



Final Report for Project 162/12/009

Darwin Field Station for Biodiversity
Research, Education and Training, The
Gambia, West Africa

October 1st 2003 – September 30th 2005

By Dr Linda Barnett, Prof. Susan Barker
and Mr Craig Emms

Darwin Initiative for the Survival of Species

Final Report

1. Darwin Project Information

Project Ref. Number	162/12/009
Project Title	Darwin Field Station for Biodiversity Research, Education and Training
Country	The Gambia, West Africa
UK Contractor	University of Warwick
Partner Organisation(s)	Makasutu Wildlife Trust (MWT)
Darwin Grant Value	£163,826
Start/End dates	October 1 st 2003 – September 30 th 2005
Project website	www.darwingambia.gm
Author(s), date	Dr Linda Barnett, Prof. Susan Barker and Craig Emms

2. Project Background/Rational

This project is located in The Gambia, West Africa in the protected area of Abuko Nature Reserve. The project was specifically designed to start to address some of the priorities raised in The Gambia National Biodiversity Strategy and Action Plan (2001) which recognizes that much of the biodiversity loss in The Gambia is due to lack of awareness, lack of reliable data and the necessary human and economic resources to undertake effective resource planning and management. Research, training and institutional capacity building are highlighted as priority areas. The Biodiversity Strategy and Action Plan is a national consensus document produced with input from many stakeholders, including government departments involved in natural resources management and planning, NGOs and local communities. The Darwin project proposal was prepared in consultation with the in-country partner to the University of Warwick, the Gambian NGO Makasutu Wildlife Trust who liaised with the in-country collaborators and obtained letters of support from them: three government departments (Parks and Wildlife Management, Forestry, and Community Development), the National Agricultural Research Institute, the National Environment Agency, the University of The Gambia, Gunjur Environmental Protection and Development Group, and Makasutu Culture Forest.

Makasutu Wildlife Trust is a dynamic wildlife conservation organisation in The Gambia whose aim is to conserve the biodiversity of The Gambia and encourage a greater awareness, appreciation and participation in all aspects of biodiversity, its conservation and sustainable use of the environment, through the active involvement of local communities. As such it is well known and well respected by the collaborating organisations in the project and thus a suitable in-country partner to the project.

This project aims to raise the capacity among government, NGOs and civil society to manage, conserve and monitor biodiversity, through i) providing an

established centre for training of trainers, ii) providing a focus for biodiversity research and iii) producing a variety of education material about The Gambia's biodiversity.

3. Project Summary

The logical framework for this project is included in appendix 1.

Purpose of Project

Building the capacity of relevant personnel in The Gambia to assess and monitor biodiversity, undertake research on species, habitats and ecosystems and disseminate information to a variety of audiences.

Outputs

Partner organisation able to run training courses and provide facility to undertake, stimulate and facilitate research.

The Darwin Field Station, which serves as a focus for biodiversity research, training and education in The Gambia was built on land donated by the Government of The Gambia . An existing building was extended and extensively renovated (completed July 2004) and began to provide *training of trainers* courses in September 2004. The Darwin Field Station was officially opened on 20th October 2004 by the Permanent Secretary of the Department of State for Fisheries, Natural Resources and the Environment, receiving substantial coverage from the TV, radio and newspaper media. Basic self-catering accommodation for eight researchers has been built in a fenced compound located in the buffer zone of Abuko Nature Reserve (ANR) on land also donated by the Government of The Gambia .

The partner organisation to the University of Warwick, MWT, a Gambian NGO is committed to running the field station (and training courses) and researchers accommodation during and after the end of the project. To this end, staff from MWT and the government departments of Department of Parks and Wildlife Management, Forestry, Fisheries, and Community Development, National Environment Agency and a local consultancy firm NACO were trained as trainers in September 2004 and March 2005 by the University of Warwick project leader Dr Linda Barnett and Mr Craig Emms, Executive Director of MWT. This has enabled subsequent training courses to be effectively *Gambianised*. 10 staff from 8 partner organisations have been trained as trainers in ecology and biodiversity assessment techniques. Subsequent step down courses provided by the Gambian trainers have resulted in 70 individuals from ten government departments and eleven other organisations (including NGOs, ecotourism projects) attending courses at the Darwin Field Station. A further advanced course for the training of trainers was run in September 2005 to deepen the understanding of the trainers in biodiversity issues. During the step down training courses MWT staff provide both logistical support (audio visual aids, lecture note handouts, breakfast and lunch) and some lectures on the training courses, whilst the other trainers now deliver relevant lectures. The Darwin Field Station has now delivered three types of course: an introductory course on the concept of biodiversity and the natural resource laws in The Gambia; a technical course covering research techniques and recording; an advanced course on biodiversity indicators, conservation management (including preparation of management plans) and writing proposals and monitoring and evaluating biodiversity projects. The content of the courses was developed in a participatory manner at

