FINAL REPORT

4/104

1. Basic Project Details

Project Title: Biodiversity Management Training.
Contractor: The Durrell Institute of Conservation and Ecology, University of Kent.
Grant Round: 3
Grant Value: £123,678

2. Project Expenditure

Total grant expenditure:

DI Fellows training costs (UK):
DI Fellows travel/training costs (home countries)
DI Fellows stipends:
Natural History museum project costs:

3. Project Background/Rationale

In-situ biodiversity training programmes have the advantage of providing training in the home country of the students that is directly related to their needs, but the students are unlikely to get a wider exposure to conservation issues beyond the realms of their own countries. On the other hand, ex-situ training provides an opportunity for students to obtain a broad-based training and learn directly from the experiences of others, but difficulties may arise if there is not the appropriate infrastructure for the reintegration of students into the biodiversity management systems in their home countries. Discussions with NGO partners in Africa highlighted the pros and cons of both approaches, and led to a new training model that encompassed the advantages of both. This model combines a period of formal training to MSc level within the UK, and a second year of implementation in the student's home country where the reintegration and implementation process is closely monitored by partner institutions to ensure that maximum use is made of the students' training. As it would be unrealistic to provide such a programme of training for a wide range of African countries, three countries were selected for the programme on the basis of (1) how well they met the Darwin initiative criteria; (2) training needs; and (3) the level and quality of partnership support that could be provided during the second year. After consultation with the Wildlife Conservation Society, who have a wide-ranging African conservation programme, the countries selected were Zaire, Tanzania and Madagascar. Within these countries, partner organisations were asked to select and target those individuals who were most likely to benefit from the training programme and who were associated with priority conservation projects. The project therefore assisted these countries to meet their obligations under the Biodiversity Convention in several ways, notably in relation to articles 1, 6, 7, 8, 10, 17 and 18. End users for the project were the partner organisations who would be overseeing the implementation phases of the programme during the second year (see section 11).

4. Project Objectives

(i) To provide a programme which supplies a formal training in biodiversity management training in Britain with a follow-up period of implementation in the target countries which is monitored and evaluated for its effectiveness by in-country expertise.
(ii) To focus the implementation phase on taxonomic groups which have received relatively little conservation attention in the countries concerned.
(iii) To provide a nucleus of highly trained practitioners well-versed not only in the science of conservation but also its application to problems in the field.
(iv) To ensure that those individuals trained are well-integrated and positioned in the wildlife management structure of the host countries to be maximally effective.

Although all the students became successfully reintegrated into the wildlife management systems of their own countries, there were some problems in achieving (iv) as a result of civil war in Zaire and staff changes in partner organisations in Tanzania.

5. Project Outputs

9 DI Fellows complete MSc in Conservation Biology at DICE - all achieved.

9 DI Fellows complete follow-up year of training and reintegration within their home country - partially achieved.
All students became successfully reintegrated after returning to their home countries but in some cases this was through achieving promotion or a new job rather than through further formal training provided through the programme.

6. Project Operation/Management

The Wildlife Conservation Society (New York) has field staff working on programmes in all the host countries, and these staff nominated candidates for training on the programme after consultation with partner organisations in those countries. The academic qualifications of these candidates were checked by the University of Kent to ensure that they met the entry requirements for the MSc Conservation Biology course, and any additional entry requirements (e.g. English language training) were fed back to the students via partner organisations. The students were then formally admitted to the MSc course in October 1995 (2 students) or 1996 (7 students).
The MSc Conservation Biology course consists of eight modules that run from October-April. These modules are: Biodiversity, Ecology and Evolution; Ecology and Conservation; Conservation of Species; Conservation of Ecosystems; Communities, Conservation Conflict and Change; Sustainable Resource Use; Managing Protected Areas; Conservation Education. The coursework was assessed by eight assignments (one per module) and two examinations (in January and April). Coursework marks contribute 50% towards the overall mark. From April-September the candidates undertook a six month research dissertation project, that contributed 50% towards the overall mark. Research topics were discussed in consultation with DICE Wildlife Conservation Society staff, to ensure that the topics addressed were consistent with the aims of the DI training programme and that they provided a training that would be relevant to the work of the students when they returned to their home countries.
No issues or difficulties arose during the running and management of this phase of the programme.

Research dissertations produced by the DI Fellows are as follows:

Madagascar
L. Andriamampianana. Biogeography of enariine (Melonthidae) and cicindeldid beetles in Madagascar.
M. Rakotondratsima. Comparison of resource use by lemurs (*Varecia variegata rubra* and *Eulemur fulvus albifrons*) and people in Ambanizana forest area, Masoala peninsula, Madagascar.
T. Raharitsimba. Alpha taxonomy and biogeography of the genus *Strabena* (Nymphalidae: Satyrinidae: Ypthimini).

Democratic Republic of the Congo (formely Zaire)
L. Mubalama Kakira. An assessment of crop damage by large mammals in the Reserve de Faune a Okapis – Ituri Forest – Zaire, with special emphasis on African forest elephant (*Loxodonta africana*).
Inogwabini Bila-Isia. Using GIS to determine habitat use by large mammals and to determine sensitive areas of Kahuzi-Biega National Park, Eastern Congo.
Mbayma Atalia Granzi. Study of northern white rhinoceros (*Ceratotherium simium cottoni*): distribution, home range dynamics and their management implications in Garamba National Park Zaire.

Tanzania
N. P. Lesio. The use of insects and insect products by humans: can it be used as a tool for conservation?
P. I. Sarakikya. A preliminary study of the black rhinoceros (*Diceros bicornis michaeli*) in the Ngorongoro Crater, Tanzania.
N.N. Mafuru. Evaluating the promotion of Tanzania's national parks and game preserves in the UK.

In year 2 the DI Fellows returned to their home countries to undertake further training and implementation work that would be monitored by partner organisations in those countries. In Zaire this process was disrupted by the outbreak of civil war, although all three students were eventually successfully reintegrated into conservation programmes within the country. In Tanzania two DI Fellows were transferred by their Departments to new positions, which was probably a reflection of the value of their MSc training at DICE. The third student returned to his previous position at Njiro Research Centre where he is still based. In Madagascar all three candidates were successfully

reintegrated into conservation programmes that were overseen by the Wildlife Conservation Society in Masoala National Park. All three are continuing to work on these programmes. Detailed breakdowns of the present positions of the 9 DI Fellows are provided in section 7.

7. Project Impact

As all 9 DI Fellows are now working for conservation organisations in their own countries, they will be providing direct assistance to the authorities in those countries that have been charged with meeting obligations under the Biodiversity Convention (see section 3). Recommendations emerging from their research dissertations and subsequent work will help decision makers at both national and local level to identify areas and habitats of conservation importance.

The MSc Conservation Biology course at DICE is specifically designed to improve the skills and knowledge of talented conservation practitioners from countries of high biodiversity importance. Equally, one of the selection criteria used in arriving at the three countries concerned in the programme was the need for relevant training. In addition to providing the DI Fellows with a wider knowledge base of conservation issues, the training they received in GIS, biodiversity database management, data analysis, taxonomy and protected area management proved particularly relevant to their subsequent work. The DI Fellows are now in a position to pass on their skills to new generations of conservation biologists in their home countries.

Current activities of the DI Fellows are as follows:

L. Andriamampianana
Now employed as a Programme Officer for the Wildlife Conservation Society in Antananarivo, Madagscar. This position involves conservation programme design and management, particularly in connection with WCS programmes in Masoala National Park.

M. Rakotondratsima
Now employed as a Conservation Biologist for the Wildlife Conservation Society in Antananarivo, Madagascar. Since returning to Madagascar, Marius has been engaged in organising and supervising lemur monitoring and conservation programmes in Masoala National Park. This work has involved training field assistants, participating in national workshops, leading expeditions and data analysis.

T. Raharitsimba
Now employed as a Conservation Biologist for the Wildlife Conservation Society in Antananarivo, Madagascar. Since returning to Madagascar, Tiana has continued with her work on the systematics of the butterfly genus *Strabena*, as well as carrying out a feasibilty study of butterfly farming in Masoala National Park. This has involved training local people in butterfly farming techniques and developing a management plan for the sustainable use of butterflies.

L. Mubalama Kakira
When Leonard returned to the D. R. Congo he was the only person in the National Parks system with a MSc qualification. Because of the civil war and associated political upheaval he initially encountered difficulties in re-establishing himself within the conservation management system, but he was able to initiate a study of the impact of the war on the elephant population of Virunga National Park. This proved to be very timely, as there little civilian access to this area during military activities. The results of this work were communicated to the Chairman of the African Elephant Specialist Group of CITES. There is a possibility that he may become Provincial Director for the Institut Congolais pour la Conservation de la Nature (ICCN – the National Parks authority for the D. R. Congo), with responsibility for the protection of Virunga National Park.

Inogwabini Bila-Isia
While at DICE, Bila was awarded the Maurice Swingland prize for the most promising performance on a taught masters course. Bila returned to Kinshasa, and developed a link with the Milwaukee Zoological Society to establish a project in Salonga National Park. This is the only protected area to contain the bonobo (or pygmy chimpanzee), but the population numbers and viability are unknown. Despite logistical difficulties associated with the civil war, Bila conducted a provisional survey of the northern part of the park, and has also been teaching on training courses on GIS and survey techniques

in DRC and the Cameroon. He has recently submitted a report on his survey of Salonga to the UNESCO meeting for world heritage sites (April 1999).

Mbayma Atalia Granzi
Mbayma works with WWF on the northern white rhino conservation programme in Garamba National Park, DRC. This subspecies of the white rhino is severely threatened, and this area of DRC also suffered waves of incursions from Ugandan and DRC militia and rebels. Mbayma was instrumental in evacuating equipment and personnel from the park during military activites. Indeed, he remained within the park after many others had left, motivating park staff and monitoring poaching activities. However, the activities of Ugandan military and Sudanese SPLA eventually forced him to evacuate to the WWF offices in Nairobi, where he has been working on reports and analysing data on the relationships between guard deployment strategies and rhino survival.

