



***Darwin Initiative for the Survival of Species
Final Report***

Community-driven conservation and ecotourism in the
Mara ecosystem, Kenya

Durrell Institute of Conservation & Ecology,
University of Kent

April 2004

Table of Contents

1. Darwin Project Information.....	2
2. Project Background/Rationale.....	2
3. Project Summary.....	3
4. Scientific, Training and Technical Assessment.....	4
• MSc Training and Research.....	4
• Community Scout Training.....	5
• Wildlife Conflict Monitoring.....	6
• Tourism Planning and Development.....	9
5. Project Impacts.....	10
6. Project Outputs.....	12
7. Project Expenditure.....	12
8. Project Operation and Partnerships.....	13
9. Monitoring and Evaluation, Lesson Learning.....	14
10. Darwin Identity.....	16
11. Leverage.....	16
12. Sustainability and Legacy.....	17
14. Value for Money.....	17
Appendix I CBD Articles Addressed.....	18
Appendix II Outputs.....	20
Appendix III Publications.....	23
Appendix IV Contacts.....	24
Appendix V Update of project 162/6/131.....	25
Appendix VI Logical Framework.....	31

1. Darwin Project Information

Project title	<i>Community-driven conservation and ecotourism in the Mara ecosystem, Kenya</i>
Country	<i>Kenya</i>
Contractor	<i>DICE, University of Kent</i>
Project Reference No.	<i>162/10/003</i>
Grant Value	<i>£136,566</i>
Starting/Finishing dates	<i>May 2001 – October 2003</i>

2. Project Background/Rationale

Much of Kenya's biodiversity lies outside protected areas, and human-wildlife conflict both inside and outside protected areas threatens the viability of large mammal populations. Equally, local communities adjacent to protected areas are seeking sustainable means to utilise their biodiversity resources, in ways that limit conflict between wildlife and people.

The project was based in communal areas (principally Naikarra/Olderkessi group ranches) surrounding the Masai Mara National Reserve in Kenya, and was in essence a follow-on to a previous Darwin Initiative project in the area. The previous Darwin Initiative project in Masai Mara (162/6/131) identified that, despite being promoted as a sustainable use of natural resources, tourism in and around the Masai Mara was not benefiting local communities or wildlife in an area where human-wildlife conflict was prevalent. This was because tourism was not locally driven and did not fully engage local communities. These findings suggested the need for a new approach to resource utilisation in unprotected communal areas where large mammals reside.

At the same time, DICE staff in Kenya were approached by a local community adjacent to the Masai Mara, in partnership with a Kenyan ecotourism operator, requesting technical and training assistance with the sustainable development of resource utilisation in their area, through the establishment of a locally run ecotourism and wildlife monitoring centre. This provided an excellent opportunity to (1) pursue an action-based exit strategy for the previous Darwin Initiative grant, and (2) assist a local community in the development of truly sustainable resource utilisation with built-in biodiversity conservation, from the outset of the development process.

This project aimed to assist a community living adjacent to Masai Mara National Reserve to develop sustainable utilisation, including ecotourism. Through training and the establishment of a wildlife and conflict monitoring centre, the project aimed to build local capacity in (1) wildlife conservation and management, and (2) the development of low impact tourism facilities.

The project was established as a partnership between DICE and a local community association, together with support from a local NGO (Friends of Conservation), the national wildlife authority (Kenya Wildlife Service) and private sector partners.

3. Project Summary

The project followed a logical framework (Appendix VI), and can be summarised as follows:

Purpose:

To develop and implement a community-driven conservation, conflict resolution and ecotourism programme that will protect endangered wildlife and alleviate human-wildlife conflict outside the formal protected area network.

Outputs:

Through training and implementation, to establish a community wildlife monitoring and conflict resolution centre, and develop a plan for community-driven tourism development to support conservation and conflict mitigation.

Activities:

- Train two local co-ordinators to MSc level at DICE.
- Train 20 local scouts in improved wildlife and conflict monitoring.
- Establish a local wildlife association with resource planning responsibilities.
- Produce land use, tourism development and conflict mitigation plans.
- Establish a centre for wildlife and conflict monitoring.

The original objectives were modified partway through the project. This was due to over-ambitious aims in the original proposal regarding the establishment of operational ecotourism facilities within the lifetime of the project, as a result of some hesitancy on the part of the principal local community partner. A valuable internal and external review in September/October 2002 served to reschedule the project, placing greater emphasis on community-based wildlife and conflict monitoring and mitigation. Whilst ecotourism remains a longer-term goal for the project, it has focused in the interim on capacity building and education for community decision-making regarding tourism as a conservation and development tool. The Darwin Secretariat approved these changes in October 2002.

Several of the Articles under the Convention on Biological Diversity (CBD) were addressed by this project (see Appendix 1). These include Article 12, Research and Training (MSc students and community scouts), Article 7, Identification and Monitoring (large mammals in conflict with people), Article 11, Incentives Measures (ecotourism development) and Article 10, Sustainable Use (building local capacity for ecotourism and conflict mitigation, and encouraging public-private partnerships and government co-operation).

The five activities listed above have all been completed successfully and within budget. The two local co-ordinators completed their MSc training at DICE in September 2002. A total of 24 community members completed field training in wildlife and conflict monitoring in late 2002 and have since been monitoring continuously for over a year. Data are under analysis for presentation and publication.

A local wildlife association was formally registered in June 2002, and several subsequent activities have helped to strengthen this association and raise local awareness regarding conservation, land use and, particularly, community-based tourism. This has led to the development of provisional land use plans, a vision for tourism development (and the initiation of relationships with private partners) and a plan for conflict mitigation. Finally, the centre for wildlife and conflict monitoring has been informally operational for a year. Final construction work has been delayed by six months, but was completed in April 2004, with a formal opening to take place in May 2004. Final dissemination and planning meetings will take place at that time.

Besides these outputs that were undertaken with the Naikarra/Olderkesi communities in the south east of the ecosystem (Narok District), the project and its staff have also supported a concurrent set of activities with communities in the north west of the ecosystem (Transmara District). This has effectively doubled the outputs of the project. In addition, continued progress has been made in securing the legacy of the first Darwin project in Masai Mara (161/6/131) (see Appendix V). On the basis of these various results and the securing of considerable matching and follow-on funding, the project is deemed to have been a resounding success.

4. Scientific, Training, and Technical Assessment

The technical aspects of the project focused on community training (at MSc and field scout levels), monitoring (of wildlife and conflict) and institutional strengthening (for ecotourism planning and development). Each of these aspects is presented below.

MSc Training and research

Two Maasai community members, Mrs Resiatio Martyn and Mr Stephen Kisotu, were selected to undertake MSc's in Tourism & Conservation and Conservation Biology, respectively. A committee of community representatives initially selected these candidates as the most suitable, and with the appropriate skills and qualifications. The Darwin Scholars travelled to DICE in September 2001 to begin their one-year, full time MSc course. This consisted of two terms (six months) of lectures and seminars, followed by an extended piece of field research. The students were assessed by coursework, examination and final dissertation (15,000 words). Both achieved good pass marks and formally graduated in 2003.

The Darwin Scholars both undertook field research projects as part of the Darwin project, under the supervision of the Project Officer. The titles of these dissertations are as follows:

Martyn, R (2002). Evaluation of local people's attitudes and perceptions of tourism development in Naikarra and Olderkesi in the Mara ecosystem in Kenya.

Kisotu, S (2002). The potential for developing sustainable use of wildlife resources in Olderkesi and Naikarra group ranches in Maasai Mara, Kenya.

