (Neang Thy and Meas Seanghun) successfully secured external funding and specialist overseas training for their research projects and are actively pursuing additional support. In the forthcoming period, remaining scholars (Seng Rathea and Kris Meanrith) will be similarly assisted to further develop their research and apply for scholarships and grants, as will additional scholars recruited to the project.	
Activity 3.3. Darwin Research Scholars conduct original research in collaboration with other projects and organisations in Cambodia.		Excepting the most recently recruited scholar (Kris Meanrith), all of the project's Darwin Research Scholars initiated original research activities entailing liaison with a variety of domestic and overseas organisations during the reporting period.	
Activity 3.4. Darwin Research Scholars organise guest lecture series and disseminate their findings in conferences and various journals.		Though not scheduled until the final quarter of the project, a series of guest lectures was initiated during the reporting period at the RUPP with the assistance of the Darwin Research Scholars (recent lectures are listed in annex 3.3). The project's Darwin Research Scholars were similarly active in disseminating research findings, three already having completed full length papers for peer-review publication (abstracts for these are given in annex 3.4), all of which will be shortly submitted to appropriate journals. Activities to prepare five additional manuscripts are underway and will be completed during the forthcoming period.	
Output 4. Continued growth and improvement of the national zoological reference collection, herbarium and journal as resources for conservation scientists nationwide.	50% increase in the number of voucher specimens maintained in the national zoological reference collection and herbarium. At least two issues of the <i>Cambodian Journal of Natural History</i> published, with peer-reviewed manuscripts from scientists from at least 15 different institutions.	The project achieved substantial progress towards this output with a significant number of voucher specimens added to the zoological collection, which now hosts >750 specimens (a three-fold expansion compared to late 2008). The herbarium enjoyed a similarly significant rate of acquisitions as a result of intensive collecting activity and repatriation of >2,000 colonial-era specimens from the Museum National d'Histoire Naturelle in Paris. Both collections continue to grow on a monthly basis. As a result of publication of the 2009 volume of the <i>Cambodian Journal of Natural History</i> during the reporting period and plans to release the forthcoming issue in July-August 2010, the project is ahead of schedule and similarly stands to exceed its target by publishing an additional issue during the forthcoming period. Note: These indicators are felt to appropriately measure project progress.	

Project summary	Measurable Indicators	Progress and Achievements April 2009 - March 2010	Actions required/planned for next period
Activity 4.1. Organise expeditions to collect additional voucher specimens of plants and lower animals, ensuring they are correctly preserved, labelled and documented.		A series of expeditions to collect voucher specimens for CBC collections were undertaken during the reporting period, most of which entailed collaborations with domestic and overseas organisations. In the forthcoming period, the project will continue to organise collecting expeditions with an emphasis on poorly studied sites and taxa, and as research activities undertaken by the Darwin Research Scholars mature, the size and scope of the CBC collections will substantially expand.	
Activity 4.2. Issue call for papers and undertake rigorous peer review process for all eligible manuscripts received.		The first call for manuscripts for the 2009 and 2010 volumes of the <i>Cambodian Journal of Natural History</i> were issued on 15 April and 31 December 2009 respectively. Peer-review processes were subsequently initiated for all eligible manuscripts submitted to the journal's editorial board.	
Activity 4.3. Peer-review manuscripts, publish and disseminate the <i>Cambodian Journal of Natural History</i> .		The 2009 edition of the <i>Cambodian Journal of Natural History</i> was released in December 2009 and dissemination completed in the first quarter of 2010. Contents of the 2009 volume of the journal are listed in annex 3.5, and annex 3.6 presents the guest editorial for the issue. A softcopy of the 2009 edition and previous issues of the journal can be downloaded at: http://www.fauna-flora.org/reports.php . The forthcoming issue of the journal will be released in July-August 2010, at which time a call for submissions for a subsequent edition will also be disseminated.	

Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal 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 Heightened capacity of Cambodian scientists to meet national requirements for the CBD and CMS.	Within 5 years of project end, scientists trained and equipped by this project inform and evaluate conservation decisions to a higher standard within Cambodia.	Country reports to CBD and CITES.	
Purpose Strengthen and consolidate Cambodia's conservation science capacity by developing the Centre for Biodiversity Conservation (CBC) as the national hub for original research, postgraduate education, information dissemination and inter-agency collaboration.	At least 20 original research projects on topics relevant to the conventions conducted by CBC scientists and postgraduate students in collaboration with at least 10 different institutions. MSc curriculum, reference collections and journal continue to be delivered and enhanced to benefit scientists and decision-makers in every province.	Papers, theses and other scientific publications produced by CBC scientists and alumni. Records of nationals enrolled on MSc curriculum, using the reference collections, and/or subscribing to the journal. Darwin Initiative final project report and ECTF evaluation.	Cambodian government continue to give national scientists free rein to conduct research, organise meetings and publicly disseminate their findings. Continued interest and cooperation from other NGOs in Cambodia.
Outputs 1. The formalization of the Centre for Biodiversity Conservation as an independent unit within the Royal University of Phnom Penh (RUPP).	Centre for Biodiversity Conservation fully functioning, with its own director, regulations, operational budget, and capacity to generate funding.	Regulations developed and officially endorsed. Annual reports and accounts. Site visit by Darwin Initiative.	Continued support from RUPP leaders and the wider conservation community.
2. Masters of Science in Biodiversity Conservation programme enhanced and continued as a permanent fixture at RUPP.	Courses and exams held every semester and at least 40 students trained during the project period. At least 3 international lecturers on the MSc course replaced by Cambodian trainers.	Attendance records and examination results. Theses produced by final-year students. Trainer records and contracts.	Continued high interest in the course from prospective students and employers. Sufficient postgraduates interested in teaching.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
3. A permanent cadre of national scientists ('Darwin Research Officers') employed by the RUPP Centre for Biodiversity Conservation to advance biodiversity science in Cambodia.	5-10 full-time, postgraduate Cambodian scientists recruited to supervise students and pursue original lines of research on topics pertaining to the CBD and CITES.	Contracts, terms of reference, and work plans for each Darwin Research Officer. At least 5 scientific papers produced by Darwin Research Officers. Guest lecture series	Sufficient number of high-calibre postgraduates interested in career in science. Other donors willing to co-fund research studies through small grants.
4. Continued growth and improvement of the national zoological reference collection, herbarium and journal as resources for conservation scientists nationwide.	50% increase in the number of voucher specimens maintained in the national zoological reference collection and herbarium. At least two issues of the <i>Cambodian Journal of Natural History</i> published, with peer-reviewed manuscripts from scientists from at least 15 different institutions.	Reference museum holdings database. Journal, both in print and online.	The relevant government agencies continue to grant permits to collect specimens. Sufficient authors submitting manuscripts and continued support from peer-reviewers.
<p>Activities:</p> <p>1.1 Develop Centre for Biodiversity Conservation regulations and establish a management committee. 1.2 Recruit Director and develop Centre for Biodiversity Conservation operational plan and budget 1.3 Organise official opening ceremony and press release.</p> <p>2.1 Run 8-week Bridging Course every year for 20-40 applicants to the MSc course. 2.2 Teach three terms of the MSc Biodiversity Conservation curriculum every year (12 modules and 40 students). 2.3 Identify and coach at least three Cambodian postgraduates to replace international lecturers. 2.4 Enable final-year students to conduct their research theses in collaboration with other projects and organisations in Cambodia.</p> <p>3.1 Using a transparent selection process, recruit 5-10 Darwin Research Officers and finalise their terms of reference. 3.2 Darwin Research Scholars develop original research proposals and apply for PhD scholarships and small grants. 3.3 Darwin Research Scholars conduct original research in collaboration with other projects and organisations in Cambodia. 3.4 Darwin Research Scholars organise guest lecture series and disseminate their findings in conferences and various journals.</p> <p>4.1 Organise expeditions to collect additional voucher specimens of plants and lower animals, ensuring they are correctly preserved, labelled and documented. 4.2 Issue call for papers and undertake rigorous peer review process for all eligible manuscripts received. 4.3 Peer-review manuscripts, publish and disseminate the <i>Cambodian Journal of Natural History</i>.</p>			

Monitoring activities:

Indicator 1: Centre for Biodiversity Conservation fully functioning, with its own director, regulations, operational budget, and capacity to generate funding.

1.a Weekly meetings of the FFI Project Manager, RUPP Coordinator and MoE biologist (and Director of the Centre, when recruited in Year 2).

1.b Monthly meetings of the FFI-RUPP Steering Committee.

1.c Monthly oversight of the Centre for Biodiversity Conservation budget and accounts by FFI project leaders and finance manager.

1.d Annual Reports by the Centre for Biodiversity Conservation.

Indicator 2: Courses and exams held every semester and at least 40 students trained during the project period. At least 3 international lecturers on the MSc course replaced by Cambodian trainers.

2.a Examination results compiled by the project team, verified by Steering Committee and stamped by the Dean.

2.b Theses reviewed and graded by Ministry of Youth, Education and Sports examiners and verified by the Steering Committee.

2.c Project office maintains records of trainers and student feedback (using questionnaires) on the quality of teaching.

Indicator 3: 5-10 full-time, postgraduate Cambodian scientists recruited to supervise students and pursue original lines of research on topics pertaining to biodiversity management.

3.a Darwin Research Scholars submit work plans and monthly progress reports to project leaders.

3.b Copies of all research publications by Darwin Research Scholars deposited in project files and the university library.

3.c Records maintained by project office of the guest lecturers and titles.

Indicator 4: 50% increase in the number of voucher specimens maintained in the national zoological reference collection and herbarium. At least two issues of the Cambodian Journal of Natural History published, with peer-reviewed manuscripts from scientists from at least 15 different institutions.

4.a Reference museum holdings database kept up to date by curators and subject to random checks by project leaders.

4.b Journal papers monitored using standard peer-review process, and layout reviewed by FFI Communications before going to press.

Other relevant project management monitoring activities:

Project accounts compiled monthly by the FFI Cambodia office and reviewed by FFI Finance Department in Cambridge.

Biannual reporting by the project leaders to Darwin Initiative.

Quarterly and Annual reporting by project leaders to Fauna & Flora International against agreed milestones.

Quarterly reports from Fauna & Flora International Cambodia Programme to the Ministry of Foreign Affairs (Royal Government of Cambodia).

Annex 3 Onwards – supplementary material

Please note that this annex contains confidential personal data and should be removed before posting this report on the Darwin Initiative website.

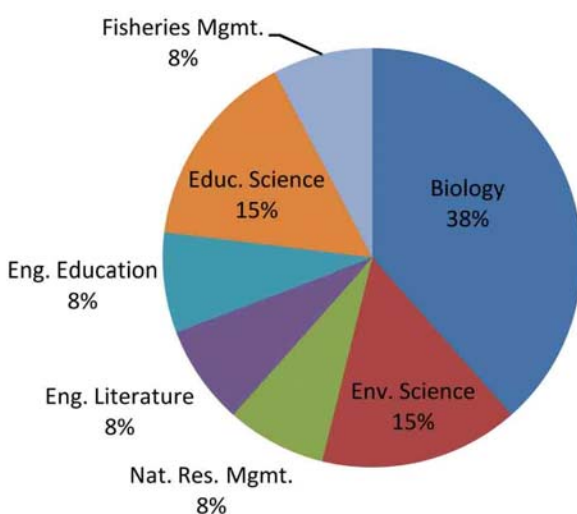
3.1 MSc in Biodiversity Conservation: Student Information