N. P. Lesio
Lesio returned to his position at the Njiro Wildlife Research Centre. Here he has been developing a proposal to carry out a project on butterfly distribution in the Udzungwa Mountains National Park. This is Tanzania's newest National Park, and this newly acquired status has precipitated a need for detailed inventories of its biodiversity. Butterflies are of particular interest because of possible variations in distribution and abundance with altitude within the park. The initial budget requested for this programme was too high, and Lesio has been asked to reorganise the programme on a more realistic financial basis. Changes in personnel within partner organisations in Tanzania resulted in a lack of continuity in supervision and training during the implementation phase of the programme.

P. Sarakikya
On returning to Tanzania Paul was earmarked to work on a study of rhinos in Selous National Park. However, with his newly acquired MSc, he was offered a senior position within the headquarters of the Wildlife Department in Dar es Salaam, working on CITES issues connected with elephants and rhinos. This was a position he accepted and he consequently was unable to carry out the original fieldwork proposed for his DI implementation year. Paul is a dedicated and conscientious individual who is likely to prove a valuable resource within the Wildlife Department. Despite not completing his proposed project, we believe that his influential position will ensure that he has a very positive influence on protected area management within his country.

N.N. Mafuru
Mafuru was transferred to Kilimanjaro National Park on his return, where he now works as a senior warden. Mafuru was requested to produce a revised programme for his implementation year. Despite a personal visit from the Wildlife Conservation Society representative in Tanzania, this proposal was never received. During his year at DICE Mafuru proved to be an intelligent student, but our impression was that his level of motivation was rather lower than that observed in the other DI Fellows. Although he came with a strong recommendation from one of our Tanzanian partners, his performance on the DI programme proved to be something of a disappointment.

Overall, good collaborations have been consolidated and forged during this programme with a number of organisations in the host countries. DICE has built upon these links, and is involved with current or projected programmes in these counties on the conservation of bonobos (DRC); protected area management (Tanzania); and reptile conservation (Madagascar).

8. Sustainability

All host countries contributed resources in-kind to the programme through the provision of staff time and expertise. The Wildlife Conservation Society has contributed staff time, travel expenses, equipment and office space within the host countries. In addition, WWF (Nairobi) has provided facilities and support for Mbayma Atalia in DRC; CARE International Madagascar has provided resources for the projects in Masoala National Park.
In that (1) all the DI Fellows are currently working within the wildlife management systems of their home countries, and (2) at least four of them have used their DI training to train others in their home countries, the project has definitely been a catalyst for other initiatives.

The Wellcome Trust has adopted an identical model to that developed under this DI project for its own Biodiversity Fellowship programme. This scheme makes awards for (1) training of students from

Africa, Latin America or Asia to MSc level in British Universities; and (2) a follow-up year of research in their home countries in collaboration with partner institutes. DICE has so far been successful in obtaining two of the Wellcome Trust fellowships.

9. Outcomes in absence of Darwin funding

Without Darwin funding, it is unlikely that any of the 9 DI Fellows would have received training to MSc level at DICE. Some aspects of the follow-up year programme would have proceeded with funding from other sources, but as the incumbents would have lacked formal postgraduate training, it is likely that these initiatives would have been less effective.

10. Key Points

Success factors:

(1) The combination of postgraduate training in Britain with a follow-up year in the home country is a potentially successful training model that has been adopted by at least one other funding body.
(2) The MSc programme was designed to meet the needs of the DI Fellows, and they benefited considerably from the opportunity to exchange experiences and ideas with similar people from other countries.
(3) The success of the follow-up year depends very much on the infrastructural support offered by the partner organisation in the host country. This was very good in Madagascar, but less satisfactory in DRC (due to civil war) and Tanzania (due to staffing changes).
(4) The postgraduate training provided has resulted in at least two DI Fellows being appointed to influential positions within the wildlife management systems of their countries.

Main problems:

(1) Civil war in DRC disrupted the follow-up year programme.
(2) Staff changes in Tanzania resulted in a lack of continuity in monitoring the follow-up year.
(3) One student was possibly not an appropriate choice for the programme – a more rigorous candidate selection mechanism may prevent this in the future.

11. Project Contacts

UK:

Project Co-ordinator:
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Administration:
Dr Mike Walkey, Mrs Joan England (address as above).

Africa Program Co-ordinators:

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Host Countries:

Madagascar:
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Dr V. Razafimhatratra (deceased), Dept. of Animal Biology, University of Antananarivo, BP 906, Antananarivo 101, Madagascar.
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DRC:
John A. Hart, c/o ICCN/CEFRECOF, Epulu via Bunia (DRC), PO Box 2185, Nairobi, Kenya.

Dr Kes Hillman Smith, Garamba National Park Project, WWF EARPO, PO Box 62440, Nairobi, Kenya.

Tanzania:
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End users:
Madagascar:
University of Antananarivo, Masoala National Park Project, CARE Madagascar, Association Nationale pour la Gestion des Aires Protegees, Department des Eaux et Forets.
DRC:
ICCN, International Rhino Fund, WWF.
Tanzania:
Wildlife Department

Project trainees/students:
See section 7.