workshops attended by the projects partners (minutes of workshops submitted with second annual report). A needs assessment placed emphasis on delivering the *Biodiversity, National Environmental Policy and the Law* course since there is such a great general lack of awareness about biodiversity in The Gambia. It also provided an ideal opportunity for the continuous training of trainers, reflective practice and direct and immediate feedback from the University of Warwick project leader and Executive Director of MWT, Mr Craig Emms each time the step down courses were run.

As well as proving to be committed to the training courses being run at the Darwin Field Station, trainers have also incorporated their new knowledge and skills into their own work programmes e.g. in house training schemes, community meetings and field work. We obtain regular feedback from our trainers and it was specifically sought in the advanced course and in-country evaluation of the project. In particular, the Department of Forestry and Community Development have incorporated material from the Darwin courses into their own training courses (e.g. departmental training courses at Kafuta Forest College run by the Department of Forestry and the Rural Development Institute run by the Department of Community Development). Of the initial ten trainers that were trained, seven remain with the project. Two have left The Gambia to take up other opportunities and one, although still working with a government department could not continue with the project. One of our trainers who has gone on placement from the Department of Forestry to work on a joint forestry project between Senegal and The Gambia has specifically requested to remain a trainer on the courses at the Darwin Field Station.

Since the project started 16 Gambian and 8 European individuals (from the UK, Germany, Holland, France and Hungary) have undertaken research in Abuko Nature Reserve on biodiversity (increase of 600% in 3 years since 2002). The research has varied from short one day projects as part of the research skills course (e.g. pilot projects on primate behaviour, insect and bird activity, economic evaluation of forest resources) through to longer term inventory and monitoring projects by MWT staff and desk top research in the resource centre (e.g. vegetation inventory and monitoring, amphibian and reptile survey and monitoring, butterfly transect, moth and beetle inventory, country species list).

The Darwin Field Station is now fully equipped to provide researchers with basic laboratory facilities and a resource centre. The field station has mains power with a back-up generator and mains water. Promotional material to raise awareness of the centre and to encourage researchers to work at the Darwin Field Station has been developed and distributed. The material can easily be regularly updated and sent via post or email.

In addition to the field work and research based in Abuko Nature Reserve, literature on the flora and fauna of other areas of The Gambia has been collected and filed in the resource centre in the Darwin Field Station. This has enabled us to prepare the first comprehensive species list for the country (of only about 3,360 species) which has now been distributed widely in The Gambia. The species list is available to view and download from the website, and is being sent as a hard copy together with the final report.

Digital photographic database produced and information on the biodiversity of The Gambia disseminated.

Over 600 images have been taken so far as part of the Darwin project. These have been used to produce the field guides, the website (including a pictorial database) and promotional material e.g. a photographic display in the public area of the Darwin Field Station about the Darwin project raises awareness about biodiversity and conservation in The Gambia, a calendar poster for 2006 and postcards to promote the project and the website.

Information on Gambian biodiversity has been disseminated to local communities via the website and national newspaper articles, radio and TV programmes, whilst partners to the project receive information through training courses, reports and workshop meetings. Three articles have been published in University of Warwick publications (University of Warwick newsletter *Communicate*, *Warwick Graduate News* and *Gibbet* (Department of Biological Sciences newsletter), and the Conservation News section of *Oryx* (January 2005, Vol 39 Number 1). The project is featured on a British Ecological Society (BES) poster and the BES Teaching Ecology newsletter (issue 30, winter 2004). The Gambia Darwin Initiative project was also featured in an article in *Landscape Magazine* (March 2005).