MSc Class of 2009-2010*

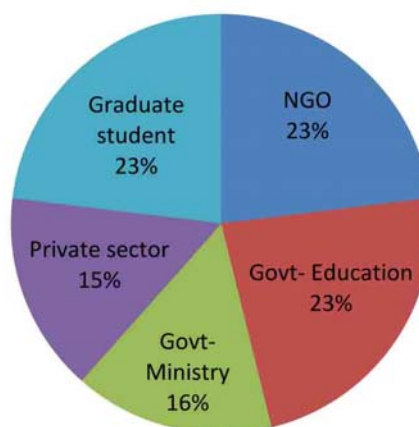
Surname	First Name	Age	Sex	Employer	Category
Khieng	Sokhoeun	25	M	Save Cambodia's Wildlife	NGO
Sett	Sophak	26	F	Conservation International	NGO
Nen	Phanna	24	M	Fishery Administration	Govt- Ministry
Choeur	Chanvibol	22	M	Wildlife Conservation Society	NGO
Hou	Chansara	39	F	Kandal Regional Teacher Training Centre	Govt- Education
Tep	Monorum	26	M	APSARA Authority	Private sector
Eam	Sam Un	24	M	Grad Student	Graduate student
Sor	Ratha	22	M	Grad Student	Graduate student
Sien	Sreyntet	23	F	Grad Student	Graduate student
Chum	Chamreun	25	M	Chba'ampov High School	Govt- Education
Phen	Sarith	24	M	MoYES	Govt- Education
Bun	Phalla	40	M	Interior Ministry	Govt- Ministry
Im	Rin	38	M	Uttamasastra School of Kampuchea	Private sector

* All of these students began the MSc in February 2009, having passed the 8-week bridging course.

Educational Background



Employment Background

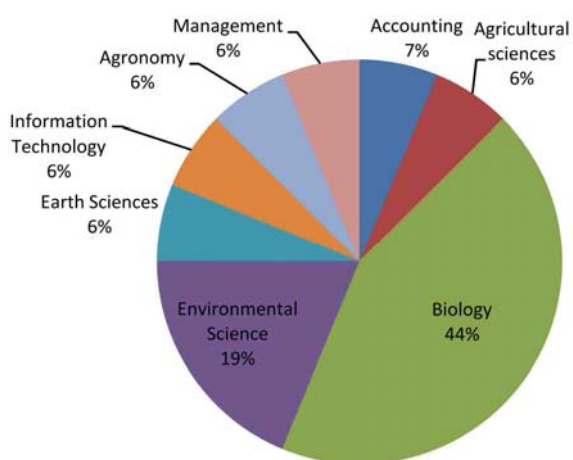


MSc Class of 2010-2011*

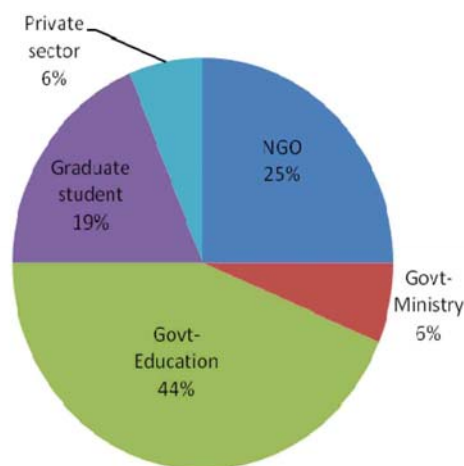
Surname	First Name	Age	Sex	Employer	Category
Choun	Phirom	M	30	Fauna & Flora International	NGO
Sam	Sothearom	M	27	Ministry of Agriculture, Forestry and Fisheries	Govt- Ministry
Chheang	Sarak	M	26	Ministry of Education, Youth and Sports	Govt- Education
Kim	Chamnan	M	27	Conservation International	NGO
Chhin	Sophea	M	27	Wildlife Conservation Society	NGO
Leng	Bona	M	27	Ministry of Education, Youth and Sports	Govt- Education
Yong	Vireaksopheakmukul	F	27	n/a	Graduate student
Sor	Ratha	M	24	n/a	Graduate student
Chum	Chamreun	M	27	Ministry of Education, Youth and Sports	Govt- Education
Nhem	Borany	F	43	Ministry of Education, Youth and Sports	Govt- Education
Poeuv	Narith	M	33	Ministry of Education, Youth and Sports	Govt- Education
Ke	Socheata	F	23	n/a	Graduate student
Heng	Vantha	M	34	Ministry of Education, Youth and Sports	Govt- Education
Chantha	Nasak	M	26	Ministry of Education, Youth and Sports	Govt- Education
Choeur	Chanvibol	M	24	Green Environment Group	Private sector
So	Dane	M	30	NGO Forum for Cambodia	NGO

* All of these students began the MSc in February 2010, having passed the 8-week bridging course.

Educational Background



Employment Background



MSc in Biodiversity Conservation, Class of 2010-2011: Photo Gallery



កែ សុជាតិ
Ke Socheata



សោ រដ្ឋា
Sor Ratha



ឡឿ ចំនួនិបុល
Choer Chanvibol



ជួន ភិរម្យ
Choun Phirom



យង់ វិរៈសុភមង្គល
Yong Vireaksopheakmukul



ហេង វង្សា
Heng Vantha



ឈិន សុភា
Chhin Sophea



ឡេង បូណា
Leng Bona



ជុំ ចំរើន
Chum Chamreun



ញ៉ែម បូរ៉ានី
Nhem Borany



ពៅ នារិទ្ធ
Poeuv Narith



ចន្ទា នាសាក់
Chantha Nasak



សុ ដានេន
So Dane



ឡេង្យង សារះ
Chheang Sarak



សំ សុធារម្យ
Sam Sothearom



គីម ចំនាន
Kim Chamnan

3.2 Final-Year Research Theses supported by the Post-Project

MSc Theses defended during the reporting period

Student	Collaborating organisation	Thesis Title
Mr. Hem Chanrithy	Forestry Administration, Fauna & Flora International	An analysis of threats and site-level conservation approaches at Cambodian Protected Forests.
Ms. Srey Chansorphea	Fauna & Flora International, Dept. of Forestry	Socio-economic influence of domesticated elephants of Phnong people in Mondulkiri Province.
Ms. Kea Ratha	Conservation International	Feeding behaviour, activity patterns and food preferences of juvenile Asian Soft-shell Turtles (<i>Pelochelys cantorii</i>) in captivity.
Mr. Heng Sokrith	Conservation International, Dept. of Forestry	Factors affecting site selection and feeding habits of Hairy-nosed otter <i>Lutra sumatrana</i> and Smooth-coated otter <i>Lutrogale perspicillata</i> , at Tonle Sap Great Lake, Cambodia.

Ongoing MSc Thesis Projects

Student	Collaborating organisation	Thesis Title
Ses Vannara	Free the Bears, Wildlife Conservation Society	An analysis of trade in the Asiatic Black Bear and Malayan Sun Bear in Cambodia
Mr. Ny Soputhy	National Institute of Education, Fauna & Flora International	The impact of human activities upon Kulen Mountain National Park, Siem Reap province, Cambodia
Mr. Seng Rathea	Ministry of Environment, Fauna & Flora International	Effectiveness of law enforcement in conserving biodiversity at Phnom Samkos Wildlife Sanctuary, Cardamom Mountains.
Mr. Long Kheng	Wildlife Conservation Society, Ministry of Environment	Impacts of ecotourism in the Tonle Sap Biosphere Reserve, Cambodia: A case study on the Prek Toal Core Area, Battambang Province.
Mr. Chav Thou	Green Venture (Ltd)	Native grass as an alternative biomass source for rural energy supply in Cambodia.
Ms. Peou Youleang	Muséum National d'Histoire Naturelle, Paris.	A taxonomic study of <i>Dipterocarpus</i> , <i>Hopea</i> and <i>Shorea</i> (Dipterocarpaceae) from Cambodia.
Mr. Sarith Penn	Angkor Centre for Conservation of Biodiversity, Fauna & Flora International	The effects of forest disturbance on the species richness and abundance of bat assemblages at Phnom Kulen National Park.
Ms. Khom Sökkhea	Ministry of Environment, Fauna & Flora International	A taxonomic review of Cambodian amphibians within the genus <i>Rana</i> , with comparisons between similar species.
Ms. Sotheary Lim	Phnom Tamao Wildlife Rescue Centre, Conservation International	Food preferences of Smooth-coated Otter (<i>Lutrogale perspicillata</i>) as implied by analysis of spraint from captive and wild animals.

Student	Collaborating organisation	Thesis Title
Mr. Phauk Sophany	Angkor Centre for Conservation of Biodiversity, Fauna & Flora International	The utility of bat (ultrasound) detectors in identifying bat species: A case study at Phnom Kulen National Park, Cambodia.
Ms. Sett Sophak	Angkor Centre for Conservation of Biodiversity, Conservation International	Larval food preferences of the Lime butterfly <i>Papilio demolus</i> at Phnom Kulen National Park: Implications for sustainable butterfly farming techniques.

Ongoing BSc Thesis Projects

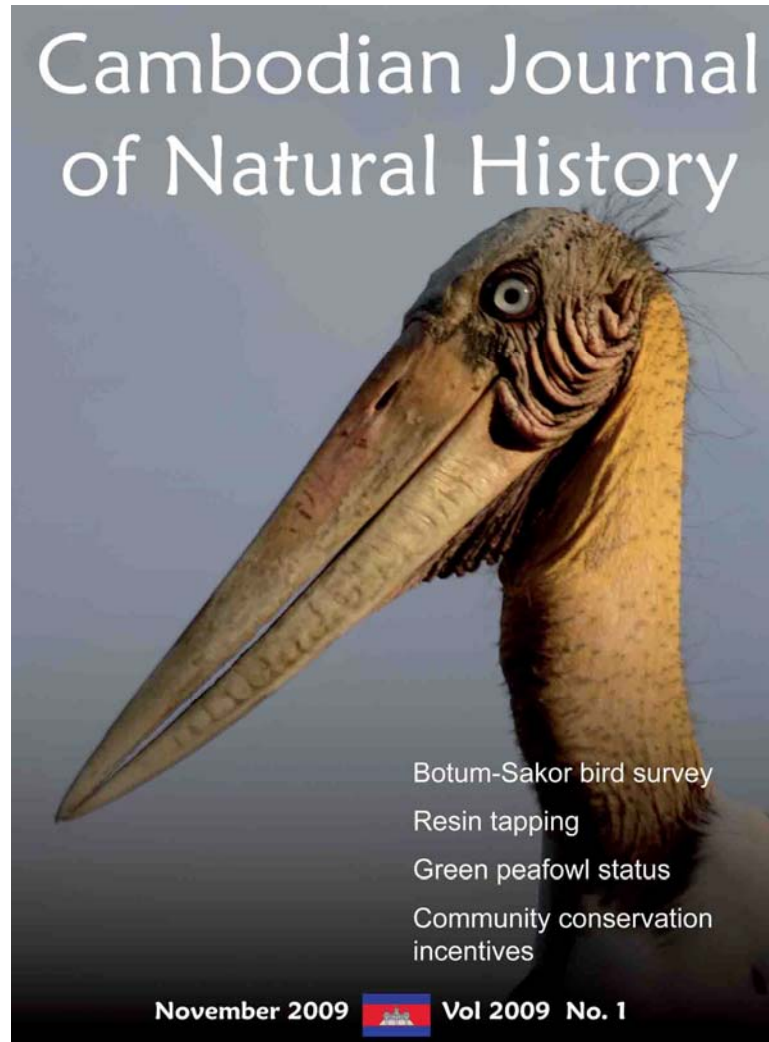
Student	Collaborating organisation	Thesis Title
Mr. Min Malay	Fauna & Flora International	Species diversity of Rotifers in the upper part of the Cambodian Mekong River Basin in Stung Treng Province.
Ms. Hong Lina	Sud Expert Plantes	Species diversity and traditional uses of Zingiberaceae in semi-evergreen forest, Russei-Chrum Commune, Koh Kong province.
Ms. Chi Dany	Fauna & Flora International	Population size and roost selection in <i>Pteropus lylei</i> and <i>P. vampyrus</i> at Wat Phnom in Phnom Penh, Cambodia.
Mr. Pheun Chhunheang	Sud Expert Plantes	Species occurrence of Dipterocarpaceae and a review of usage in Cambodia