Field research for these projects took place between May and July 2002. A structured questionnaire, containing 54 questions pertaining to both projects, was jointly

administered to some 204 respondents sampled from villages across both Naikarra and Olderkessi locations. In addition, two one-day community workshops were organised to discuss the issues in more detail and to define current and future land use preferences.

The results yielded comprehensive quantitative data on local attitudes towards tourism, and towards human-wildlife conflict and its mitigation. In particular, it was clear that local people had little experience or perception of tourism, but did understand the potential environmental and socio-cultural impacts that it could have. Preferences with regard to community involvement in tourism included the provision of specific services, and limitations on the volume and geographical location of tourism and tourist facilities. It was also clear that local communities perceive human-wildlife conflict as a significant problem, although local estimates of losses appeared to be over-exaggerated. Respondents admitted to acts of retribution against wildlife but suggested improving benefits and land use planning as ways of mitigating the problem.

These social surveys provided a baseline and recommendations for the monitoring and mitigation of conflict and for the development of community-based tourism. Moreover, the associated workshops yielded community sketch maps of land use that were converted into digital maps by the Project Officer and students. In particular, four areas were provisionally identified to be set aside as community wildlife sanctuaries. This work remains unpublished in MSc dissertations at DICE, although copies of these have been circulated in Kenya. The results will be incorporated into journal articles in the near future.

Community scout training

Training of community scouts has taken place both through formal training workshops/camps, and 'on the job', throughout the project.

In August 2001, 11 community scouts were recruited and trained to undertake a baseline wildlife monitoring survey in the proposed Olpua/Olomanaa community sanctuary (see below for methods and results). These were recruited from the surrounding villages for ease of transport, and according to their skills and prior experience as trackers. They were given basic training in conducting foot patrols and supervised throughout the survey. Three team leaders were required to be literate for reporting purposes and were additionally trained in the use of GPS for field mapping.

This survey formed the basis for an extension of existing monitoring by FoC community rhino scouts, to encompass a wider range of wildlife species over a much wider geographical area (see below for methods and results). Some 14 existing scouts were re-assessed by FoC co-ordinators, and a number were replaced where skill levels and literacy were inadequate, or where greater geographical coverage was required. These scouts received basic training from FoC in conducting wildlife foot patrols during formal training camps. Additional training in the use of GPS and in updated reporting requirements was provided with the assistance of Darwin project staff. These scouts have received continuous supervision in the field over two years by an experienced FoC co-ordinator, and additionally over the past 18 months by one of the Darwin Scholars.

The social survey conducted by the Darwin Scholars as part of their MSc studies (see above) formed a basis for the development of community-based monitoring of human-wildlife conflict. Ten additional community members were recruited, on the basis of location, literacy and enthusiasm, to be trained as community conflict monitors. Using the approach pioneered in the first Darwin project in Masai Mara, these scouts were trained to record the details of conflict incidents using a standardised reporting framework. Training, that included the use of GPS and interview techniques, was conducted by one Darwin Scholar, Mr Stephen Kisotu, with the assistance of Dr Noah Sitati, a Darwin Scholar from the first Darwin project in Masai Mara, who continues to manage a community-based conflict monitoring project in Transmara District. This consisted of a one-week training camp, followed by three weeks of *in situ* supervised practice.

Both wildlife and conflict scouts have received continuous supervision from, and report monthly to, the Darwin Scholar based in Naikarra, who has co-ordinated the ongoing monitoring under the supervision of the Project Officer. No formal accreditation for community training has been provided. However, all scouts remain active, having been retained by FoC as part of a continuous monitoring programme that will be expanded to cover all of the group ranches surrounding the Masai Mara over coming years. As part of this process it is hoped that formal KWS accreditation for their training (which will be augmented in collaboration with KWS) can be obtained.

Wildlife and conflict monitoring

Three separate activities can be reported: (i) baseline wildlife survey, (ii) continuous wildlife monitoring, (iii) human-wildlife conflict monitoring.

(i) Baseline wildlife survey:

The aims of the survey were:

- To provide factual baseline information on the wildlife of the area of the proposed Olpua/Olomanaa community sanctuary.
- To increase local awareness of wildlife and conservation by involving and training local community members in wildlife monitoring.
- To develop and test a method for community-based wildlife monitoring that could be used in future surveys both here and elsewhere.

During data collection, three teams of community scouts made 18 patrols covering a wide area of the proposed community sanctuary. Each team consisted of a literate team leader responsible for recording data in a notebook, and 2-3 community members. On each day, each team conducted two patrols, beginning the first patrol as soon as it was light between 0630 and 0700, and finishing the second patrol by early afternoon. Each patrol was designed to cover a particular habitat type (riverine, dry valley, hill slope or ridge), and at least three examples of each habitat type were represented in the survey. Each patrol was designed to be between 2-5 km in length, with some variation depending on the habitat and location.

Due to the thick nature of the bush and the hilly terrain, direct observation of wildlife was limited. As a result, all fresh signs (up to a week old) of all mammals above the

size of a rat were recorded along the patrol route, including sightings, sounds, spoor (footprints), dung, resting places and browsing/feeding evidence. The species and type of evidence were both recorded. Where possible, group size or an estimate thereof was also recorded. One record was made for each animal or group of animals for which independent evidence was available. Therefore, if an animal crossed the path of the patrol on more than one occasion, it was only recorded once. Equally, if an animal had left several categories of sign together, such as spoor and dung, but was clearly the same animal, then only one record was made.

The data provided a count of evidence for each patrol, broken down by species and type of evidence. The start and end times of each patrol were also recorded, and team leaders carried a GPS satellite navigation unit programmed to record locations every 30 seconds so as to provide an accurate measure of distance covered and the exact route taken. With both duration and distance of patrol recorded, it was possible to calculate an encounter rate (in signs per hour or per kilometre) for each patrol. This is potentially useful as a comparative measure, both between patrols in different habitat types, and also between repeat surveys over time to assess changes in wildlife populations and communities.

Data were collected on 33 species present in the area, although only 18 were actually sighted (see report submitted in October 2001). In addition, some 12 large mammals species known to reside within Naikarra/Olderkessi were not detected during this survey. A variety of factors affecting data capture were identified for refinement of the method, and at a closing workshop the participants identified a number of issues to improve the survey in future. In particular, it was recommended that a revised form of the monitoring be expanded to incorporate a wider area (including other proposed community sanctuaries) and undertaken continuously throughout the year to account for seasonal changes.

(ii) Continuous wildlife monitoring:

The aims of the continuous monitoring were:

- To provide more comprehensive spatial and temporal information regarding wildlife distribution and diversity within Naikarra/Olderkessi as a whole.
- To use the results to identify priority areas for conservation within Naikarra/Olderkessi, and thus to provide scientific input to the community-based land use planning process.
- To increase local awareness of wildlife and conservation by involving and training local community members in wildlife monitoring.
- To provide a wildlife-based livelihood for community members, and demonstrate its importance and value for environmental management and ecotourism enterprises.

The area was divided into seven major zones, and two scouts were assigned to each zone. Foot patrols have been conducted regularly within each zone since mid-2002. The scouts patrol from early morning, approximately 8-10 times per month, and record all sightings of major wildlife species encountered (including the number and age/sex profile within each group). Each patrol is undertaken in a separate sub-section of each zone, and sightings are spatially assigned to the sub-section in which they were recorded.

A digital map of the different patrol sub-sections has been created in a GIS system, and conservation planning software is being used to identify priority areas. In this way it has been possible to build up a picture of the most important areas for wildlife, and of seasonal patterns of use. These findings will be presented to the community for discussion and comparison with provisional locations for community-sanctuaries, at a workshop concurrent with the opening of the centre for wildlife and conflict monitoring in May 2004.