Information about Gambian biodiversity will be disseminated via four scientific publications (see below) and the easy to use field guides, half of which are being distributed free to schools throughout the country (reported in the Daily Observer, National News, July 21st 2005) and the Point.

Publications and Presentations

During the project, four field guides on the common butterflies, mammals, reptiles and amphibians of The Gambia, and a national species list (copies enclosed) have been developed and published.

The first biodiversity research symposium in The Gambia took place on 26th May 2005. It was opened by the SOS for Forestry and the Environment and chaired by the Permanent Secretary for the same Department of State. The opening of the symposium was broadcast on TV, and several of the presentations were broadcast on the radio. The symposium was covered by the national newspaper, the Point. As well as presenting papers on the day, speakers were encouraged to write a scientific paper for a proceedings to the symposium (copy enclosed), which all but one managed to do. The proceedings have been distributed widely. Speakers included staff from the government departments of Parks and Wildlife Management, Forestry, Fisheries, the National Agricultural Research Institute and the local NGO Makasutu Wildlife Trust.

The project will also result in four scientific publications; one on the amphibian fauna of The Gambia and one on the reptile fauna of The Gambia which have been submitted to the Bulletin of the British Herpetological Society (hard copies enclose with the final report), one currently being prepared on the diversity and abundance of butterflies at Abuko Nature Reserve and one currently being prepared on capacity building in biological conservation projects using The Gambia as a case study.

TV and Radio Broadcasts

The official opening of the Darwin Field Station was covered by Gambian TV and radio media, and serialised on the radio. As part of the ongoing radio broadcasts, the Darwin team and staff from the national radio channel Radio Gambia wrote and produced a drama script on biodiversity (English script attached in second annual report) which was broadcast on the radio in the three local languages. The dramas were repeated three times over a period of three weeks on the radio and followed by a national *phone in* to an expert panel who answered enquiries about biodiversity.

An ex-BBC film producer volunteered two weeks of his time to film and produce a video/DVD on the activities of the Trust and the Darwin project. This film is now complete and currently being translated into local languages and Gambia Radio and Television Service (GRTS) has committed itself to broadcasting the film on national TV. A copy of the English version of the DVD is enclosed.

Modified Operational Plan

At the beginning of the project in October 2003, we experienced a three month delay in starting and a subsequent change of location of the project, due to political issues with the Gambian government. A large amount of the in-kind funding to be provided by a project partner was withdrawn as a result of these political interventions. The Government of The Gambia donated a building to the project but this required substantial renovation and considerably more time and resources to bring it up to standard to be a centre for biodiversity research than was originally planned. This was mainly due to the location and nature of the building - a large shed at the end of a 300m pathway in Abuko Nature Reserve. All materials for the building renovation had to be transported by wheelbarrow along a sand path. Approval from the Darwin Secretariat for the changes was secured before they were implemented.

The construction of the researcher's accommodation also took longer than originally planned due to delays in the Gambian bureaucracy especially concerning the Environmental Impact Assessment. The accommodation was completed at the end of July 2005.

The delay in the start of the project resulted in some activities and outputs being behind schedule. This had implications in the amount of budget spent at the end of each financial year. The amounts carried over at the end of each financial year have been detailed in the previous annual reports and approved by the Darwin Secretariat. The main amounts carried forward from 2003/4 to 2004/5 were £15,178 from the capital budget to complete the field station and accommodation and buy field equipment, £2186 salaries to cover MWT staff costs and training courses and £1385 travel and subsistence, mainly to cover travel expenses for participants on training courses. At the end of the second year (18 months into the project), £6500 was carried forward; £1500 of the capital budget to cover the cost of completing the accommodation, £1500 of the printing budget to cover the cost of printing the last field guide and training manuals, £1500 of salaries and £2000 for the biodiversity symposium. During the last year, due to savings made in printing, £260 was transferred to pay for the web hosting fee for the project website. All amounts have been agreed with the Darwin Secretariat prior to the year end.

In July 2004, Prof Susan Barker (original project leader) moved from her position at the University of Warwick to the University of Alberta, Canada. Upon discussion with the University of Warwick and the Darwin Secretariat, it was agreed that Dr Linda Barnett should become project leader with Dr Barker playing a supportive role on the project. This change meant that the project was not held up unduly.