3.3 Recent Guest Lectures hosted by the CBC at the Royal University of Phnom Penh

Date	Title	Lecturer
22/01/10	Alien Invaders - How to tackle the second greatest threat to biodiversity	Jenny Daltry, Fauna & Flora International
12/02/10	Status of marine fisheries in Cambodia: A case study on the establishment of Blood Cockle refugia in Prey Nup 2, Sihanuk Province.	Yos Chanthana, Marine Fisheries Research & Development Institute
19/02/10	A review of the carnivorous plant flora of Cambodia	Francois Mey, Independent Researcher
26/02/10	Climate Change: Scientific basis, effects on the global environment, and on Cambodian natural resources.	Frances Lambrick, Oxford University
05/03/10	Asian elephants in Cambodia: Conservation of a flagship species	Tuy Sereivathana, Fauna & Flora International
12/03/10	Climate Change: Biodiversity impacts - with reference to Cambodia's coral reefs, forests and the Mekong region.	Frances Lambrick, Oxford University
19/03/10	Reduced Emissions from Deforestation and Degradation: Seeing the light or seeing red?	Frances Lambrick, Oxford University
26/03/10	The future of protected areas: Conservation planning in a changing world	Frances Lambrick, Oxford University

3.5 Front and rear covers of the 2009 volume (No.1.) of the *Cambodian Journal of Natural History*

A softcopy of this and previous issues of the journal can be downloaded at: <http://www.fauna-flora.org/reports.php>



Cambodian Journal
of Natural History

Volume 2009, Number 1

Contents

- 3 Guest Editorial: Lessons learnt in establishing a Masters Programme in Biodiversity Conservation at the Royal University of Phnom Penh, *Rath Sethik*.
- 5 Short Communication: Progress in breaking the link between narcotics crime and rainforest loss in Cambodia, *David Bradfield and Jenny C. Daltry*.
- 7 The status and distribution of green peafowl *Pavo muticus* in Cambodia, *Frédéric Goes*.
- 16 Liquid resin tapping by local people in Phnom Samkos Wildlife Sanctuary, *Neang Thy*.
- 26 Avifaunal inventory with annotated accounts for Botum-Sakor National Park, Southwest Cambodia, *Alexander Royan*.
- 40 A comparative study of incentive-based schemes for Siamese crocodile *Crocodylus siamensis* conservation in the Cardamom Mountains, Cambodia, *Oum Sony, Hor Leng, Han Sam, Sonn Pisith, Boyd K. Simpson and Jenny C. Daltry*.
- 58 Recent Masters Theses: *Phan Channa, Heng Chinda, Lim Kannitha, Chey Koulang, Nop Navy, and Ith Saveng*.
- 63 Instructions for Authors.



Graduates of Royal University Present Conservation Projects

BY CHRISTI HANG
THE CAMBODIA DAILY

Vietnam, Thailand and Laos each have more than 100 different species of bats, while Cambodia has less than half that number.

It's not that fewer bats live in Cambodia, according to researcher Va Vuthy. It's just that no one's discovered them yet.

Mr Vuthy discovered three new species of bats, updating the country's total to 53 species, while becoming one of the first people in Cambodia to earn a master's degree in biodiversity conservation. He and six other graduates presented their thesis projects at the Royal University of Phnom Penh on Friday.

Mr Vuthy said he was excited to find the new species, but he is still thinking about how many more species he could have found during his research period.

"We should have similar species because the range is very similar," he said of the difference between Cambodia and its neighbors.

He hypothesized that more species would have been found during the dry season if acoustic methods were used in addition to simply trapping the bats in nets.

"July to October is not ideal for bat surveying," Mr Vuthy said. "One drop of water [on the nets]

can increase the bat's detection and decrease our capture rate," he explained.

Fellow biodiversity master's student Koulang Chey said almost all Impressed Tortoises die in captivity, but he hopes his research findings will help conservationists improve the animals' habitats and decrease the rate of mortality. He used radio telemetry to record the tortoises' habits, behaviors and environment.

Mr Chey said he found that the tortoises do not do well in captivity because their natural environment is very specific. He said the tortoises live on mountaintops in places that have a rainy season and high humidity. He added that another problem is the tortoises' particular diet, which mainly consists of wild mushrooms. Disease was also a factor that plagued tortoises in captivity, Mr Chey said.

"It was very hard because it was the first study in Cambodia," Mr Chey said of his university project, adding he did not have enough information to even predict the number of tortoises in the country.

Noy Navy spent four months researching and conducting interviews for her project about human activities and their impact on otters. She said four types of otters can be found in the country and all are

near-threatened or worse.

"We have the most rare species in our country," Ms Navy said of the hairy-nose otter, a species that was once thought to be extinct.

Through interviews with people who live near and interact with otters, Ms Navy found that the majority of otters are killed for their skins and because they are known to ruin fishing nets. In addition to hunting, Ms Navy found water pollution, forest fires, natural disasters and disease threatened otters.

