# *Darwin Initiative*

# *Annual Report*

## 1. Darwin Project Information

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|---|---|
| Project Ref. Number | 14-037 |
| Project Title | Building University Capacity to Train Future Cambodian Conservationists |
| Country | Cambodia |
| UK Contractor | Fauna & Flora International |
| Partner Organisation(s) | Royal University of Phnom Penh, Ministry of Environment (MoE) and Ministry of Agriculture, Forestry & Fisheries (MAFF) |
| Darwin Grant Value | £ 154,484 |
| Start/End dates | 1 June 2005 to 31 March 2009 |
| Reporting period and report number | 1 June 2005 to 31 March 2006<br>Annual Report No. 1 |
| Project website | N/A |
| Author(s), date | Jenny Daltry, PhD, 24 April 2006 |

## 2. Project Background

There is a severe lack of capacity within Cambodia to conserve wildlife and ensure that post-war development is environmentally sustainable. It is not uncommon, for example, to find forestry officials who are unaware of the link between deforestation and soil erosion, park directors who cannot name more than ten species living in their area, and EIAs for major developments being omitted due to the lack of competent practitioners. Many new jobs are opening in the fields of biodiversity conservation and natural resource management in Cambodia, but there are far too few qualified nationals to fill them. Consequently, short-term foreign environmental experts are often engaged to fill some of the gaps, but according to the recent National Biodiversity Strategy and Action Plan, what the kingdom really needs are more Cambodians with the necessary knowledge and tools to manage their biodiversity themselves.

This project is working to address a number of underlying problems and constraints to effective biodiversity conservation in this country:

1. There are limited training or educational opportunities within Cambodia, and the cost of going overseas to study is prohibitive for most Cambodians.

2. There has been very little exchange of information or experience among the universities, government and NGO sectors, or with scientists overseas.

3. Cambodia's university departments conduct little or no original research. Most lecturers are underqualified and have little or no practical experience.

4. There is a severe lack of biodiversity research aids available to Cambodians, e.g., technical books, survey equipment or any form of herbarium/ zoological reference collection.

## 3. Project Purpose and Outputs

The project purpose is to build capacity in conservation and applied research at Cambodia's premier universities, chiefly by establishing new teaching modules and Masters-level qualifications in conservation biology, supported with practical field experience. The target outputs, as stated in the original proposal logical framework, are:-

1) 60 students trained for 15 weeks on new module, of which 20 will be selected as junior research officers ('Darwin Scholars').
2) The Royal Universities obtain essential field equipment, research facilities and hardware to conduct conservation research projects.
3) Better conservation effort on the ground due to increased inter-institutional collaboration in fieldwork and 3-5 joint education and research workshops
4) Cambodia's first zoological reference collection and basic library facilities initiated, with 3 curators librarians trained for 12 weeks, database system & field guides developed.
5) The first issue of the Cambodian Journal of Natural History published and distributed (final year of project).

As noted in the previous half-year report, a decision was made to begin the Darwin Project three months earlier that originally intended, without affecting total project cost. This was in response to a request from the Royal University of Phnom Penh's to elevate the proposed course from a diploma course to an MSc course, and to provide a 3-month bridging course to prospective students. The earlier start date was approved by Ms Margaret Okot by email on 23 June 2005, upon submission of revised implementation timetable and budget. Furthermore, the national zoological reference (output 4) has been expanded to include Cambodia's first herbarium. This additional output was stated in the revised work plan and budget submitted in June 2005.

## 4. Progress

**Summary**

The main achievements in year 1 were to (a) launch Cambodia's first Masters of Science degree in Biodiversity Conservation at the Royal University of Phnom Penh (RUPP), and (b) establish a national herbarium and zoological reference collection. The Darwin Project officially started in June 2005 with the recruitment of a Project Coordinator (British-Australian teacher Callum McCulloch) and the first Darwin Scholar, Mr Rath Sethik. The Darwin Project office was established and furnished at RUPP. A successful application was made to the Ministry of Education, Youth and Sports to launch the new MSc curriculum, and a Steering Committee was formed from senior staff from FFI Cambodia, Department of Biology and Department of Environmental Sciences. The new course was widely advertised and out of more than 70 applications, the best 44 postgraduates (including Cambodian government staff, Cambodian NGO staff, recent graduate students and teachers) undertook a three-month Bridging Course on English for Scientists, Computer Science, Statistics and Introductory Ecology, designed and delivered by British and Cambodian teachers. 26 students passed the bridging course exam in January 2006, and the two-year Masters course kicked off in February 2006 with a well-received course on Integrated Natural Resource Management. At the same time, Cambodia's national herbarium and zoological reference collection was created, with the construction of two air-conditioned rooms (one for plants, one for animals) at the university.

**Progress against the agreed baseline timetable**

Planned Schedule*, Year 1 Q3&4: Advertise course, select students (Entrance Exam) and provide one semester' bridging course. Develop teaching modules; Conduct lectures (largely led by British trainers); Initiate specimen collection and library facilities; Train curators and librarians. (*As stated in revised work plan, approved June 2005).

Actual Schedule, Year 1: Q3&4: The course was advertised, and students selected. A three-month bridging course was delivered in advance of the students taking the Entrance Exam. Teaching modules were developed and formally approved by Ministry of Education, and the first semester was conducted, largely led by British lecturers. The new national zoological and botanical specimen collection museum was constructed and library facilities established.

The only tangible difference between the planned and actual timetable was that curators have not been trained yet (the reference collection room was completed in March 2006, and the curator posts will be advertised in April 2006). Training of librarians has been put on hold, and may no longer be required, because we have negotiated with RUPP's main Hun Sen Library to manage the project-purchased Biodiversity Conservation books and permit access to library facilities by the postgraduates. Remarkably, this is the first time that postgraduate students will be allowed to use the university's main library! The Hun Sen Library already has librarians and established lending protocols.

**Account of achievements**

1. Bridging course designed and implemented for prospective MSc students

   To prepare Cambodian BSc graduates for an international-standard MSc-level course, the Darwin Project enabled RUPP to provide a bridging course for one semester. The Bridging Course covered English for Scientists, Computers, Introduction to Statistics, and Fundamentals of Ecology. It was taught by the university's best teachers from the departments of English Languages, Computers, and Mathematics, with additional training by two British teachers: Zoe Dind and Callum McCulloch. The first course ran from October 2005 to January 2006. Only those students who passed the final 'entrance exam' were allowed to embark on the ensuing Masters course. This merit-based approach is unusual in Cambodia. The fact that some students failed the entrance exam and were rejected from the course has helped instil in the others an awareness of the importance of studying hard in order to earn their degree.

2. MSc course in Biodiversity Conservation designed and launched

   FFI and the Royal University have jointly developed and launched the MSc-level module curriculum and examinations with assistance from many other organisations, overseas and nationally. Modules include applied research, conservation biology, natural resources management, environmental impact assessments, project design and fundraising, among others. The course includes real Cambodian issues and case studies, and has already provided first-year postgraduates with a novel opportunity for field trips. To ensure that the degree is based on merit, examinations are being held at the end of every semester, and students who fail will have to repeat certain modules or leave.

3. Reference and research facilities developed

   As part of the new course, our project has initiated a small reference library of books, scientific papers and reports that are relevant to the study and conservation of Cambodian biodiversity. Over 100 titles have been obtained to date. These conservation references are being integrated into the university's main Hun Sen Library, which has trained librarians and proper lending procedures in place. As part of this Darwin Project, FFI is also helping to provide the Royal University with training and facilities to establish a national reference collection of plants and smaller animals, including butterflies, amphibians, reptiles and fish. The museum has been constructed and comprised three

rooms: a spacious herbarium, an equally large zoological reference room, and a smaller specimen quarantine area. We received a generous offer from Paris Museum to repatriate 2,000 Cambodian plant specimens, which will be housed in the new herbarium, as well as offers of other specimens from Ministry of Environment, Conservation International (Cambodia), Royal Botanic Gardens at Edinburgh, among others.