The Gambia project is focused on biodiversity research, education and training and is thus best described by Articles 7, 12, 13 and 17 under the Convention on Biological Diversity.

Most project outputs have been achieved. The Darwin Field Station is now built, equipped and up and running. It has been officially opened and has hosted two 10 day training of trainers courses, one on *Biodiversity, National Environmental Policy and the Law* and one on *Research Skills*, and one five day advanced training course on *Biodiversity Indicators, Conservation Management (including preparation of management plans) and Writing Proposals and Monitoring and Evaluating Biodiversity Projects*. Training manuals have been produced and distributed for the training courses. Five step down courses have also been run when trainers from the original courses have trained other Gambians. This means 80 Gambians have completed training courses at the Darwin Field Station. Accommodation for eight researchers has been built in the buffer zone of the reserve and eight overseas researchers have stayed and undertaken research to date.

There has been an increase in the number of researchers working on biodiversity in The Gambia. This includes trainers attending the research skills course, two staff from the Department of Parks and Wildlife Management and MWT staff who are undertaking a butterfly transect, an amphibian and reptile monitoring project using drift fences, and an inventory on the birds using observations of visitors and local bird guides together with their own observations. They are also producing images of the flora in the reserve for the digital database. The reptile and amphibian survey and monitoring fieldwork has been incorporated into two publications describing the reptile and amphibian fauna of The Gambia, and it is anticipated that more publications will also be completed in the near future. To date researchers at Abuko Nature reserve have produced a variety of data, including a photographic identification guide for the bushbuck antelopes, preliminary data on the Savannah Dormouse population living in the Darwin Field Station, and the start of the herbarium (containing 81 specimens) with photographic backup of the pressed specimens, flowers, leaves and natural habitats. We have produced promotional material to encourage research on the biodiversity of the Gambia at Abuko Nature Reserve (hard copy enclosed). It has been sent out to many UK institutions that offer ecology and wildlife conservation courses. Similar institutions in the USA have also been contacted.

We have now produced four field guides (on the common butterflies, mammals, reptiles and amphibians) and a project website full of information about Gambian biodiversity which is regularly updated. An additional output of the project has been the publication of a column entitled "Focus on Wildlife" in the national paper Daily Observer, where we are able to talk about various aspects of biodiversity. Copies of these articles have been submitted with the last report.

The evaluation workshop for the project was not attended by all in country partners (representatives from the Department of Wildlife Management, National Environment Agency, Department of Community Development, Makasutu

WildlifeTrust, GEPADG, NACO and University of Warwick were present – see copy of minutes in appendix 2). This project has a large number of in-country partners and thus was logistically difficult to get senior members of all partners to meet together for such events as evaluation workshops. As a compromise solution, Dr Barnett visited the partners that were not able to attend the evaluation workshop to obtain individual feedback from the organisations and government departments concerned (Departments of Forestry, Fisheries, NARI and University of the Gambia).

One area where the project has not achieved a satisfactory objective is the provision of a strong and definite exit strategy. The sustainability of such projects in developing countries is a challenging area to address. However, researchers that visit and come to work in ANR pay a fee for their accommodation which helps provide wages and running costs for the accommodation and field station. The number of researchers is increasing and if this continues, part of the fees collected may be able to provide an amount to run training courses at the Darwin Field Station. Makasutu Wildlife Trust is committed to obtaining funding for future activities at the Darwin Field Station, but has only had limited success to date. In the next few months the field station will be hosting five training courses with funding secured by Makasutu Wildlife Trust which is targeted at ecotourism. Three of the courses are aimed at ecotourism guides whilst the remaining two courses will provide biodiversity training for local decision makers around Abuko Nature Reserve and the national media. Further funding needs to be secured to enable trainers to continue their training, further training courses to be run and a broader audience to be reached with the training material collected and created during the project.

4. Scientific, Training and Technical Assessment Research

The research carried out under the Darwin project has been diverse, mainly concentrating on an ecological assessment of the flora and fauna in Abuko Nature Reserve. This has also provided an ideal training opportunity in field survey techniques and taxonomy.

Flora

Six permanent study plots have been set up in the reserve (100mx100m) for training purposes and long term monitoring, two in gallery forest, two in guinea savannah and two in the degraded habitat of the buffer zone. 90% of the plant species in the plots have been identified and a 20mx20m section of each plot which is usually used for training purposes has been mapped in detail (including position and girth measurements). Those plants that remain unidentified have been collected and pressed in order that they can be identified by the Royal Botanical Gardens at Kew, London.