But her work did not just cover problems; she said she also asked for solutions. Ms Navy suggested monetary compensation or incentives for not hunting otters and stronger law enforcement and punishment for those who do. For example, she said the presence of WildAid is noticed by the residents in Koh Kong province.

"A lot of people are scared of WildAid, so they don't hunt otters," she said.

Other projects presented included studies on gender roles in communities located in protected areas, crocodile conservation in the Cardamom Mountains and the behavior patterns of the yellow-cheeked crested gibbon in Ratanakkiri province.

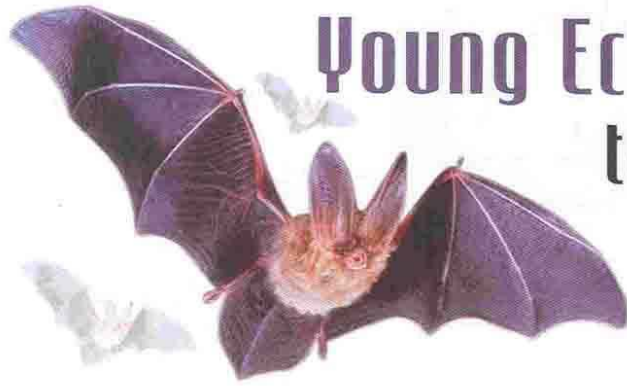
The biodiversity master's program was developed after the realization that short training courses and workshops in conservation were too specific, said Callum McCullough, Fauna and Flora International's university capacity project program manager.

"Many necessary conservation skills tend to be omitted from short-term training courses, such as how to manage budgets, how to work with local communities, or alternative approaches for managing protected areas," he said.

He added that an additional five students will be presenting their thesis projects at the end of the year, and the university is looking for more candidates to join the program.

The two-year postgraduate degree is divided into a year of classroom courses that cover topics such as overall conservation themes and critical thinking, while the second year is dedicated to working on a thesis subject, Mr McCullough said.

"On a personal note, it has been a great pleasure for me to be part of the journey that these young people have embarked on. From the quiet, shy and unsure master's candidates in the beginning to the confident and outspoken young scientists that they are today," he said.



Young Eco-Warriors take up the Fight

By Him Sokunthea
Economics Today

In biological terms, Cambodia is one of the richest countries in the world.

The kingdom boasts a dizzying diversity of flora and fauna, with more than 1,000 species of fish and approximately 11 million ha of forest cover. Natural resources are the mainstay of Cambodia's economy: more than 80 percent of Cambodians depend directly on natural resources for subsistence and income. However, development and a rapidly growing population are increasing pressure on biodiversity and the environment; Cambodia risks losing much of this natural wealth to the detriment of present and future generations.

It may sound batty, but the future of Cambodia's biological wealth may well be in the hands of people like Va Vuthy, a Master Biodiversity Conservation graduate. He said that a course in Environmental Science at the Royal University of Phnom Penh sparked an interest in the natural world, a passion that grew as he engaged in environmental activities in locations across Cambodia.

The understudied area of the order Chiroptera—bats to the layman—were the subject of Va Vuthy's special thesis project, and the dismissive attitude of many to this undervalued creature can get him in a flap. He said that bats provide multiple benefits to the environment, although "bat study is a blank page in Cambodia."

"Bat droppings are a good fertilizer, they eat other insects which cause

trouble to people, they can pollinate flowers and plants," he said, listing some of the benefits of bat populations. "If there are no more bats, it could cause many trouble for many people," he warned, noting that bats are instrumental in pollinating durian trees, the fruit of which is a major cash crop in Cambodia.

Bat usually live in remote areas in Cambodia, Saveng said. In his thesis, he examines 44 populations of bats samples. "I have been to Steng Treng province, Pursat province and in ... a National Park in Thailand. It is quite hard working with bats because I have to go to remote places, particularly in the forest. I had to work at night time since bats are only active nocturnally," he said.

The Phnom Samkos Wildlife Sanctuary in Pursat and another in the Seima Biodiversity Conservation area in Monduliri provided useful data, Va Vuthy said. Still, a lack of



It Saveng, a recent Masters graduate in Biodiversity Conservation

clear information and the conditions unforgiving wilderness made for major difficulties during his studies, though Va Vuthy said he was happy to be adding to a body of knowledge that is far from comprehensive.

Another recent addition to the kingdom's eco-warriors is 28-year-old It Saveng, a recent Masters graduate in Biodiversity Conservation now working as the Curator of Natural History Museum at the Royal University of Phnom Penh. With his inborn-interest in natural environment and wildlife and the outlook of job market available, Saveng said he decided to pursue master degree in Biodiversity Conservation, a course which only began to be offered in 2006.

It Saveng said he hoped that going against the flow of degrees in management and accounting would pay off. "It is a new subject so I think the job market will become broader," he told Economics Today. However, he added that conservation is a tough topic, especially as the course demands fluency in foreign languages and incorporates complex concepts. Apparently, 90 percent of lecturers are foreign, and internet access is needed for research.

It Saveng admitted that Cambodia lacks equipment and research about wildlife. "We need to take from abroad when we want to do any project about the species in Cambodia. So usually it takes a long time and a lot of effort when we plan to do any project."

Conservation in Cambodia is still a problem, with areas of virgin forest still being encroached upon. Some species are critically endangered.

Saveng was concerned that biodiversity is under threat because of lax law enforcement, and many Cambodian's are unaware of the benefits of biodiversity. Hunting is still a livelihood in some areas. ■

NATIONAL

Cambodia's Natural Environment Explored in New Journal

BY CHRISTI HANG
THE CAMBODIA DAILY

The second issue of the Cambodian Journal of Natural History, a collection of current research papers about Cambodia's rich biodiversity and one of the few opportunities for Cambodian researchers to get their work published, has been released in a magazine-style format and will soon be available online.

The second edition features articles about various aspects of Cambodian biodiversity such as a study of the green peafowl, drug crimes and rainforests and incentive plans for people living in conservation areas.

The journal is published by the Center for Biodiversity Conservation, the organization responsible for the Biodiversity Conservation master's program at the Royal University of Phnom Penh, said Neil Furey, head of academic development for Fauna and Flora International, who is involved in the master's program.

"It's a platform for Cambodians to air their findings," he said of the latest edition of the journal.

Mr Furey said the journal's editorial board includes international researchers and all submissions

are peer-reviewed and revised before publication.

"The response is growing," he said of the latest submissions.

"The first edition had all overseas people with one Cambodian co-author but [the second edition] has two papers with lead authors who are Cambodian nationals," he said.

Mr Furey said 400 copies have been printed of the second edition and will be distributed to government officials, NGOs, researchers and other stakeholders but a digital copy of the journal will be available online soon.

The journal includes an article by FFI researcher Neang Thy about resin tappers and their impact on conservation efforts in the Phnom Samkos Wildlife Sanctuary in Koh Kong province.

Mr Thy said in Cambodia, resin is mainly used to repair boats and to seal them from water. His article explained how the resin industry provides income for villagers without seriously impacting the environment.

"People have been harvesting resin for generations and generations so it's either sustainable or has a small amount of impact," he said.

Tappers had also indirectly helped conservation efforts by pro-

tecting trees from illegal loggers, he added.

During his research Mr Thy found that resin tapping is a small operation that consists of individuals collecting the resin then selling it to middlemen who then pass it on to local businesses or export it.

"If supplemented with seasonal crops (eg rice, corn, bean and sesame), the current income generated mainly from resin collection could support the tappers without resorting to illegal and unsustainable activities," Mr Thy wrote in his paper.

Mr Thy explained that in order to collect resin, tappers cut a pyramid-shaped hole into a tree trunk and then start a small controlled burn lasting from three to five minutes, which encourages the tree to increase the amount of resin produced. His research also pointed to problems that arise if the tappers are not careful, such as cutting off the flow of water throughout the tree.

However, the benefits outweigh the possible problems associated with the practice.

"Resin tapping seems to fit well with the goal of the Wildlife Sanctuary because communities indirectly preserve wildlife through protecting resin trees and their habitats, and also provides local people with a substantial income from selling the resin," the paper concluded.

The other Cambodian-authored article is by FFI researcher Oum Sony on the effectiveness of indirect and direct incentives from conservation groups for communities when it comes to the protection of the Siamese crocodile, a species classified as "critically endangered."

Indirect incentives include developing other ways to help a community economically, such as assisting in small industries or building schools and hospitals, according to the article.

This method is widely used in

conservation work while the use of direct incentives is rare and unreported on in developing countries.

Direct incentives include giving money to resource owners in exchange for protection.

"This study found no significant differences between two incentive-based schemes in terms of their impact on local economy, fishing behavior and relative crocodile population trends," the report concluded. "Both appear to have been effective in maintaining wild crocodile population at the studied sites, with a conspicuous halt in crocodile poaching."

Mr Sony said the project was originally part of his master's thesis but he decided to expand on the paper for the journal.

"There aren't enough places to publish or advertise our findings," he said. "It's a good way to disseminate our work."

The journal also includes abstracts of the theses from the master's program spring graduates, with topics ranging from using technology to track wildlife to human interaction with the environment.

"This is a great opportunity for researchers to publish their research and a great opportunity for our master's students too," said RUPP master's program project coordinator Rath Sethik.

He added the university and FFI created the post-graduate program to better train Cambodians in conservation and research.

"We are trying to build our own capacity from our resources," Mr Sethik said. "We've hired researchers from abroad but we need to start to build up our own researchers."

NATIONAL

Conservationist Wins Royal Honor for Service to Cambodia

By CHRISTI HANG
THE CAMBODIA DAILY

Before Jenny Daltry led a team of researchers into the Cardamom Mountains in 2000, the Siamese crocodile was thought to be extinct in the wilds of Cambodia.

But Ms Daltry, a conservationist with Fauna and Flora International, said going into the mountains, she knew if the crocodiles still existed, they could only be there.

"It was in the middle of the night [when I saw the crocodile], I started jumping up and down," she said. "It was like seeing a unicorn or a dinosaur."

The re-discovery of the crocodile was only one of the reasons why she was awarded the title of officer of the Order of Sahemetri, an award given to foreigners recognized for their service to the King and to Cambodia.

"I was very surprised and did not expect it," Ms Daltry said of her award on Friday at a ceremony at the Forestry Administration in Phnom Penh.

"It's a positive reference to everyone's work, but it also shows the government's interest in conservation and its importance," she said.

Ms Daltry has spent a combined 10 years working in Cambodia,

including serving as FFI's country director for five years.

Some of her accomplishments in Cambodia include creating the Cambodian Crocodile Conservation Program after the discovery of the Siamese crocodile, developing a Masters degree program for conservation at the Royal University of Phnom Penh and establishing the Cambodian Journal of Natural History.

Although she has accomplished a lot in Cambodia, Ms Daltry said the main goal of FFI is capacity building so that one day the organization is not needed in the country.

"It's their country and Cambodians should be doing conservation work," she said, adding that over the years, she has seen a significant increase in Cambodians taking up such work.

She noted that Cambodia has done well in designating conservation areas, with more than a quarter of the country protected, which is more than in any Western nation, but that the country also faces big challenges. Development projects like hydro-power dams and land concessions have a large negative impact on the environment, she said.

"Other parts of the world have



Pring Samrang

Conservationist Jenny Daltry on Friday receives the Order of Sahemetri, an honor created by retired King Norodom Sihanouk to recognize foreigners who have demonstrated distinguished service to the king and Cambodia.

both development in a sustainable way," Ms Daltry said. "The massive hydro dams are not sustainable."

British Ambassador Andrew Mace was present at the ceremony to honor Ms Daltry and FFI's work as part of the Darwin Initiative, a fund that helps provide British experts to countries that have a rich biodiversity but lack resources.

"The work of Dr Daltry and FFI in Cambodia is a great example of how the initiative's aims can be fulfilled," he said. "It is helping to build the expertise and skills of Cambodian scientists to understand and protect the riches of their country's natural heritage, and to share the results of their research."

Illegal R'kiri Gold Mines Raided, Locals Warned Arrests To Follow

By KUCH NAREN
THE CAMBODIA DAILY

Authorities in Ratanakiri province on Wednesday confiscated machinery used at illegal gold min-

the region since early 2000.

Local minority villages only provide the labor to the mines, said the man, who only gave his name as Phhoeng for fear of retribution.

Gecko Species Named for Cambodian Researcher

BY CHRISTI HANG
THE CAMBODIA DAILY

Cambodia has over 30 species of gecko, including four species considered "household" geckoes, but few words for the creature.

The newest species discovered might earn an honorable mention with the Cambodian people, as its name has a personal connection to the country.

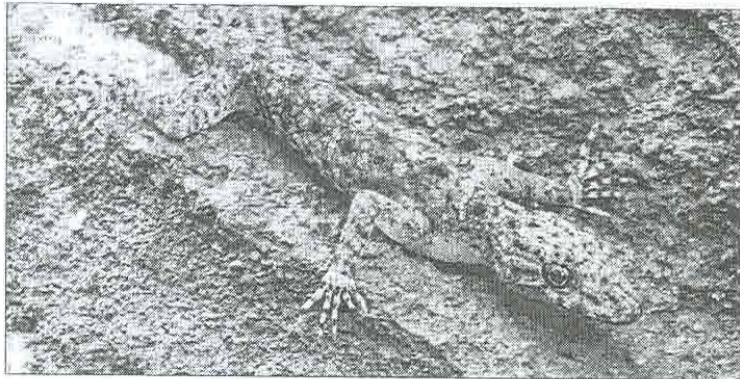
Named in honor of Cambodian researcher and herpetologist Neang Thy, *Cnemaspis neangthyi* was first spotted during a 2007 expedition to the Cardamom Mountains led by Lee Grismer from La Sierra University and was reported in a peer-reviewed study on March 11 in the *Journal of Herpetology*.

"I'm very happy about having my name given to the new species, and I hope it lets people know that everything has a name because in Khmer, it only has one name," Mr Thy said yesterday in an interview.

The new species is on average 5.4 cm long, not counting the tail, and olive green with a distinct light green chevron stripe on the back of its neck, according to Fauna & Flora International. There are currently 75 known species of *Cnemaspis* in the world. Thirty species live in Southeast Asia, with only one other species in the *Cnemaspis* genus found in Cambodia, according to the organization.

Mr Thy is the head of research for FFI's Cardamom Mountains Research Group and is also a department head at the Ministry of Environment.

"I think conservation is taken seriously but it's not as effective because this is new field and it's not



Lee Grismer

***Cnemaspis neangthyi*, a gecko discovered in the Cardamom Mountains in 2007, was officially certified as a species on March 11.**

fully understood yet," he said. "Cambodia started [conservation efforts] a bit late because the long conflicts in the country and started surveying a bit late and many of the animals were already described by neighboring countries."

Mr Thy said that during the 2007 expedition, the researchers were not specifically looking for a new species but looked carefully at rocky and hilly habitats that were thought likely to be home to geckoes.

"I think this [gecko is] very rare as it's the first time to be discovered," Mr Thy said, adding the animal is quite good at camouflaging itself within its environment.

Mr Thy also compiled the first guidebook to Cambodia's 62 species of amphibians and 130 reptile species, including 80 types of snakes. He added the book was geared toward young researchers doing field work, interested tourists or visitors who photograph wildlife and students who might go into the field of conservation.

"I hope people realize how many animals Cambodia has and that

they need to be protected," he said.

Neil Furey, head of academic development at FFI, said the honor of having a species named after a person is "rare enough." New species' names take three routes, he added. Animals are named after a distinctive characteristic like size or color, the area where the species was found or a person—never the person who discovered the species but a person who has made a great contribution in that field of research.

"Thy is recognized for his help to researchers in the field and his contribution to Cambodian conservation," he said.

Mr Furey said Mr Thy furthered his contribution by helping to foster a stronger conservation community in the future by leading field expeditions with conservation students and advancing his own skill set.

Mr Thy is to leave Sunday for a three-month taxonomy internship in California to catalog the new species, Mr Furey said.

"He's pursuing excellence in science and the future of conservation in Cambodia," Mr Furey said.

3.8 Selected photographs of project activities during the reporting period



MSc students and RUPP staff attending a lecture provided by Dr. Tom Murphy



Students on a field practical to Kirirom National Park



Dr Neil Furey instructing students at Phnom Samkos Wildlife Sanctuary



Students attending a practical class at Phnom Tamao Wildlife Rescue Centre



Students working at the RUPP zoological collection facility



Students studying animal taxonomy in the project laboratory at the RUPP



MSc in Biodiversity Conservation, Research Day at the RUPP
August, 2009



International Workshop on Bat Conservation at the RUPP
(co-organised with the Harrison Institute, UK)
October, 2009

List for submission

	Check
Is the report less than 5MB? If so, please email to Darwin-Projects@itsi.co.uk putting the project number in the Subject line.	✓
Is your report more than 5MB? If so, please advise Darwin-Projects@itsi.co.uk that the report will be send by post on CD, putting the project number in the Subject line.	X
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	X
Have you involved your partners in preparation of the report and named the main contributors	✓
Have you completed the Project Expenditure table fully?	✓
Do not include claim forms or other communications with this report.	