4. Improved collaboration and information exchange among conservation stakeholders, locally and internationally

   See details under 'Partnerships' below. The Darwin Project is bringing together students, teachers and researchers from a wide range of groups in Cambodia, as well a number of international institutions. This has been an excellent start, and we expect the number of participating groups to increase over the next few years.

**Challenges**

Generally progress has been very rapid and trouble-free. The weakened GB£ vs US$ in mid 2005, however, meant there was less money available than was originally anticipated when the Darwin proposal was submitted. We are exploring solutions including:

(a) Seeking additional funds from USFWS ($50,000 approved in March 2006), UNESCO and DANIDA, which supports undergraduate training at RUPP.

(b) Forming partnerships with other NGOs and universities overseas to provide teachers and equipment at low or no cost. The Integrated NRM course was taught free of charge by Dr Brad Pettitt, Murdoch University. Similar offers of assistance have been received from CI, DICE, Kansas University, La Sierra University, Copenhagen University, etc, but need to be firmed up. Books have also been provided free of charge by many donors.

(c) RUPP has decided that students will be charged a modest fee of $200 per semester, of which at least 80% can be used by the Darwin Project. Part of this income was used by RUPP to give the main lecture room a much-needed renovation in March 2006. (The introduction of student fees was also considered necessary with a view to the long term sustainability of this course, and is in line with other courses offered by the university).

**Changes to project design**

The most significant, and very positive, change in the first year was that the conservation course was upgraded to Masters degree course, with approval from the Ministry of Education. To help the postgraduate students to prepare for the Masters course, we also introduced a bridging course.

Further to this, a Darwin Project Steering Committee was formed to serve to strengthen RUPP's ownership of the project, jointly solve problems, and instil a merit-based approach to student selection and assessments. Cambodian members have complimented the transparent and fair procedures that FFI has introduced, such as maintaining student anonymity during the marking of exam papers.

**Timetable (work plan) for Year 2**

According to the revised work plan (submitted to Darwin Initiative in June 2005), the planned activities in Year 2 are:

**Q1&2**: Exams and identification of junior research officers ('Darwin Scholars'); Develop research programme with GO and Intl. NGOs; Begin research projects and specimen collection.

**Q3&4**: Conduct 2nd round of bridging course and curriculum lectures (50% input from Darwin Scholars); Continue research projects and supervision of research officers.

More specifically, the proposed timetable is as follows:

| ***Year 2: 2006-2007*** | **Months** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Activities** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** |
| **MSc Curriculum** | | | | | | | | | | | | |
| MSc Semester 1 | X | | | | | | | | | X | X | X |
| Summer assignments | | X | X | X | X | | | | | | | |
| MSc Semester 2 | | | | | | X | X | X | X | | | |
| MSc Semester 3 | | | | | | | | | | X | X | X |
| Liaison with other projects and programmes to identify student placements | | | | | | | | X | X | X | | |
| Student research theses begin | | | | | | | | | | | X | X |
| Examinations | | X | | | | | | | | X | | |
| Ongoing curriculum development and review | X | X | X | X | X | X | X | X | X | X | X | X |
| **Bridging Course (2nd cohort)** | | | | | | | | | | | | |
| Bridging course lessons | | | | | | X | X | X | X | | | |
| Bridging course exam (=MSc Entrance Exam) | | | | | | | | | X | | | |
| **Research** | | | | | | | | | | | | |
| Purchase research equipment | X | X | X | X | X | X | X | X | X | X | | |
| Continue compile reference library and update library database | X | X | X | X | X | X | X | X | X | X | X | X |
| Recruit and train curators | X | X | X | X | X | X | X | | | | | |
| Continue adding specimens to herbarium and zoological collection | X | X | X | X | X | X | X | X | X | X | X | X |
| Official opening of reference museum | | | | | | | | | X | | | |
| Identification of new Darwin Scholars | | | | | | | | X | X | X | | |
| Research by Darwin Scholars | | | | | | | | X | X | X | X | X |
| **Project Management** | | | | | | | | | | | | |
| Biannual and Annual progress reports | X | | | | | | X | | | | | |
| Quarterly reports to Ministry of Foreign Affairs | X | | | X | | | X | | | X | | |
| Monthly FFI and Steering Committee coordination meetings | X | X | X | X | X | X | X | X | X | X | X | X |
| Annual audit | X | | | | | | | | | | | |