In addition, 3 specimens each of 81 plant species have been collected from the reserve, pressed and preserved. One set will be forwarded to Kew for identification leaving a permanent herbarium collection at the Darwin Field Station for use by researchers. Each plant species in the herbarium collection has been photographed in its pressed state and in situ.

Fauna

The amphibians and reptiles of Abuko Nature Reserve have been studied in detail with the aid of drift fences set up in gallery forest and Guinea savannah

habitats. The data have allowed the Darwin team to observe the variation in abundance and diversity of these faunal groups throughout the year as well as make discoveries of new species in the reserve. The Darwin team has worked with M-O Rodel from Wutzberg University who has facilitated the identification of photographed amphibian specimens. M-O Rodel is a co-author on the amphibian paper submitted to the British Herpetological Bulletin. Similarly the Darwin team has worked with experts to identify reptiles in Abuko Nature Reserve (G. Schneider at Michigan University, USA and B. Hughes at the British Museum of Natural History). The latter kindly commented on the manuscript before it was submitted to British Herpetological Bulletin. Both papers have made a significant contribution to our knowledge about the herpetological fauna in West Africa.

Data have also been collected on the distribution and abundance of butterflies in the reserve through devising a butterfly transect and undertaking weekly counts. Both the Darwin project leader and executive director of MWT have experience in this faunal group in The Gambia, but also liaise with the West African specialist Torben Larsen. The observations over the last two years will be included in a paper shortly to be submitted to the Journal of Insect Conservation.

Training and Capacity Building Activities

MWT Capacity Building

The training of MWT staff has been continuous, and the project leader has based the training and field activities of the project around producing relevant outputs (e.g. designation and vegetation survey of the permanent monitoring plots, photographic database, amphibian, reptile and butterfly survey). In the case of the reptile, amphibian and butterfly research members of staff from the Department of Parks and Wildlife Management have also been invited to join in the training.

Training of Trainers Courses

Participants for the *training of trainers* courses were originally selected by consultation of the project leader with Directors of relevant government departments and organisations. Individuals were selected who would have a lot of direct contact with their peers at work and local communities e.g. extension workers and lecturers at training colleges, as this would ensure a wider and more significant impact. Such people have also had the experience of turning knowledge into practical applications on the ground, thus encouraging a more sustainable approach to natural resource use.

Each participant on the training of trainers courses completed a pre-course assessment prior to the course for their knowledge, and again mid point and at the end of the course. This provided the basis for a grade for each participant at the end of the course. Each participant also undertook a personal audit and journal to aid self-assessment. On the advanced course the University of Warwick staff were very aware of creating animosity between senior staff through difference in grades and it was decided to award a certificate to participants reaching a predetermined level on the post course assessment. All participants reached this level.

Longer-term trainee outcomes were monitored through MWT management and evaluation and periodic evaluation by the project leader. The project leader also gave direct and instant feedback to trainers lecturing on the step down training courses. Evaluation of trainers was carried out through workshops where trainers

are invited back to evaluate their own performance during the previous 12 months and give feedback on ways to improve it e.g. training/retraining in particular areas.

Step down Training Courses

Selection of the participants for the step down courses was carried out by the Directors of the government departments and organisations concerned in response to criteria set out in an invitation letter i.e. personnel active in the field and able to disseminate information as part of their every day activities. Pre- and post course tests of ascertained the impact on cognitive aspects i.e. how much knowledge they have gained during the courses. Of the 80 course participants, 13 failed, 28 passed (45-59%), 18 achieved a credit (60-69%) and 21 achieved a distinction (70+%). The long term impact was assessed through a questionnaire to participants three months after the course. The responses showed that the information is being used by participants in their daily work schedules (e.g. community meetings, departmental/organisational capacity building).

Biodiversity Symposium Proceedings

In country biodiversity research in The Gambia is still in its infancy and this is reflected in the capacity of local researchers to write up and present their results in scientific papers and oral presentations. As part of the Darwin project, detailed mentorship and guidance on the writing of all of the papers included in the symposium proceedings and oral presentations at the symposium was given.

5. Project Impacts

The major evidence that the project achievements have led to accomplishment of the project purpose is the presence of the Darwin Field Station. It is the only institution in The Gambia providing training courses about biodiversity, its assessment and management. As such it is a critical institution as there is still a great gap in public awareness about biodiversity and its value (including politicians), and in general, government and NGO staff have very little knowledge about biodiversity. In the same vein, the project has also highlighted a dearth of research skills, ranging from proposal writing through to specialised taxonomic and field skills. The Gambia needs the Darwin Field Station. However it is unrealistic to think of government providing even part funding towards its running costs, and MWT continues to source funding opportunities through additional projects to enable it to run courses.

The project has also created a large amount of educational material about the biodiversity of The Gambia including the field guides and website. Half of the field guides produced have been distributed to schools in The Gambia.

The lack of capacity in biodiversity skills and lack of information is one area that is holding The Gambia back in addressing the conservation of its biodiversity. In this way the project has started to address these areas. It has increased the capacity and confidence of 80 individuals, and particularly 21 as trainers. The multidisciplinary nature of the courses has also provoked discussion and collaboration between different sectors which is very badly needed. One area that has particularly benefited practically from the capacity building is environmental impact assessment activities co-ordinated by the National

Environment Agency by providing a greater understanding of the impacts of development on biodiversity. Staff of Makasutu Wildlife Trust have also helped to control the degree of illegal activities occurring in Abuko Nature Reserve due to their presence and patrolling of the area.

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 that integrate conservation and sustainable use.
7. Identification and Monitoring	10	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that 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		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		Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
12. Research and Training	65	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	20	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		Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on

Adverse Impacts		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	5	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%	

Trainers

Of the 12 trainers trained on the original *training of trainers* courses, 2 have left The Gambia and 1 is on a work placement. All trainers have positions in their departments and organisations which mean that they interact with other department or organisational staff and local communities.

Biodiversity, National Environmental Policy and the Law

Name	Organisation	Current Occupation
Kawsu Jammeh	Department of Parks and Wildlife Management (DPWM)	Wildlife Officer
Ebor Sarr	DPWM	Training outside The Gambia
Sarjoh Fatajoh	Dept. Forestry	Work placement
Binta Kinteh	National Environment Agency (NEA)	Communications Officer
Ousman Barrow	Dept .Forestry	Training in Germany
Kaliman Camara	NACO	Extension Forestry Worker with local

		consultancy firm
Famara Darboe	Depart. Fisheries	Senior Fisheries Officer
Lamin Jarjusey	Department of Community Development (DCD)	Trainer at Rural Development Institute
Saidie Cham	DCD	Trainer at Rural Development Institute
Malang DK Jambang	Makasutu Wildlife Trust	Field Section Head
Ousman Bah	Makasutu Wildlife Trust	Field Officer
Binta Mankali	Makasutu Wildlife trust	Field Officer

Research Skills Course

Additional Trainees

The following trainees are playing an active role in their respective organisations and departments.

Mawdo Njai	West African Bird Study Association	Field Officer
Modou Touray	NEA	EIA Officer
Abdoulie Sawo	DPWM	Wildlife Officer
Lamin Momodou Njie	Dept. Forestry	Lecturer at Kafuta Forestry college
Ebrima Savaneh	DCD	Research Unit
Lamin Sonko	National Agricultural Research Institute (NARI)	Scientific Officer
Dembo Darboe	Gunjur Environment protection and Development Group (GEPADG)	Field Officer

Advanced Training

Name	Organisation	Current Occupation
Saikou Jatta	DCD	Lecturer at Rural Development Institute
	University of The Gambia	Lecturer
Mawdo Jallow	DPWM	Wildlife Officer
Alhagie Cham	The Association for Non Governmental Organisations	Principal Officer

Sulayman Jabang	GEPADG	Field Officer
Yankuba Sanneh	NARI	Research Field Officer

The University of Warwick's local partner is the NGO Makasutu Wildlife Trust. The collaboration between the two organisations has been excellent, and the full time presence of the project leader has allowed on going capacity building throughout the project. The involvement of the University of Warwick also allowed an easier access to high quality books, laboratory and field equipment than would have otherwise been possible.

Socially many people have benefited from the project. Directly, these include the organisation Makasutu Wildlife Trust and its staff, and all trainers and course participants on the training courses. Meals cooked for the courses are provided by local people and the visiting researchers use the local market and shops to buy food and drinks. Gambian construction workers including carpenters, masons, electricians, plumbers and labourers all benefited during the building and renovation phases of the project. Books have been distributed to many schools and the improvement in the infrastructure (renovation of the old education centre to the Darwin Field Station) at the freshwater pools improves the visitor experience and interpretation.

There has been an increase in the cross-sectoral interactions through dialogue on the courses and workshops held at the Darwin Field Station. In addition Makasutu wildlife Trust has also established very strong links with a variety of government departments. There has also been a positive impact on the local communities that the trainers interact with on a day-to-day basis.

6. Project Outputs

Code No.	Quantity	Description
5	3	Continuous training to MWT Gambian staff throughout the project by project leader.
6a	85	Training of trainers courses and step down courses
6b	3	Training of MWT staff in identification of marine turtles, flora, amphibians, reptiles, general research skills, presentation and report writing, butterfly identification and transects
7	5	Biodiversity, National Environmental Policy and the Law, Research Skills, Biodiversity Indicators, Conservation Management (including preparation of management plans) and Writing Proposals and Monitoring and Evaluating Biodiversity Projects.
8	104	Project Leader full time on project
10	7	National species checklist, project website, field guides on common butterflies, mammals, amphibians and reptiles, Proceedings of the Biodiversity Research Symposium 2005
11a	2	2 papers submitted to British Herpetological Bulletin
13a	2	Flora and amphibians

14a	1	1 st Biodiversity Research Symposium in The Gambia
14b	1	International Butterfly Conservation Symposium when one poster and one paper were presented.
15a	14	Covering the official opening of the Darwin Field Station, delivery of the Research Skills course, Biodiversity Symposium and distribution of books to schools. 12 Focus on Wildlife articles in national paper Daily Observer.
15b	6	2 press releases picked up by Coventry Evening Telegraph. Articles published in 3 separate University of Warwick magazines, Landscape, British Ecological Society teaching newsletter, Oryx Conservation News
16a	3	Makasutu Wildlife Trust newsletter is issued three times a year.
16b	300	
16c	50	
18a	4	Covering the launch of the project, official opening of the Darwin Field Station and biodiversity symposium. DVD of Darwin project and MWT activities
19a	14	Serialized coverage of the opening of the Darwin Field Station plus three repeats of a radio drama (each in 3 local languages), making 9 in total with a telephone panel discussion.
20	53,933	Value of physical assets handed over to host country
21	1	Darwin Field Station for research, education and training with researchers accommodation
22	6	In Abuko Nature Reserve
23	2,901	British High Commission for office furniture etc. for the Darwin Field Station and researcher's accommodation.
	1,000	Field guide on the common butterflies of The Gambia from Standard Chartered Bank

Table 2: Publications

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (e.g. contact address, website)	Cost £
Book*	Common Butterflies of The Gambia L. Barnett, C.Emms and M.Newport 2004	Darwin Field Station, The Gambia	P.O. Box 2164, Serrekunda, the Gambia	2.50
Book*	Common Mammals of The Gambia C.Emms and L	Darwin Field Station,	P.O. Box 2164, Serrekunda, the Gambia	2.50

	Barnett 2005	The Gambia		
Book*	Common Reptiles of The Gambia L Barnett and C.Emms 2005	Darwin Field Station, The Gambia	P.O. Box 2164, Serrekunda, the Gambia	2.50
Book*	Common Amphibians of The Gambia L Barnett and C.Emms 2005	Darwin Field Station, The Gambia	P.O. Box 2164, Serrekunda, the Gambia	2.50
Report*	Species checklist for The Gambia C.Emms and L Barnett 2005	Makasutu Wildlife Trust	www.darwingambia. gm	
Training Manual	Biodiversity, National Environmental Policy and the Law Training of Trainers Manual Edited by L Barnett 2004	Makasutu Wildlife Trust	P.O. Box 2164, Serrekunda, the Gambia	
Training Manual	Biodiversity, National Environmental Policy and the Law Step down Training Manual Edited By L Barnett 2004	Makasutu Wildlife Trust	P.O. Box 2164, Serrekunda, the Gambia	
Training Manual	Research Skills Training of Trainers Course Edited by L Barnett 2005	Makasutu Wildlife Trust	P.O. Box 2164, Serrekunda, the Gambia	
Training Manual*	Biodiversity Indicators, Conservation Management (including preparation of management plans) and Writing	Makasutu Wildlife Trust	P.O. Box 2164, Serrekunda, the Gambia	

	Proposals and Monitoring and Evaluating Biodiversity Projects Training of Trainers Manual Edited by L Barnett and C Emms 2005			
DVD*	Conservation and education of Biodiversity in The Gambia	Makasutu Wildlife Trust	P.O. Box 2164, Serrekunda, the Gambia	4.00
Report	Biodiversity research Symposium Proceedings 2005	Makasutu Wildlife Trust	P.O. Box 2164, Serrekunda, the Gambia	

All the project outputs were achieved by the end of the project. Information relating to project outputs was disseminated via workshops, meetings and popular articles published locally and on the website, www.darwingambia.gm. The Darwin Field Station itself is also pivotal in disseminating information as it receives a lot of visitors who come to Abuko Nature Reserve including school children. Makasutu Wildlife Trust is committed to finding the funds to continue the dissemination process.

7. Project Expenditure

Project expenditure during the project

Item	Budget (please indicate which document you refer to if other than your project schedule)	Expenditure

All the following revisions to the budget have been agreed with the Darwin Secretariat; UK salary costs have been increased for inflation; office costs increased by moving 1500 from printing; printing costs decreased by savings made on printing costs, moving 1500 to stationery and 260 to fund the hosting of the project website for 2006/7.

8. Project Operation and Partnerships

The initial plan for partnership centred around the University of Warwick and Makasutu Wildlife Trust collaborating with the government departments of Parks and Wildlife Management, Forestry and Community Development. The project was developed in consultation with the in-country partners and letters of support were obtained from them. During the project more government departments have come on board with trainers for the training courses including Fisheries, NARI, NEA and local NGOs, TANGO, WABSA and GEPADG, and a local consultancy firm involved in extension work NACO. In all other activities on the project MWT was the main and most active local partner to the University of Warwick in the project. Makasutu Wildlife Trust is a well respected and active NGO in The Gambia working in the field of biodiversity conservation, education and research. Partners were involved in project planning and implementation through meetings and workshops.

Plans were modified significantly at the beginning of the project with the re-location of the centre at the insistence of the Gambian government. This affected the sustainability of the project in that in-kind funding originally offered by Makasutu Culture Forest, an in-county partner was withdrawn with the move to Abuko Nature Reserve. Consultation with local partners has been via meetings, reports and workshops, which have always included members of the Department of Parks and Wildlife Management, the focal point for the Convention of Biological Diversity in The Gambia. The major input of the in country partners has been into the content and logistics of the training courses.

Over the project, three international partners participated in project activities: Mr Martin Cheek, Royal Botanical Gardens, Kew, London and Mr Mark-Oliver Rodel, Wutzberg University and Dr Jan Piet Bekker, Dutch Society for the Study and Conservation of Mammals (VvZ).

Since the project end, the Darwin Field Station has run a further seven courses with the trainers from the Darwin project with funds sought and obtained by Makasutu Wildlife Trust. The MWT staff continue with the research started during the project and MWT have one student from the Gambia College currently undertaking a project with them. There is a need for more community participation and a role for the private sector especially with regard to the running of training courses.

9. Monitoring and Evaluation, Lesson Learning

The project has mainly been evaluated through tangible outputs. At the end of the project there now exists in The Gambia a facility, which can provide biodiversity training and a focus for biodiversity research. Makasutu Wildlife Trust remain committed to finding funds to keep the Darwin Field Station running for local and international researchers and providing training courses. The government departments and organisations that provide trainers are also committed to continue allowing these trainers to undertake training activities. The capacity of MWT has been substantially increased during the project but the

Executive Director of Makasutu Wildlife Trust remains a key player in ensuring the continuing success of Darwin Field Station.

21 trainers have been trained on the *training of trainers* courses and a further 59 individuals trained in biodiversity step down courses.

With regard to the training courses and trainers additional measures were implemented to assess their contribution to the project.

Pre and post- course knowledge assessments gave a measure of cognitive gain. