Darwin Initiative for the Survival of Species

Annual Report

1. Darwin Project Information

Project Ref. Number	*Building capacity for biodiversity monitoring and assessment in Nepal*
Project Title	*Nepal*
Country(ies)	*UNEP World Conservation Monitoring Centre*
UK Contractor	*163/11/020*
Partner Organisation(s)	*£148,211*
Darwin Grant Value	*April 2002 - March 2005*
Start/End dates	*April 2002 – March 2003*
Reporting period (1 Apr 200x to 31 Mar 200y) and report number (1,2,3..)	*1 Apr 2003 to 31 Mar 2004*
Project website	
Author(s), date	*Philip Bubb, 30 April 2004*

2. Project Background

The project is focusing on the Annapurna Conservation Area (ACA), which is the largest protected area in Nepal, covering 7,629 km^2 and ranging from 1,000m to 8,091m altitude. It contains 1,140 species of plants, 101 species of mammals and 85 species of birds. As well as its biological diversity ACA is home to more than 120,000 people from five major ethnic and tribal groups. Most of them are subsistence farmers, depending on the depleted natural resources for fuel, food, timber and medicine. ACA is also one of the most popular trekking locations in Nepal, with over 70,000 tourists in 2000. An increasing human population and the impacts of tourism led to the ACA being initiated in 1986, to deal with the problems of deforestation, pollution, soil erosion, poverty and loss of cultural values.

ACA is managed by the King Mahendra Trust for Nature Conservation (KMTNC), whose staff have worked with the 55 villages to form a range of village committees and groups. These committees manage issues such as natural resource conservation, electricity generation, mothers groups, tourism, etc. The ACA has been very successful in addressing many of the development needs of the local people and involving them in the management of the protected area. However, there has been no attempt to monitor the effectiveness of the ACA in delivering biodiversity conservation benefits. There is very little information on even basic subjects such as changes in forest cover, or the populations of key wildlife species. This lack of both information and skills to assess and monitor biodiversity limits the effectiveness of management of the protected area. The KMTNC requested the assistance of UNEP-WCMC in building their capacity to gather and use information biodiversity-related information in the management of ACA, including assessment of the impact of its conservation activities.

3. Project Purpose and Outputs

- State the purpose and outputs of the project. Please include your project logical framework as an appendix and report achievements and progress against it (or, if applicable, against the latest version of the logframe).

The purpose of the project is to improve the effectiveness of protected area management in Nepal by improving the capacity of managers of protected areas to assess status and trends in biodiversity. The project's intended outputs are:

- Tools for assessing biodiversity developed
- Capacity to undertake biodiversity assessments increased
- Impact of community involvement on biodiversity conservation assessed
- Costs and benefits of participation in protected area management on local communities analysed .

The project will develop a manual of tools or methods appropriate for use in Nepal for biodiversity assessment and monitoring, and the provision of training in their use. The tools will be field-tested through a programme of field research. The field research will focus on two aspects: (i) assessment of the status and trends of biodiversity within the Annapurna Protected Area, including methods involving the participation of local people; and (ii) assessment of the impact of protected area designation on the livelihoods of local people, involving a cost-benefit analysis using participatory research techniques. In each case, particular attention will focus on both the positive and negative impacts of tourism within the conservation area.

The project will also produce a report with specific recommendations for the management of the ACA, based on the outcomes of the field research and recommendations on further development of biodiversity assessment and monitoring capacity.

The project's outputs and operational plan have not been modified over the last year, with the exception that the King Mahendra Trust for Nature Conservation (KMTNC) requested that the manual for biodiversity assessment be called guidelines for biodiversity assessment and monitoring instead.

4. Progress

Darwin Initiative funding started in August 2002, although fieldwork commenced in April 2002 for surveying forest quality, evidence of wildlife in relation to distance from villages, and interviews of villagers' perceptions of wildlife and conservation measures. Siddhartha Bajracharya has been trained under the supervision of Prof. Peter Furley, University of Edinburgh, in the deign and analysis of this work. The first training in biodiversity assessment and monitoring for six other ACAP staff was conducted at UNEP-WCMC in March 2003, including additional training at the University of Edinburgh for the GIS officer. These staff then trained their colleagues in Nepal in the approach and methods being promoted, resulting in an action plan and selection of key habitats and species for biodiversity monitoring in ACAP. Follow-up training to test the monitoring protocols and guideline materials was conducted by UNEP-WCMC staff in Nepal in October 2003. Fieldwork in the southern section of the ACA has been very limited by the Maoist insurgency, but work has continued in the northen sector and a programme of biodiversity monitoring to support decision-making in ACAP is becoming established within KMTNC.

- Summarise progress over the last year against the agreed baseline timetable for the period and the logical framework (complete Annex 1). Explain differences including any slippage or additional outputs and activities.

The project has made satisfactory progress in achieving all of its planned outputs during the period April 2003 to March 2004. The manual for biodiversity assesment has been renamed 'Guidelines for Biodiversity Assessment and Monitoring for Protected Areas", at the request of KMTNC. These guidelines are nearly complete in terms of their principal content and format, but will continue to be improved during 2004 with examples from the fieldwork in ACAP. The guidelines have been developed from the materials produced by UNEP-WCMC and consultants for the training of ACAP staff. Their content includes the theory and principles of biodiversity assessment and monitoring for management of a protected area such as ACA, whose management is based on working with local communities. It has been necessary to emphasise that biodiversity assessment and monitoring more than the collection of field data, but is part of a process of setting management objectives and measuring progress towards them. The latest version of the Guidelines are included in Annex 2 (separate document).

Monitoring protocols have been produced for snow leopard, blue sheep, grassland habitats, forest quality, forest birds, cheer pheasant, and Himalayan griffon vulture. Protocols and monitoring for common leopard and barking deer have not been continued, because they are predominantly found in the forests of the southern sector where the Maoist conflict has limited fieldwork and they are not endangered species. The latest version of the monitoring protocols are included in Annex 3 (separate document).

Training delivered in the reporting period has been:

May 2003 – 11 KMTNC staff trained by their colleagues trained in the UK in March 204 in biodiversity monitoring techniques and the design of monitoring programme for ACAP.

October 2003 – Further traininng of 15 KMTNC staff in Nepal by UNEP-WCMC staff and consultants in biodiversity monitoring techniques and the design of a monitoring programme, building on initial field experiences.

March 2004 – Training in social survey techniques, including assessment of biodiversity resources, of 25 ACAP staff by Nepalese consultants.

March 2004 – Training in participatory forest inventory techniques of 18 ACAP staff by senior staff members.

Reports of the content and participants of these training sessions are available on request.

The ACAP GIS Officer has prepared base maps (based on the topographic maps) for each Village Development Committee (VDC) of Manang and Jomsom sectors. There are 12 VDCs in Manang and 9 VDCs in Jomsom sector. These maps will be helpful for forest inventory, CAMC operational plan and other biodiversity surveys.

The project is having a significant impact in establishing biodiversity assessment and monitoring as part of the field activities and management planning of the ACAP. Resources from the Darwin Initiative and KMTNC have been utilised to conduct baseline surveys of key habitats and species and the necessary repeat surveys in future years are already being included in work plans. As a direct result of the project the ACAP management team has conducted an assessment of priority habitats and species, using existing information and the Pressure-State-Response framework (presented in Annex 4 – this document). The capacity and sustainability of this work has also been strengthened in the KMTNC by the appointment of Siddharta Bajracharya as Scientific Coordinator of Biodiversity Research and Management Planning for Protected Areas.

In the communities within the ACA the project has had less impact at this stage. A survey of human-wildlife conflict has been conducted in the Manang region of the north of ACA. A special edition of the quarterly newsletter of ACAP (in Nepali) which is distributed to all the villages included information on the project. The Maoist conflict

has severely restricted the ability of ACAP staff to operate in the southern sector of the region. The Darwin Initiative project has concentrated on training ACAP staff in social survey techniques, participatory forest inventories and assessment of human-wildlife conflict during 2003-4, for subsequent fieldwork in 2004-5.

The most significant difficulty encountered during the year has been the worsening security situation for the staff of the ACA in the southern sector. This has greatly restricted fieldwork in the communities with humid forest habitats. Consequently, training and fieldwork has been concentrated in the drier and higher altitude central and northern sections of the ACA.

The design of the monitoring protocols has been enhanced through the field testing of monitoring methods. This has allowed re-definition of some sample plot and transect methods which were not practical in the very mountainous terrain.

Timetable (workplan) for the next reporting period:

	Activity and milestones
April 2004	Field testing & further training of KMTNC staff by UNEP-WCMC in monitoring protocols. Start participatory forest inventory.
May 2004	Continue forest inventory. Snow Leopard and Blue Sheep survey – Manang. Cheer Pheasant and Griffon Vulture survey.
June 2004	
July 2004	
August 2004	Complete forest inventory.
September 2004	Discussions started on sustainability of project outputs.
October 2004	Final review of Guidelines and monitoring protocols
November 2004	Two drafts for manuscripts of scientific papers produced. Translation of Guidelines to Nepali and preparation for publication.
December 2004	
January 2005	Publish Guidelines with a workshop for key agencies in Nepal with experiences in biodiversity assesment and monitoring.
February 2005	Report to ACAP on management guidelines
March 2005	Produce final report and a scientific paper on the project's results.

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

More than half of the training conducted has been delivered by senior ACAP staff, utilising both the training provided to them by UNEP-WCMC and the University of Edinburgh and Nepalese resources. Training and the guideline materials have focused on the incorporation of field testing, to ensure its practicality. Considerable emphasis has been placed on teaching and testing appropriate sampling and data analysis methods in the contect of meeting specific management objectivces. Details of these methods are included in the monitoring protocols. The project is now fully owned by the staff of KMTNC and there is regular and good communication with UNEP-WCMC. Awareness of the project has increased amongst the villages of ACA, with a information on the project. included in a special edition of the quarterly

newsletter of ACAP (in Nepali) distributed to all the villages. Participatory biodiversity assessment and monitoring has not been initiated with the villages until the ACAP have been adequately trained. The GIS of ACAP has developed over the last year, producing new baseline topographic maps and links to databases of species records, but increased collaboration with ICIMOD was not achieved.

6. Partnerships

Collaboration has been good between UNEP-WCMC and KMTNC over the last year, with regular communication and delivery of reports on schedule. Preparation of joint training courses has been succesful.

The project has had limited exchange of information on plans for fieldwork and reviews of the security situation in Nepal with the two other Darwin projects “Building Capacity for Plant Biodiversity, Inventory and Conservation in Nepal” (Royal Botanic Garden Edinburgh) and “Institutionalising participatory biodiversity assessment, conservation and action planning in Nepal (UEA).

7. Impact and Sustainability

The Nepalese Department of National Parks have been regularly informed of the progress of the project and one of their staff participated in some of the training. They are also keen to collaborate in the production of the Guidelines publication.

Much greater investment will be made in promoting the project in Nepal during 2004-5, with a workshop to share experiences and identify lessons learned with relevant government agencies and NGOs in January 2005.

Discussions have already been held with KMTNC to ensure that there are the staff and budget resources to maintain the biodiversity monitoring fieldwork and data analysis and reporting. A staff member will be assigned to this function in 2004 and KMTNC budget resources have already been allocated.

8. Post-Project Follow up Activities (max 300 words)

9. Outputs, Outcomes and Dissemination

All the outputs scheduled for this period in the initial ‘Project Implementation Timetable’ and the ‘Project Outputs Schedule’ were achieved. However, progress in conducting fieldwork to test the biodiversity monitoring protocols has been delayed by the security situation in the southern sector of ACAP.

An additional output has been the drafting of a booklet on the mammals of the ACA, produced in vernacular Nepali. 500 copies of the booklet will be published later in 2004, to aid the involvement of the villages in biodiversity monitoring.

A special edition of the quarterly newsletter of ACAP (in Nepali) which is distributed to all the villages in the area included information on the project. The project has not been actively disseminated during the current year, whilst activities have focused on training staff. Active dissemination of the guidelines, with summaries of the first results of the biodiversity monitoring, will be conducted in 2004-5.

Table 1. Project Outputs (According to Standard Output Measures)

Code No.	Quantity	Description
6 A	5	Five staff of the King Mahendra Trust for Nature Conservation trained in principles and field methods of biodiversity assessment and monitoring.
6 A	18	18 staff of KMTNC trained in social survey techniques and forest inventories
6B	28	Five staff for two weeks each and 18 staff for one week each
8	5	UNEP-WCMC staff and consultant providing training plus project management
16A	1	Local newsletter produced for Annapurna Conservation Area
16B	10,0000	
20	£1,800	Telescope, GPS, forest inventory equipment, camping equipment, software
23	£17,000	Staff time donated by University of Edinburgh and KMTNC

Table 2: Publications

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 (Defra Financial Year 01 April to 31 March)

Item	***Budget***	***Expenditure***	***Remainder for***

- Highlight any recently agreed changes to the budget and explain any variation in expenditure where this is +/- 10% of the budget.

11. Monitoring, Evaluation and Lessons

- Discuss methods employed to monitor and evaluate the project this year. How can you demonstrate that the outputs and outcomes of the project actually contribute to the project purpose? i.e. what are the indicators of achievements (both qualitative and quantitative) and how are you measuring these?

The principal means of monitoring and evaluation of the project have been the Quarterly reports and workplans provided by KMTNC and the reports of training conducted. The work on the joint development of the guidelines and monitoring protocols has enabled UNEP-WCMC and KMTNC to maintain collaboration and joint learning in how to achieve the aims of the project in the reality of Nepal and the mountainous terrain of ACA.

Lessons learned include that although biodiversity monitoring with a simple statistical validity to detect trends is difficult in mountainous areas and with staff with only basic educational levels it can be achieved. Training should be designed to support key staff to train their colleagues. It is vital to ensure that the management staff of the organisation are aware of and supportive of the results of biodiversity information which can detect more than just presence or absence of species, but also indicate trends.

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

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2003/2004

Project summary	Measurable Indicators	Progress and Achievements April 2003-Mar 2004	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 • The conservation of biological diversity, • The sustainable use of its components, and • The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources			
Purpose To improve the effectiveness of protected area management in Nepal by improving the capacity of managers of protected areas to assess status and trends in biodiversity	Tools for biodiversity assessment appropriate for use by protected area managers in Nepal developed and tested Nepali protected area managers trained effectively in the use of biodiversity assessment tools	Guidelines and protocols on biodiversity assessment and monitoring for the management of the Annapurna Conservation Area drafted and testing underway. ACAP staff conducted an assessment of priority habitats and species and the pressures on them, with field testing of monitoring methods underway.	Guideline materials and monitoring protocols continue to be tested and developed, with the final version to be translated to Nepali and published in early 2005. Training in participatory forest inventories and field monitoring of key habitats and species to continue in 2004, including data analysis and GIS applications.
Outputs			(report any lessons learned resulting from the project & highlight key actions planning for next period)
Tools for assessing biodiversity developed	Manual produced for biodiversity assessment	Guidelines for scientific and participatory biodiversity assessment and monitoring drafted and utilised in training in Nepal. Protocols and field techniques for	Guidelines need to include basic theory so that the design of the monitoring is understood and they can be refined, and the selection of suitable sampling sites and

		monitoring of key habitats, birds and mammals in testing.	methods can be difficult to establish in the extremely complex Himalayan mountain terrain. Field testing has been essential to refine monitoring protocols and ensure they are understood.
Capacity to undertake biodiversity assessments increased	Minimum of six Nepalese staff trained in biodiversity assessment techniques	Fifteen Nepalese staff trained, including from Dept. National Parks in theory, practical design and implementation of biodiversity monitoring. Training delivered to 18 Nepalese staff in participatory inventory of forest resources and 25 staff in social survey techniques. One ACAP staff member promoted to new position in KMTNC of Scientific Coordinator of Biodiversity Research and Management Planning for Protected Areas.	Detection of change in habitats and species populations requires following basic sampling procedures, which are new concepts for ACAP staff. Training of senior staff ensures that field staff can also be adequately trained. Analysis of field results and their consolidation in management decision-making of ACAP will be emphasised in 2004-5.
Impact of community involvement on biodiversity conservation assessed	Publications produced describing impacts on biodiversity	Two scientific papers in preparation, for submission in late 2004.	
Costs and benefits of participation in protected area management on local communities analysed	Report produced describing effectiveness of protected area management	Further surveys conducted on human-wildlife conducted in northern sector of ACAP, but fieldwork in southern sector limited by Maoist conflict.	Surveys show that crop losses from wildlife are significant and some villagers request hunting of problem species. ACAP is considering how to respond to the situation.

Note: Please do NOT expand rows to include activities since their completion and outcomes should be reported under the column on progress and achievements at output and purpose levels.

Annex 2. Draft Guidelines for Biodiversity Assessment and Monitoring for Protected Areas (separate document).

Annex 3. Draft Biodiversity Monitoring Protocols (separate document).

Annex 4. Assessment of biodiversity resources that need monitoring in ACA.