## 5. Actions taken in response to previous reviews

Not applicable.

## 6. Partnerships

FFI collaborated closely with the Royal University of Phnom Penh in the first year of this project. A joint FFI-RUPP Steering Committee was established to help ensure smooth coordination and joint ownership, and the FFI Project Coordinator and RUPP Project Coordinator maintained almost daily direct contact. Relations between the two organisations have thus far been strong and trouble-free.

Students enrolled on the course included recent graduates and young professionals from a number of Cambodian government and non-governmental institutions:-

***Royal Government of Cambodia***

- Department of Fisheries
- Forestry Administration
- Ministry of Environment
- Department of Education
- Royal University of Agriculture (recent graduates)
- Royal University of Phnom Penh (current lecturers and recent graduates)

***Non-Governmental Organistions***

- Concern Worldwide: Cambodia
- Save Cambodia's Wildlife
- Turtle Conservation Project
- CEDAC
- SBK Research and Development
- GTZ: Cambodia
- URC

In addition, FFI and RUPP interacted with the following national institutions:

- Department of Nature Conservation and Protection, Ministry of Environment: collaboration on design of the national herbarium and donation of specimens
- Forestry Administration, Ministry of Agriculture Forestry and Fisheries: Granted permission to establish the herbarium and zoological reference collection.
- WWF Cambodia – GIS training
- Royal Government of Cambodia Senate – Environmental Law course
- Ministry of Education, Youth and Sports: Granted permission to establish Masters course and contributed to a panel of experts to monitor student performance.
- Sam Veasna Centre – collaboration on insect specimen collection.
- Mlup Baitong – field trip for students to study community-based ecotourism
- Cambodia Development Resource Institute – EIA course

Project staff also facilitated research visits and capacity building in Cambodia by the following international scientists:

- Dr Philip Thomas, Royal Botanic Gardens, Edinburgh (loan of specimen drying equipment to Dr Thomas for specimens collected in NE Cambodia)
- Dr Brad Pettit, Murdoch University (natural resource management trainer)
- Dr Alexander Monastyrski, Vietnam Russia Tropical Institute (butterfly collection in SW Cambodia)
- Dr Masaya Yago, University of Tokyo, and Dr Ken-Ichi Odagiri, University of Kyushu (butterfly and land snail collection in SW Cambodia).
- Dr Sovanmoly Hul, National Museum of Natural History, Paris (plant collection in various parts of Cambodia).
- Ms Carly Starr, doctoral student, University of Queensland. (Studying the ecology of slow loris, she will be based at the Darwin Project office at RUPP)

**Teacher training projects**

The project leaders made contact with the following projects, which are also working to improve the standards of environmental training in Cambodia, in order to share experience and resources:

- Capacity Building Programme for the Forestry Sector in Cambodia (JICA/ Forestry Administration)
- National Capacity Development Project (DANIDA/ Ministry of Environment)
- Curriculum and Course Material Development for the B.Sc. in Environmental Science Program (DANIDA and Royal University of Phnom Penh)

**Conservation Projects**

The following conservation projects based in Cambodia have offered placements to postgraduate students enrolled on our course while they conduct their research theses:

- Botum-Sakor biodiversity surveys (Frontier)
- Cambodian Crocodile Conservation Programme
- Cardamom Conservation Program
- Cardamom Mountains Wildlife Sanctuaries Project
- Cambodian Elephant Conservation Group
- Greater Mekong Subregion: Core Environment Program and Biodiversity Conservation Corridors Initiative (ADB-led project, involving many government agencies and NGOs, especially in SW and E Cambodia)
- Primate Conservation Project, Cambodia
- Tonle Sap Conservation Project

We would welcome further collaboration, especially from British scientists, and have begun discussing joint field trips with British-based research and capacity building organisation Frontier. We have meetings lined up with another Darwin Initiative-supported project in Cambodia in April 2006 to look at possible collaboration on lectures or student placements.

## 7. Impact and Sustainability

See under dissemination below. The advertisements, consultations, and the fact that the students come from a wide range of parent institutions, has meant that the course is now widely known in Phnom Penh.

It is too early to measure project impact on national capacity, although the university now has the makings of a permanent reference library and a herbarium and zoological reference collection, which will be important national assets. Students enrolled on the MSc course are finding the work challenging, but feedback on the courses to date indicate a high level of satisfaction with the subjects and standard of teaching.

To ensure sustainability of the course, there are a number of university biology lecturers enrolled on the course (none had an MSc previously) who will be groomed to eventually take over the delivery of some courses in the future. In this first cohort of students, approximately 10 show potential to be Darwin Scholars, with the view to be retained at the university to help teach the course and undertake original research (re our original proposal). Importantly, and after much discussion, the university has also decided to introduce student fees of $200 per student per semester in order to help sustain the course in the future. This figure will be reviewed in Year 3, when we have a clearer idea of the recurring running costs and likely class sizes.

## 8. Post-Project Follow up Activities

Not applicable.

## 9. Outputs, Outcomes and Dissemination

**Comparison of expected versus actual outputs**

Actual outputs were much as described in the Project Implementation Timetable (revised June 2005). Differences were:

6A Librarians were not trained because the Darwin Project will integrate Conservation books into the new main Hun Sen library, which has a small staff of librarians. Curators for the new specimens collection will be recruited at the start of Year 2.

12A Database for the zoological and botanical reference collection is in progress, but we feel it is too early to state this as a completed output.

The students enrolled on the courses were listed as '4A' on the original application. In fact the students enrolled on the project Masters course concerned all have Bachelors degrees and therefore qualify as 4C.

**Dissemination activities**

Newspaper articles (all the national press) and adverts were distributed in September and October 2005, to call for students to enrol. The launch of the new course was e-mailed and posted at all target governmental and non-governmental organisations. Furthermore, the Darwin Project leaders met with many groups and projects, both formally and informally, to promote the Darwin Project and enlist support and collaboration. A reception was held in October to mark the start of the course. All adverts and posters featured the Darwin logo (copies available on request).

**Outputs**

## Table 1. Project Outputs

| Code No. | Description | Year 1 Total | Year 2 Total | Year 3 Total | Year 4 Total | TOTAL |
|---|---|---|---|---|---|---|
| 4C (4D) | Postgraduate students conduct 10-week bridging course prior to the MSc course. | 44 (10) | -- | -- | -- | 44 (10) |
| 4C (4D) | 26 postgraduate students conduct 9 weeks of the first semester of the MSc Biodiversity Conservation course | 26 (9) | -- | -- | -- | 26 (9) |
| 7 | Courses and supporting materials developed and delivered in Year 1 (English for Scientists, Introductory Ecology, Statistics, Computers, Integrated NRM, Environmental Law, Environmental Impact Assessments, GIS, and Research Analysis). | 10 | -- | -- | -- | 10 |
| 8 | FFI staff and other British experts working directly on the project: Callum McCulloch, Zoe Dind, Carl Traeholt and Dr Jenny Daltry. | 40 | -- | -- | -- | 40 |
| 15A | Three national newspapers announced launch of Masters course; adverts posted on three days. | 3 | -- | -- | -- | 3 |
| 22 | 15 forest plots established in Pursat Province for long term study (collaboration with Royal University of Agriculture). | 15 | -- | -- | -- | 15 |
| 17A | Steering Committee established to oversee the Masters course, entailing staff from FFI, RUPP and the Ministry of Education, Youth and Sports. | 1 | -- | -- | -- | 1 |
| 20 | Assets include two computers, books, renovated Darwin Project office, one fully renovated lecture room, conversion of a spare laboratory into the national zoological and botanical reference collection facilities. | £6,000 | -- | -- | -- | £ 6,000 |
| 23 | Additional funds raised from Association for Cultural Exchange, and DANIDA, plus support in kind from RUPP, FFI, Dr Brad Pettit and Maryknoll Organisation. USFWS approved a US$50,000 grant at end March 2005. | £50,000 | -- | -- | -- | £ 50,000 |

**Table 2: Publications**

No publications available yet.

| Type * (e.g. journals, manual, CDs) | Detail (title, author, year) | Publishers (name, city) | Available from (e.g. contact address, website) | Cost £ |
|---|---|---|---|---|
| | | | | |

## 10. Project Expenditure

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

| | |
|---|---|
| | |

## 11. Monitoring, Evaluation and Lessons

Methods of monitoring and evaluation already in operation include:

- Monthly FFI meetings – project progress discussed and peer-reviewed by other FFI staff.
- Monthly RUPP Steering Committee meetings – involving selected panel of senior university staff and FFI project leaders.
- Student graded assignments and examinations (all courses)
- Student feedback questionnaires (all courses)
- Debriefing by lecturers on their perception of progress made, and lessons learned.
- Establishment of database to record specimens in the new reference collection
- Database of book titles in the Conservation Library

FFI Project Coordinator, Callum McCulloch, is responsible for overseeing the databases and compiling and analysing statistics on the students and the course. These data can be provided on request, but with names removed in order to protect student identity.

Measurable indicators of this project include, but are not restricted to,

- Grades achieved by students in examinations and on assignments.
- Number of specimens held in the national reference collection (as recorded on specimen database).
- Number of research projects conducted by Darwin Scholars and postgraduates, and outputs (theses, papers, reports, etc).
- Number of partnerships formed with other organisations and projects.

Among the most important lessons learned to date largely concern the delivery of the Masters course, and how to ensure it has maximum impact. Some of the key issues raised are as follows:

| Issue | Solution |
|---|---|
| Lecturers of the first courses were impressed by the students' interest, but felt that they lacked the ability to critically analyse or even summarise the information that was provided. (This was not wholly surprising, because the Cambodian education system is based on 'learning by rote', and accepting the teacher's words and written words as fact). | Anticipating this problem, the MSc curriculum already includes a course on Research Analysis to improve the students' critical thinking. While Cambodian students find many of the concepts in this course quite new and difficult, it will help most of them to approach new information and problems with a more scientific mind. In the future, this course should be brought to the very start of the MSc programme to prepare students to gain more from the courses that follow. |
| Most of the students enrolled on the course this year were found to lack a fundamental understanding of evolution (in spite of most having BSc Biology or Environmental Sciences degrees). This could be a handicap to understanding many aspects of conservation biology, including taxonomy and the problems related to small population sizes. | An evolution primer will be given to the current students by the FFI Chief Lecturer. For the next cohort of students, evolution will be introduced into the Introductory Ecology course (part of the pre-MSc Bridging Course). The RUPP and RUA faculties are being alerted to this gap, and advised to include evolution in their bachelors courses. (There is no religious or political objection to teaching this subject in Cambodia). |
| The RUPP suffers frequent powercuts (almost daily during February). This can be a problem for courses dependent on computers (e.g., GIS), and for lecturers using powerpoint or video aids. | The project purchased a small generator. |

## 12. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum)

A notable early achievement was the upgrading of the course from a Diploma level course to a Masters of Science in Biodiversity Conservation. This is now among the first Masters of Science degree courses in Cambodia, and the first degree course in Conservation in this country. 26 Cambodian students, from a wide range of government, non-government and academic sectors have enrolled on the two-year part course, which we intend to become a permanent course at the university. The course is highly applied and covers contemporary issues and methods essential for effective biodiversity conservation in post-war Cambodia, including community-based natural resource management, wildlife monitoring and environmental impact assessments.

■ **I agree for ECTF and the Darwin Secretariat to publish the content of this section**

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2005/2006

| Project summary | Measurable Indicators | Progress and Achievements June 2005-Mar 2006 | Actions required/planned for next period |
|---|---|---|---|
| **Goal***:* To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve<br>• The conservation of biological diversity,<br>• The sustainable use of its components, and<br>• The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources | | | |
| **Purpose**<br>To build capacity in conservation and applied research at Cambodia's premier universities, chiefly by establishing new teaching modules and diploma in conservation biology, supported with practical field experience | Number of active research projects and conservation biology courses at the Royal Universities, number of new students | Bridging Course designed and delivered, to 44 Cambodian postgraduate students from October 2005 to January 2006.<br>Masters of Science in Biodiversity Conservation course approved by Ministry of Education and launched in February 2006, with 26 Cambodian postgraduate students. | In Year 2, the present cohort of students will embark on second and third semesters, and begin research theses. A second cohort of students will undertake Bridging Course and begin MSc course. |
| **Outputs** | | | |
| 1) 60 students trained for 15 weeks on new module, of which 20 will be selected as junior research officers ('Darwin Scholars'). | Courses and exams conducted every second semester, the number of active junior research officers increased at the Royal Universities. | 44 students taught on 10-week Bridging Course, and conducted Bridging Course Exam. 26 students completed first 9 weeks of MSc course. 4 Darwin Scholars enrolled to help teach course and conduct research. | 25 students conduct two more semesters of MSc course and begin supervised research theses. A further 40-50 students are enrolled on Bridging Course. At least 6 Darwin Scholars will be identified (including the best MSc students) to undertake original research and teach junior students. |
| The Royal Universities obtain essential field equipment, research facilities and hardware to conduct conservation research projects. | Conservation research projects at the Royal Universities have adequate equipment and other resources | Research office constructed and furnished. Computers, printer purchased. Internet installed. | Purchase research equipment, notably hand-held GPS, binoculars, nets, etc. |

| Project summary | Measurable Indicators | Progress and Achievements June 2005-Mar 2006 | Actions required/planned for next period |
|---|---|---|---|
| Better conservation effort on the ground due to increased inter-institutional collaboration in fieldwork and 3-5 joint education and research workshops | Active collaboration between the universities, local NGOs and Ministries on joint research and conservation, workshops conducted. | First cohort of students represent wide range of government, NGO and academic sectors.<br>Partnerships and collaboration initiated with at least 7 Cambodian governmental, 9 Cambodian non-governmental and 11 international organisations, regarding guest lecturing, study tours and student research placements. | Students design and begin research theses with various projects and organisations across Cambodia.<br>Project staff and students participate in science workshop/ symposium at RUPP.<br>Second cohort of students enrolled from a wide range of government, NGO and academic backgrounds. |
| Cambodia's first zoological reference collection and basic library facilities initiated, with 3 curators and 3 librarians trained for 12 weeks, database system & field guides developed. | Active collection and library set up, field guides for herps and small mammals published in Khmer language, specimens remain in Cambodia for general use. | 3 air-conditioned, dust-proofed rooms constructed at RUPP to house herbarium, zoological reference collection, and quarantine room. More than 2,500 plant specimens and more than 500 animal specimens pledged/ received.<br>More than 100 titles purchased on wide range of relevant conservation topics. | Recruit and train curators. Complete furnishing of museum rooms and continue adding specimens. Populate specimen database and establish clear protocols for specimen receipt, handling, storage and loan. Formal opening of reference facilities.<br>Continue compiling reference library and database. |
| The first issue of the Cambodian Journal of Natural History published and distributed (final year of project) | Editors and review panel established, journal available to NGO, GO and academic institutions. | No action (scheduled for Year 3) | No action (scheduled for Year 3) |