In addition, for some specific and rarely seen species (in particular wild dog and colobus monkeys), GPS records of the locations of sightings have been collected to give a very accurate measure of distribution. This is of considerable importance in the case of wild dog, a species that has not been seen within the Serengeti-Mara ecosystem for a decade due to an outbreak of rabies among resident packs. Over the past year some 100 or more sightings have been made in Naikarra/Olderkessi, and this tallies with increasingly regular sightings to the south in the Loliondo area of Tanzania, to the east of the Serengeti. These are insecure areas where the potential for disease transmission from domestic dogs is high, and an understanding of distribution and dispersal patterns in relation to landscape and human presence is critical for the design of appropriate conservation measures for the species.

(iii) Human-wildlife conflict monitoring:

The aims of human-wildlife conflict monitoring were:

- To provide accurate data on the intensity and distribution of human-wildlife conflict (principally crop raiding and livestock predation).
- To identify patterns and explanatory factors in order to develop appropriate conflict mitigation measures.
- To create a mechanism for the development of closer cooperation between KWS and local communities in monitoring and mitigating human-wildlife conflict.

As with the previous Darwin project, monitoring was conducted using a standardised reporting format, but in this case expanded from purely elephant crop raiding to incorporate other forms of conflict. Each scout was provided with a bicycle and was responsible for recording details from all conflict incidents within a defined catchment area around their home village. Scouts were quickly identified as local foci for reporting conflict, and so coverage was relatively complete. Every incident was visited for verification, and the complainants interviewed. The records were passed on to the KWS outpost at Naikarra town, and wherever possible KWS rangers were assisted to attend incidents or to provide support.

Data were collated monthly and linked to a GIS system to provide distribution maps and spatial analyses. The findings suggest seasonal patterns in both crop raiding and livestock predation. They revealed an ecological separation of crop-raiding herbivore species that can be used to target defences. In addition, they revealed the importance of guarding livestock when grazing and at watering holes during the dry season, and the importance of appropriate boma construction for protecting stock at night. Comparisons with data from Transmara revealed a greater persistence of lions in Naikarra/Olderkessi, that are the major predator of cattle, but increasing numbers of

small livestock and small-scale farming are the main reason for increasing conflict and the greatest threat to wildlife. Appropriate mitigation measures have been identified in a provisional conflict mitigation plan that will be discussed in greater detail at the opening of the monitoring centre in May 2004.

Tourism planning and development

The use of ecotourism as a tool for generating sustainable livelihoods from wildlife was a key element of the original rationale for this second Darwin project. A range of participatory activities have been undertaken to further community goals towards the development of small-scale, community-driven ecotourism.

An initial social survey in mid-2001 (see above) revealed current levels of awareness and expectation and identified a process of steps to be taken in order to ensure adequate community participation and empowerment. Much of this revolved around awareness-raising and the development of suitable partnerships and support networks.

In February 2003, a ten-day study tour of other community-based conservation and tourism initiatives around Kenya was planned and facilitated. Eight community representatives and a driver participated in this study tour, where they were exposed to a variety of partnership models and tourism products and activities. Immediately after this study tour, an ecotourism specialist from Nairobi visited Naikarra/Olderkessi to meet representatives of the four community associations and evaluate the potential for each of four planned conservancy areas for tourism.

The results of both the study tour and the ecotourism evaluation were disseminated to the wider community in a number of local meetings in March. These meetings enabled the communities to improve their awareness and understanding of tourism and the opportunities and constraints of their own situation. Communities concluded that the activities undertaken with the support of this Darwin project were extremely valuable in assisting them to take forward their ideas regarding tourism development.

Both the community (after their study tour) and the external tourism consultant (during his field evaluation) concluded independently that the most appropriate approach for this area was the development of small-scale camping and walking safaris centred on community-managed conservancies. Although a niche market, there is considered to be a growing demand for this type of product. Both the community and the consultant recognised the lack of skills and infrastructure locally, and thus the need for technical, commercial and financial support for the community to develop their capacity for tourism and establish a successful enterprise. That may be in the form of a single commercial partner in a local enterprise, or a marketing and booking agent in Nairobi with links to a range of domestic and overseas operators. The impact of these participatory activities in fulfilling project aims are discussed below.

A funding proposal (US\$ 150,000) was developed in partnership with FoC and submitted to the Tourism Trust Fund of the EU delegation in Kenya in March. This proposal has been provisionally accepted, and should enable the development of a comprehensive tourism plan and the establishment of public-private partnerships within the next 12-18 months.

5. Project Impacts

In essence, the purpose of the project was to build local capacity to monitor and manage wildlife and to benefit from wildlife and natural resources through ecotourism. There is clear evidence that this purpose has been accomplished. The training elements of the program have enabled community-based monitoring to be established, and this has facilitated a greater awareness of wildlife and conflict and the development of science-based management and mitigation measures. Community participation in the project partnership has enabled the development of community associations and physical infrastructure, as well as trained individuals, to take forward the program of environmental management outside formally protected areas.

The tourism element has been harder to achieve due to over-ambitious original goals and the extremely low baseline (land tenure, institutional capacity, experience and interest of operators, and difficult political climate for tourism) from which the project and the area began. However, the activities undertaken, and described above, have led on to some significant steps towards the development of community-driven tourism.

In August 2003, a potential developer spent some days in the area, and Darwin staff facilitated a meeting with two community groups to present ideas and interest from both sides. A timetable of follow-on meetings was agreed and communication between the two parties has been ongoing. A proposal was submitted by the developer and is under review. In addition, a different operator organised an experimental, three-day walking safari through the area for a large group of overseas clients. Darwin staff facilitated contact with the relevant community groups, which were able to direct the expedition to designated campsites. They were subsequently given a large donation towards their conservation efforts. This provided hands on experience for the community in dealing with tour groups, and is likely to be repeated.

Two other critical linkages have been made in the past six months. First, a locally based tourism operator (but not the originally planned partner) with strong community links has begun to explore in much more detail the possibility of developing a tourism camp linked to wildlife research and monitoring in the Olomanaa community sanctuary, as envisaged at the outset of this project. This operator is strongly linked into a further follow-on Darwin project in the region that has just been announced (see below). Second, the EU has funded a locally based Maasai guiding school to train community members to work in the tourism industry. This initiative is now under development and provides a means for developing local capacity for tourism as envisaged at the outset of this project. An institutional link with the school has been developed in preparation for the next follow-on Darwin project.

Unexpected impacts include the level of integration and increased capacity of project partners locally, and the leverage of additional support for expansion of project activities into a follow-on phase (see relevant sections below). In addition, the project has effectively doubled its impact by interfacing with a parallel DICE project in Transmara District, that itself originated from the first Darwin project in Masai Mara. Linkages between the two projects enabled the conflict monitoring activities in Naikarra/Olderkessi to be developed along state-of-the-art lines, whilst the development of community awareness and capacity regarding tourism in Transmara used the methods and model developed in Naikarra/Olderkessi.

The contributions of the project to the Convention on Biological Diversity have been reported above and in Appendix 1. Direct contributions through project partners to help Kenya meet its obligations include the following:

Articles 7 and 12: Increased capacity of local communities, FoC and KWS to monitor and manage wildlife and conflict, both locally and (in terms of FoC) across their portfolio. Increased capacity within FoC to train community members and KWS rangers in monitoring and mitigation.

Articles 10 and 11: Increased incentives for conservation being provided by FoC to local communities through training and employment of community scouts; increased capacity of local communities to generate sustainable benefits from wildlife through ecotourism.

It is clear that the training of local community members (at scout and MSc level) has improved capacity for biodiversity conservation. As described above, the training has yielded data that is being used to inform management and mitigation planning, as well as the development of sustainable use through tourism, and it will continue to do so through the long-term involvement of the major partner (FoC) and KWS. Of the two Darwin Scholars, one (Stephen Kisotu) has continued to work on the project as monitoring co-ordinator, and has just been employed by FoC to continue this work and expand it to other communities within the Greater Mara. The other (Resiatio Martyn) continued to work on the tourism elements of the project in 2003, but has since returned to the UK (where her family is based) and is concentrating on raising funds and awareness internationally in order to support home-grown initiatives in Maasailand. All of the scouts trained to work on the project and associated FoC initiatives remain active in the field. Their number will be enhanced over the coming two years.

The *de facto* institutional project partner was FoC, and collaboration has gone from strength to strength after a difficult start during the original Darwin project. FoC has since become central to the work of the project, and is now employing one of the Darwin Scholars (see above) to take the work forward into a subsequent phase. The Project Officer has worked closely with FoC in developing follow-on projects and is a member of the FoC advisory panel, assisting with strategic development and project evaluation.

The project was, however, a multi-stakeholder partnership and as such has gone a long way to improving linkages and relationships between government, NGO, community and private sector partners locally. As described above, KWS is now more closely linked with communities and FoC in monitoring and managing human-wildlife conflict. Equally, relationships between FoC and the local communities have been strengthened throughout the project, and the profile of FoC with both Naikarra/Olderkesi communities and those in other areas of the Greater Mara region has grown. Just as importantly, the project has facilitated dialogue between communities and the private sector that hitherto have been extremely limited in the Greater Mara region. This is a significant departure that will be built upon in future work.

The social beneficiaries of the project are the Naikarra/Olderkesi communities that have been the focus of the project, and in particular the individuals who have received training and employment. Their continued commitment and enthusiasm to their work,

and the commitment of the community as a whole to participating in the varied activities of the project is evidence of their perception of its benefits.

6. Project Outputs

Project outputs are listed in Appendix 2 using standard output measures. All project outputs were achieved, along with some additional outputs. Overall, more time was spent by UK personnel in Kenya, and greater dissemination (through conferences, meetings and press releases) as been achieved within the lifetime of the project. Not all the intended peer-reviewed papers have yet been published but progress on these is ongoing. Of particular significance is the success of the project in securing additional funds for extended follow-on project work that provides a comprehensive exit strategy for the project. Three major grants will enable project partners to address wildlife monitoring, conflict mitigation and community-based tourism planning and development across the entire Greater-Mara region.

Over the period of the project, numerous additional dissemination outputs were secured from the original Darwin project in Masai Mara (162/6/131). These are reported separately.

Dissemination has been through publication, press release and through organisation and attendance in meetings and conferences internationally (see Appendix 2). All members of the Darwin project staff will continue to be involved in dissemination. Local staff and partners will be working on follow-on projects that will provide opportunities for further dissemination and publicity. The Project Officer and Project Leader will continue to be responsible for future publications.

7. Project Expenditure

<i>Item</i>	Budget	Expenditure £
-------------	---------------	----------------------

The slight increase in expenditure is due to salary increases that were recently approved by Darwin. Otherwise, there are no major discrepancies.

8. Project Operation and Partnerships

The original plan was for six partners, and their roles evolved as follows:

The local community: Involved in the planning and inception of the project, and focus for the project throughout. The community is the custodian of biodiversity in the project site, and has been critically involved in both directing and benefiting from the project through their monitoring activities. However, the capacity of the local community was not sufficiently developed to ensure that ecotourism ventures were operational by the end of this project phase, although considerable progress has been made in this direction.

Friends of Conservation: A local NGO operating in the area, supporting environmental, education and livelihood issues. Initially intended as a supporting partner, FoC has become central to the operation and legacy of the project as their own role and status within the community has expanded. For the latter half of the project, FoC has become a significant practical partner in the field, as well as becoming more integral to project planning and development.

Kenya Wildlife Service: Government agency responsible for wildlife conservation and management. KWS was a partner in the original Darwin project, although in this second project they were initially likely to take a backseat role. In reality, through interaction at the field level KWS has become more involved in conflict monitoring and response, as befits their remit. The growing relationship between KWS, FoC and communities locally is a valuable legacy of the project.

Private Tourism Companies: The original proposal envisaged one operator, Dream Travel Africa, to be a principal partner for an ecotourism initiative. However, this operator subsequently dropped out of the process, and the revision of the project in late 2002 suggested the need to interact with a larger range of potential private sector partners. As such three alternative operators have been interacting with the community throughout the final year of the project. The most likely long-term partner for the community is Cottar's 1920's Safari Camp, and this relationship will be developed further in subsequent project work.

WWF: An international conservation NGO, WWF was a key partner in the first Darwin project, and was envisaged as a supporting partner in this one. In the event, WWF have supported the project with funding for conflict monitoring, and technical support of field staff. The relationship between DICE and WWF remains strong, and the Darwin projects have strengthened the technical ability and effectiveness of WWF field activities in the Greater Mara region.

Narok County Council: NCC, the local government and administrative body, was only ever intended to play a support role in the project. However, as noted in the external review of the project in October 2002, NCC has no community programme or community representative that could interface with the project. Despite this, regular contact with the authorities served to keep them informed of all activities and progress.

As noted above, the project formed a close link with the WWF-funded follow-on to the first Darwin project, operating in Transmara District. Equally, during study trips, the project interacted with Maasai community-based conservation and tourism initiatives in Amboseli, Laikipia and Shompole. Equally, exchange visits were organised with the Amboseli Community Game Scouts Association. There was no

interaction with National Biodiversity Strategy office or representatives. During the project, the Government of Kenya changed, and there has been much change in the Ministry of Environment. The creation of the National Environmental Management Agency (NEMA) will aid national level interaction in future projects.

At a local level, partnerships have been strengthened immeasurably by the project, especially between FoC and the community, but also with KWS and a local private operator. This partnership is collaborating on further projects, and an expansion in the involvement of local communities and private sector operators within the wider region is envisaged. Future partnership activities include the possible development of ecosystem management and development plans in partnership with local government.

9. Monitoring and Evaluation, Lesson learning

The Project Officer has continually overseen the project using the logical framework and agreed outputs and milestones for guidance. The indicators of achievement at Output and Activity level are the successful completion of project objectives and milestones on time (in particular training, monitoring, the establishment of an association and monitoring centre, and development of plans). All the revised objectives and milestones have been reached.

More fundamentally, there are a number of indicators at Purpose and Goal level that signify the broader impact of the project. Baseline data on wildlife populations, levels of conflict and local livelihoods, along with continuous monitoring throughout the project, can be used to measure change in these indicators, as follows:

Increase in local benefits: More community members are now employed in wildlife monitoring and management activities as a result of the project. Some benefits have flowed from pilot tourism activities, and the groundwork has been laid for longer term, sustainable benefit flows from this source.

Decrease in human-wildlife conflict: The period of monitoring and activity in Naikarra/Olderkesi is too short to detect such a decline. However, longer term work in Transmara supported by this and the previous Darwin project indicates that mitigation interventions have decreased elephant crop raiding by 67% in target zones. The development and promotion of mitigation methods arising from this work and the monitoring in Naikarra/Olderkesi is thus likely to yield a significant reduction in conflict that, with continuous monitoring in future years, should be demonstrable.

Declining loss of biodiversity: This requires much longer to measure. However, the establishment, along scientific grounds, of community sanctuaries where resource extraction and consumption will be minimised is likely to conserve threatened biodiversity.

Recovery of endangered species: Over the lifetime of the project, black rhino numbers have remained stable but at a critically low level. However, wild dog sightings in the area have increased dramatically, and it now appears that this species is well on the way to successfully re-colonising this part of the Serengeti-Mara ecosystem. Its major risks are disease from domestic dogs (which can be combated in part by securing areas and corridors where wild dogs are known to reside), and persecution by people (which can be alleviated by demonstrating how little wild dogs are involved in livestock predation, and educating communities of the importance of

the species). The activities of the project have acted, and will continue to act, to secure the recovery of this critically endangered species.

Increased implementation of the CBD: Locally, few if any of the CBD articles were being addressed. The project has enhanced local monitoring and implemented training, incentives and planning for sustainable utilisation. It has thus taken forward the implementation of at least four of the CBD articles.

The project undertook an internal evaluation in September 2002, followed by an external evaluation (by a Darwin Initiative consultant) in October 2002. These valuable exercises served to identify achievements and reorient the project where initial plans had become impractical.

Our major lessons are fivefold. Firstly, to expect the unexpected, and to allow sufficient time for the development of partnerships that cannot be achieved without the necessary consideration and consultation on both sides. We have also learned that, with perseverance, situations that appear unpromising can yield very positive outcomes. Once firm partnerships are in place it is much easier to generate tangible outputs.

Secondly, confirming the DICE approach here and elsewhere, having committed local counterparts in the field is the best way to achieve progress. One of the Darwin Scholars is now working full time for FoC, and is a vital conduit between DICE, FoC and the communities. His technical abilities gained at DICE together with his local knowledge and standing with the community are yielding more progress than we could have expected. The correct choice of local counterpart is vital in this respect. With both Stephen Kisotu, and Dr Noah Sitati on the earlier project, we were able to recruit trained teachers with local respect and ability to communicate effectively.

Thirdly, public private partnerships and the development of commercial activities take much more time than at first envisaged. This is particularly so when dealing with remote rural communities with little awareness or experience of tourism, and considerable distrust of wealthy operators. Given a very low baseline with regard to education, land tenure, institutional capacity, and so on, combined with the problems facing the tourism industry both in Kenya and internationally, it is unsurprising that over-ambitious plans have been laid bare. Projects that intend to focus on livelihood and community development must recognise that these issues are complex and cannot be solved quickly, and usually not within single project time frames. On a more positive note, however, the perseverance of all partners in the process has laid solid foundations for continued development towards community-driven ecotourism through a public-private partnership.

Fourthly, working outside formally protected areas, although often more difficult, is critical to securing even the largest protected area. Only 25% of the Greater Mara region falls within the National Reserve itself. Wildlife transcends such boundaries, and both poverty and conflict beyond park borders threatens wildlife and wider biodiversity throughout such ecosystems. Focusing on communities that coexist with wildlife around protected areas not only provides benefits and alleviates costs for people but also, as our monitoring work has proved, can reveal the importance of unprotected areas for priority species such as black rhino and wild dog. Biodiversity

exists in a land use mosaic, and it is important not to neglect the less glamorous corners of that mosaic since it often holds great value and potential for conservation.

Finally, we have discovered this year that successful projects such as ours will generate media interest. In the past, UK publicity has not been seen as a priority, and this is probably true for many such projects. It is particularly commendable that the Darwin Initiative is this year taking a lead role in publicizing projects and initiating contact between project staff and the media, to further enhance the wider impact of projects on public understanding and support for conservation. This project also benefited from a visit by the Minister, Elliott Morley, MP, and the delivery of a keynote speech by the Project Leader at the Darwin seminar in October 2003.

10. Darwin Identity:

The project used Darwin logos locally on its vehicle, equipment, scout uniforms and office. The Project Officer and Darwin Scholars all used the Darwin identity, and the community members conducting monitoring were locally referred to as Darwin Scouts. Among the local community, in particular, the project's Darwin identity was strongly perceived, in part due to the use of logos and titles, but also due to the fact that two community members were taken to DICE to train for their MSc's as part of the project, and this was perceived as a significant contribution among the community.

At a national level, Darwin has several projects in Kenya. In terms of this and the previous project in Masai Mara, the Darwin identity has been most strongly imprinted on KWS at a national level. Darwin appears to be viewed as an international source of support for training and field-based activities. It appears to be viewed as politically impartial and does not suffer from some of the institutional tensions that materialise between government and non-governmental organisations in Kenya. It is not agenda-driven but operates to facilitate partnerships, and all of the major NGO's are aware of Darwin and the activities of this project. The Darwin Initiative has had increased national exposure in Kenya over the past year through the distribution of the published proceedings of Mara project workshops, through national presentations that have incorporated Darwin project activities, and through the visit of the Minister in October 2003.

The Darwin identity of this project has remained clear throughout. Although the project has worked with local partners and generated significant matching funding, and has grown into something more significant as a result, the Darwin contribution has been well recognised as noted above. Certain aspects of the partnership with FoC remained with a FoC identity, whilst the activities of the Darwin Scholars and Scouts were clearly Darwin. With the closer partnership and in particular in the follow-on projects that FoC will lead on, it is likely that the institutional identity of the work will become FoC, and Darwin should be proud of its role in strengthening that organisation and its local capabilities and effectiveness. However, with the continued roles of two of the Darwin Scholars in the Mara, and the continued use of Darwin logos on vehicles and the soon-to-be-opened centre, the Darwin identity as part of the overall programme will not be lost.

11.Leverage

All partners provided time and resources to the project, totalling £49,200. This included staff time, equipment and infrastructure, administrative support, and funding to operate scout-based monitoring. In addition, a £150,000 grant for a further three years work on mitigating human-wildlife conflict in Transmara District was obtained from WWF-UK.

The Project Officer worked closely with FoC to develop joint proposals for follow-on work, including successful proposals to Darwin (£115,830) and the EU (c.£100,000). In addition, the Project Officer provided technical support in the development of FoC proposals to the Ford Foundation and DFID. The former was successful, and the latter organisation is currently exploring ways to support FoC work in the Greater Mara region.

12.Sustainability and Legacy

The training outputs of the project will leave the most lasting local legacy, especially through capacity-building in FoC and local communities. As detailed elsewhere in this report, all the trainees remain in conservation-related activities and are using the skills and experiences gained during the Darwin Initiative project. In addition, the partnerships developed during the project are likely to remain intact. Several of the partners are working together on the follow-on projects.

Dissemination of the project findings is ongoing, and will improve the reach of the project in terms of its lasting legacy, as will the activities of the follow-on projects that are expanding activities and attempting to ensure financial sustainability. As reported, additional funds have been obtained to continue aspects of the project, from the Darwin Initiative (ecosystem-wide scout training and tourism), the EU (tourism development strategy) and WWF-UK (conflict mitigation).

14.Value for money

The project represents considerable value for money. Around 36% matching funding was obtained during the lifetime of the project. In addition over 270% follow-on funding for new projects has been obtained.

Author(s) / Date

Matt Walpole
Nigel Leader-Williams
April 2004

Appendix I: Project Contribution to Articles under the Convention on Biological Diversity (CBD)

Project Contribution to Articles under the Convention on Biological Diversity		
Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use		Develop national strategies which integrate conservation and sustainable use.
7. Identification and Monitoring	20%	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities which have adverse effects; maintain and organise relevant data.
8. In-situ Conservation		Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
9. Ex-situ Conservation		Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
10. Sustainable Use of Components of Biological Diversity	30%	Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
11. Incentive Measures	20%	Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
12. Research and Training	30%	Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
13. Public Education and Awareness		Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
14. Impact Assessment and Minimizing Adverse Impacts		Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards;

		examine mechanisms for re-dress of international damage.
15. Access to Genetic Resources		Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair and equitable way of results and benefits.
16. Access to and Transfer of Technology		Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
17. Exchange of Information		Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
19. Bio-safety Protocol		Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
Total %	100%	Check % = total 100

Appendix II Outputs

Code	Total to date (reduce box)	Detail (←expand box)
Training Outputs		
1a	Number of people to submit PhD thesis	
1b	Number of PhD qualifications obtained	
2	Number of Masters qualifications obtained	2 , completed in September 2002
3	Number of other qualifications obtained	
4a	Number of undergraduate students receiving training	
4b	Number of training weeks provided to undergraduate students	
4c	Number of postgraduate students receiving training (not 1-3 above)	
4d	Number of training weeks for postgraduate students	
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification (i.e. not categories 1-4 above)	2 , both Darwin Scholars continued to work on the project for one year from October 2002.
6a	Number of people receiving other forms of short-term education/training (i.e. not categories 1-5 above)	44 in total: 35 community scouts (25 in wildlife monitoring, 10 in conflict monitoring), and 9 community leaders (tourism)
6b	Number of training weeks not leading to formal qualification	125 weeks
7	Number of types of training materials produced for use by host country(s)	
Research Outputs		
8	Number of weeks spent by UK project staff on project work in host country(s)	54 weeks
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	5 in total: Community resource use map and land use plan. Independent tourism evaluation with recommendations and community vision for tourism development. Human-wildlife conflict mitigation plan.
10	Number of formal documents produced to assist work related to species identification, classification and recording.	
11a	Number of papers published or accepted for publication in peer reviewed journals	1 (with at least three more in preparation)
11b	Number of papers published or accepted for publication elsewhere	1 (book chapter, in press).
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	2 in total: Project website established (as planned) Wildlife monitoring GIS database produced for FoC (additional output)
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	
13a	Number of species reference collections established and handed over to host country(s)	
13b	Number of species reference collections enhanced and handed over to host country(s)	

Code	Total to date (reduce box)	Detail (←expand box)
Dissemination Outputs		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	4 dissemination and planning workshops with local communities
14b	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/ disseminated.	5 in total: 3 international conferences in UK 2 national meetings in Kenya
15a	Number of national press releases or publicity articles in host country(s)	1
15b	Number of local press releases or publicity articles in host country(s)	
15c	Number of national press releases or publicity articles in UK	
15d	Number of local press releases or publicity articles in UK	1
16a	Number of issues of newsletters produced in the host country(s)	
16b	Estimated circulation of each newsletter in the host country(s)	
16c	Estimated circulation of each newsletter in the UK	
17a	Number of dissemination networks established	
17b	Number of dissemination networks enhanced or extended	
18a	Number of national TV programmes/features in host country(s)	
18b	Number of national TV programme/features in the UK	
18c	Number of local TV programme/features in host country	
18d	Number of local TV programme features in the UK	
19a	Number of national radio interviews/features in host country(s)	
19b	Number of national radio interviews/features in the UK	
19c	Number of local radio interviews/features in host country (s)	
19d	Number of local radio interviews/features in the UK	
Physical Outputs		
20	Estimated value (£s) of physical assets handed over to host country(s)	£9,500 (centre, vehicle, computer, GPS etc).
21	Number of permanent educational/training/research facilities or organisation established	2 in total 1 local community organisation established 1 monitoring centre constructed
22	Number of permanent field plots established	
23	Value of additional resources raised for project	£49,200 in matching funding during project £115,830 in follow-on Darwin finding £150,000 in follow-on WWF funding £100,000 (approx.) in follow-on EU funding

Appendix III: Publications

Type *	Detail	Publishers	Available from	Cost
(e.g. journal paper, book, manual, CD)	(e.g. title, authors, journal, year, pages)	(name, city)	(e.g. contact address, email address, website)	£
162/10/003				
Journal paper	Walpole (2004) Community scouts promote conservation and livelihood security in the Mara ecosystem, Kenya. <i>Sustainable Development International</i> 10 , 119-121.		www.sustdev.org	
Book chapter	Walpole & Thouless (in press) Increasing the value of wildlife through non-consumptive use? Deconstructing the myths of ecotourism and community-based tourism in the tropics. In <i>The Conservation of Wildlife that Conflicts with Man</i> (Eds Woodroffe, R. Thirgood, S. & Rabinowitz, A.). Cambridge University Press, Cambridge.	CUP, Cambridge		
162/6/131				
Book	Walpole et al. (2003) <i>Wildlife & People: Conflict and Conservation in Masai Mara, Kenya</i> . Wildlife and Development Series No.14, International Institute for Environment and Development (IIED), London.	IIED, London	www.iied.org	£20
Journal paper	Sitati et al. (2003) Predicting spatial aspects of human-elephant conflict. <i>Journal of Applied Ecology</i> 40 , 667-677.	Blackwells, Oxford		
Journal paper	Walpole et al. (in press) Status of the Mara woodlands in Kenya. <i>African Journal of Ecology</i> , forthcoming.	Blackwells, Oxford		

Appendix IV: Darwin Contacts

To assist us with future evaluation work and feedback on your report , please provide contact details below.

Project Title	Community-driven conservation and ecotourism in Mara ecosystem, Kenya.
Ref. No.	162/10/003
UK Leader Details	
Name	Prof. Nigel Leader-Williams
Role within Darwin Project	Project Leader
Address	DICE, University of Kent, Canterbury, Kent CT2 7NS
Phone	
Fax	
Email	
Other UK Contact (if relevant)	
Name	Dr Matt Walpole
Role within Darwin Project	Project Officer
Address	DICE, University of Kent, Canterbury, Kent CT2 7NS
Phone	
Fax	
Email	
Partner 1	
Name	Helen Gibbons
Organisation	Friends of Conservation
Website address	www.foc-uk.org
Role within Darwin Project	Local NGO partner
Address	P.O.BOX 74901-00200 City Square, Nairobi
Fax	
Email	
Partner 2 (if relevant)	
Name	Stephen Kisotu
Organisation	Friends of Conservation
Role within Darwin Project	Darwin Scholar
Address	P.O.BOX 74901-00200 City Square, Nairobi
Fax	
Email	

Appendix V Longer-term impact of project 162/6/131

Introduction

The impacts of any Darwin Initiative project are intended to extend well beyond the life of the project itself, but it is often difficult to keep track of this longer-term legacy once projects and their funding end. However, in the case of the original Darwin Initiative project in Masai Mara (162/6/131, 1997-2001), this has been made possible by the continued involvement of DICE in a range of follow-on projects and activities.

Indeed, an external review of the final report of the first Darwin-Mara project noted that this continued presence 'provided an opportunity to assess the longer term impacts of one of [the Darwin Initiative's] more successful projects'. Proposed indicators of the lasting legacy and impact of the project included:

- The uptake of recommendations from the stakeholder workshop held at the end of the project (in August 2001).
- Improved human-wildlife conflict management (ultimately manifested in a reduction in conflict incidences).

This appendix is intended to demonstrate progress against these indicators, and to update progress in other areas where the project has continued to generate impact and measurable outputs some three years after it formally ended.

Uptake of recommendations, and other research updates

Wildlife tourism in the Masai Mara

The Kenya Professional Safari Guides Association (KPSGA) has introduced a series of qualifications (bronze, silver and gold awards) for safari guides operating in the country. This is a major step forward in the development of professional standards within the industry at all levels. These qualifications are based principally on natural history and cultural knowledge, but issues regarding driver behaviour and reserve regulations are not being ignored.

These qualifications are gaining widespread support and endorsement within the tourism industry in Kenya, and it is hoped that this will help to reduce the ecological impacts of safari tourism throughout Kenya's natural areas. Many of the guides operating within and around MMNR are gaining these qualifications, and they are likely to become mandatory for drivers entering the Mara Triangle (see below). In conjunction, FoC have redeveloped their visitor code of conduct (guidelines for visitor behaviour whilst on safari) that is widely distributed to tourists in an accessible format. FoC have also developed a new road map of MMNR.

A major development, in May 2001, was the initiation of a partnership between TMCC and the Mara Conservancy, a not-for-profit organisation charged with managing the Transmara portion of MMNR, known as the Mara Triangle. Since the initiation of this partnership, the infrastructure and security in the Mara Triangle has increased immeasurably, as have reported incomes from visitor entrance fees. A well-defined network of murrum tracks, with clear signposts, has been developed for visitors in accordance with a clearly structured zoning plan for tourism development within the Mara Triangle. Strategies for tourism monitoring, management and diversification are being developed and implemented. Moreover, a significant part of the revenue from tourism is being reinvested in management activities. Whilst this partnership is still in its infancy, it is already yielding measurable success, and offers a model of public-private partnership for the rest of the ecosystem.

The tourism research conducted as part of the Darwin project continues to be used for practical purposes. Dr Geoffrey Karanja assisted the Mara Conservancy by undertaking an environmental impact assessment of proposed campsite developments in August 2003, in accordance with new statutory requirements within Kenya. This drew heavily upon his PhD research. In addition, the Project Officer was called upon to provide scientific evidence in a public inquiry into a proposed tourism development in the Narok side of the Reserve (see below).

Black rhino conservation

A recent review of the KWS black rhino programme found that the Mara population was one of the better known and understood, with a relatively high-quality monitoring programme (P. Demmers, *pers comm.*). The GPS monitoring conducted during this project has been maintained as part of an enhanced monitoring and database system implemented throughout the Kenyan rhino sanctuaries. Sadly, Sgt Phillip Bett, the Warden in charge of rhino surveillance, passed away in early 2003. This was a major loss, as his knowledge of and dedication to the Mara rhinos was unsurpassed. However, the monitoring continues, and the Project Officer was able to review the performance of the rhino population in August 2003. Although some deficiencies in monitoring were detected and highlighted, the population was found to be stable, with a number of new births in the past two years. This is an encouraging sign.

The improved security in the Mara Triangle through the efforts of the Mara Conservancy bodes well for a recovery of the black rhino population in that area. The single female currently residing in the Mara Triangle recently crossed to the Narok side and was observed mating with a male on that side of the Reserve, before returning to her usual range within the Triangle. This suggests that the two sides are not isolated, and may signify the beginning of a re-colonisation of the western part of the Reserve.

As noted in the final report of the project, the rhino research was presented at a workshop in 2000 to develop a new 5-year national strategic plan for rhino conservation and management in Kenya. This research, and the involvement of Project Officer in the planning workshop, thus served to influence national policy and strategy. The Project Officer was called upon again in early 2004 to provide evidence in an inquiry into a proposed tourism development in a sensitive region of MMNR. An external developer with political connections appeared to have secured an agreement to develop a new lodge, in contravention of an existing moratorium on development, despite major opposition from a wide range of other stakeholders. The rhino data from the Darwin project was able to identify the area as critical for rhino persistence within MMNR, and was used to develop a scenario of the likely impact of the proposed development. The submission of this evidence and analysis contributed to the rejection of the proposal, and the strengthening of the case for conservation in the face of commercial pressures.

Perhaps most importantly in terms of the uptake of project recommendations, cross-border collaboration with Tanzania has been initiated through a partnership with the Frankfurt Zoological Society, which supports rhino conservation in the Serengeti and Ngorongoro. Currently this partnership had yielded financial and material support for the NCC rhino monitoring programme in MMNR (including an additional vehicle as recommended). In June 2004, the Project Officer will visit FZS in the Serengeti in order to assist in the development of an integrated plan for conservation and management of the entire cross-border meta-population.

Human-elephant conflict mitigation

After the workshops in Transmara, a new follow-up project was implemented in the area with funding from WWF. This aimed explicitly to test a number of simple, cost-effective mitigation methods that could be used by farmers themselves to defend their crops. These included traditional deterrent and barrier methods, and novel innovations such as the use of chilli. Farmers are organising themselves into associations and practising communal guarding of front lines. Preliminary results indicate a certain amount of success (see below), and are being extended in a second follow-up project to be implemented, tested and demonstrated more widely.

As part of this project, a greater collaboration between KWS and communities has been initiated. KWS field rangers are more involved in monitoring and mitigating HEC than previously, although their efficacy remains limited by a lack of transport and other resources. Efforts are underway to enhance KWS involvement wherever possible. Moreover, the expansion of monitoring has been facilitated both spatially (into Narok District) and in terms of its coverage of different conflict issues (including livestock predation). This expansion is set to expand further, to incorporate communities in all of the group ranches surrounding MMNR, in the coming year.

Over the longer term, communities recognise that alternatives activities to farming that generate benefits from forest and wildlife are likely to be more sustainable. As a result, numerous communities have registered associations, with constitutions, to place conservation at the heart of their development aspirations. Two communities (Dupoto and Enkiorero) are already practising small-scale tourism, in terms of short walking trips and cultural tours, for visitors to MMNR. Another community (Lepolosi) has undertaken a pre-feasibility study for tourism development to alleviate human-wildlife conflict. In conjunction with these efforts, communities to the east of MMNR in Narok District are also registering associations and considering how they might use tourism to alleviate conflict. These communities are mindful of the problems and constraints that other areas have encountered regarding tourism, in particular the monopolisation of benefits by local elites. Community-based tourism has been widely promoted as a conservation and development panacea with little critical assessment, but still offers opportunities for communities if it is properly planned and executed as part of a wider conflict mitigation strategy.

Improved wildlife conflict management

The above sections demonstrate the practical use that much of the research has been put to, as well as providing evidence of the uptake of many of the recommendations from the stakeholder workshop at the end of the project. However, one of the greatest values of the project is in its capacity to demonstrate a direct impact on conflict, and to measure both its successes and failures.

Most conservation projects focus on implementation at the expense of research, monitoring and evaluation, which are often considered expensive and time-consuming distractions. Conversely, most research projects end prior to any implementation of their conclusions and recommendations. This project is of particular value because it began as a research project before extending into implementation, and because monitoring and evaluation were placed at the heart of its activities. By providing a baseline of environmental and socio-economic data, and a set of monitoring protocols around which follow-on interventions were based, the project has been able to evaluate its performance to an unusually high degree of precision and objectivity.

The best example of this is the work on elephant crop raiding. Continuous monitoring of crop raiding incidents in Transmara District over almost five years, before and after the implementation of recommended mitigation measures (early warning, communal guarding, the use of chillies and other deterrents), has provided a clear picture of their effectiveness. This has revealed that, whilst there has been an overall decline in crop raiding of around 33%, in areas where the project has supported particularly successful interventions crop raiding declined by 67%, despite an increase in the evidence of elephant presence in the area. This demonstrates a clear and tangible benefit for local communities. The next step, taking place in May – June 2004, is to undertake a follow-on social survey to identify whether local attitudes and perceptions towards elephants and conservation have improved as a result.

Other evidence of an extended legacy

Leverage

The original project ran from 1997 – 2001. This generated two follow-on community-based projects (Phase II) that ran from 2001 – 2003. Each of these projects has generated a further direct follow-on project (Phase III). Thus, besides some 100% matching funding during its lifetime, the project has leveraged over £574,000 in direct funding for follow-on projects.

What began as a research and training project has enabled successive rounds of implementation over expanded areas, with increasing numbers of beneficiaries. The Phase II projects enabled some of the findings of the initial research to be tested through small-scale intervention trials, alongside a preparatory phase in the development of sustainable livelihoods. The upcoming Phase III projects will enable more widespread implementation of successful conflict monitoring and mitigation methods, alongside the development of sustainable livelihoods and a move towards long-term financial sustainability for monitoring and mitigation activities.

Trainee outcomes

All of the trainees in the original project remain active in conservation. The two Darwin PhD Scholars successfully defended their dissertations in 2003. Dr Noah Sitati has continued to work on Phase II and III projects focusing in human elephant conflict, and is developing a growing reputation both nationally and internationally (see dissemination, below). Dr Geoffrey Karanja continues in his lecturing position at Moi University, and has retained an involvement in Mara tourism as an independent advisor to the Mara Conservancy. Both MSc students that were supported by the project also remain active as reported in the final report of the project.

Partnerships

The relationships between partners that were built up during the project continue to bear fruit. WWF has become increasingly active in the region, extending its inputs from the human-elephant conflict project to a wider Mara River Basin initiative that has consolidated and extended local partnerships. KWS is slowly becoming more locally involved in meaningful partnership activities. DRERS has been superseded by the International Livestock Research Initiative (ILRI) as a focus for remote sensing and ecosystem monitoring, and ILRI has worked hard to integrate and involve all stakeholders, including communities, in its activities. FoC has become increasingly effective as a local partner and facilitator, particularly with regard to communities and natural resource management.

A cheetah monitoring project is now being conducted by KWS, NCC and WWF in partnership. Equally, WWF are continuing to support the long term ecological monitoring within the Reserve. Such partnerships remain vital to assist the Reserve authorities by providing data on the state of the ecosystem.

The example set by the Darwin project with regard to widespread local dissemination and participatory planning has been taken up by ILRI and other organisations active in research and monitoring.

Research and Dissemination Outputs

Besides the outputs recorded in the final report, and those recorded in Appendix II of this report, the original Darwin project has achieved the following additional measurable outputs. These add considerably to the overall outputs of the project, and thus deserve to be recorded.

Code	Total to date (reduce box)	Detail (←expand box)
Research Outputs		
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	1 (human-elephant conflict mitigation plan)
10	Number of formal documents produced to assist work related to species identification, classification and recording.	
11a	Number of papers published or accepted for publication in peer reviewed journals	2 (with at least seven more in preparation or review)
11b	Number of papers published or accepted for publication elsewhere	1 (IIED workshop proceedings).
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	1 (HEC GIS database produced for WWF)
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	1 (IUCN/SSC AfESG African Elephant Database 2002)
13a	Number of species reference collections established and handed over to host country(s)	
13b	Number of species reference collections enhanced and handed over to host country(s)	
Dissemination Outputs		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	2 in total: ZSL ecotourism meeting, Feb 2002 ZSL conflict meeting, May 2003
14b	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/ disseminated.	6 in total: SCB, Jul 2002, Jul 2004 Student Conservation Conference, Cambridge, Mar 2003 Human elephant conflict conference, Sri Lanka, Sep 2003

Code	Total to date (reduce box)	Detail (←expand box)
		IUCN/SSC AfESG meetings, Kenya (2002), Namibia (2004)
15a	Number of national press releases or publicity articles in host country(s)	1 (Daily Nation)
15b	Number of local press releases or publicity articles in host country(s)	
15c	Number of national press releases or publicity articles in UK	1 (The Economist, Jul 2003)
15d	Number of local press releases or publicity articles in UK	1 (Kentish Gazette, Apr 2003)
16a	Number of issues of newsletters produced in the host country(s)	
16b	Estimated circulation of each newsletter in the host country(s)	
16c	Estimated circulation of each newsletter in the UK	
17a	Number of dissemination networks established	
17b	Number of dissemination networks enhanced or extended	
18a	Number of national TV programmes/features in host country(s)	1
18b	Number of national TV programme/features in the UK	
18c	Number of local TV programme/features in host country	
18d	Number of local TV programme features in the UK	
19a	Number of national radio interviews/features in host country(s)	1
19b	Number of national radio interviews/features in the UK	
19c	Number of local radio interviews/features in host country (s)	
19d	Number of local radio interviews/features in the UK	1

Appendix VI Logical Framework

Project summary	Measurable indicators	Means of verification	Important assumptions
<p>Goal</p> <p>To assist Kenya, and in particular local communities in the Serengeti-Mara Ecosystem, with the conservation of biological diversity and the sustainable management of biological resources.</p>	<p>Declining loss of local biodiversity, and recovery of endangered species.</p> <p>Greater local implementation of the CBD, in terms of number of Articles addressed.</p>	<p>Land use and biodiversity surveys as part of this study and ongoing monitoring.</p> <p>Evaluation against CBD criteria.</p>	<p>Continued peace and political stability in Kenya both nationally and locally.</p> <p>Continued community commitment to sustainable resource utilisation and conservation within and beyond the life of the project</p>
<p>Purpose</p> <p>To develop and implement a community-driven conservation, conflict resolution and ecotourism programme that will protect endangered wildlife and alleviate human-wildlife conflict outside the formal protected area network.</p>	<p>An increase in endangered wildlife populations, an increase in local benefits, and a decline in human-wildlife conflict incidents.</p>	<p>Wildlife sighting and formal monitoring records, community accounts and social surveys, conflict reporting records and monitoring data.</p>	<p>Continued community commitment to sustainable resource utilisation and conservation within and beyond the life of the project.</p> <p>An ongoing collaborative agreement by project partners to implement the exit strategy.</p>
<p>Outputs</p> <p>Through training and implementation, to establish a community wildlife monitoring and conflict resolution centre, and develop a plan for community-driven tourism development to support conservation and conflict mitigation.</p>	<p>Establishment of a centre that is staffed and operational.</p> <p>Improved monitoring of wildlife for conservation and conflict resolution in progress.</p> <p>Implementation of a tourism plan.</p>	<p>Written and photographic documentation and ongoing progress reports.</p> <p>Field reports and data gathered.</p> <p>Independent evaluation report, community vision, application(s) to donors and, if appropriate, legal partnership agreement.</p>	<p>Commitment by all partners to fulfilling the objectives of the project.</p> <p>Provision of sufficient development funds by the private sector partner.</p>
<p>Activities</p> <p>Train two local co-ordinators to MSc level at DICE.</p> <p>Train 20 local scouts in improved wildlife and conflict monitoring.</p> <p>Establish a local wildlife association with resource planning responsibilities.</p> <p>Produce a land use, tourism development and conflict mitigation plans.</p> <p>Establish a centre for wildlife and conflict monitoring.</p>	<p>The agreed number of candidates complete formal and on-the-job training courses within the agreed timetable.</p> <p>A wildlife association with legal status is established.</p> <p>Plans drafted.</p> <p>An wildlife and conflict monitoring centre is constructed.</p>	<p>Formal reports and certification, graduation by MSc students at DICE.</p> <p>Drafted constitution.</p> <p>Physical documents produced.</p> <p>Written and photographic documentation.</p>	<p>Availability of suitable and committed candidates for training.</p> <p>Continued community commitment to sustainable resource utilisation and conservation within and beyond the life of the project.</p> <p>Commitment by all partners to fulfilling the objectives of the project.</p>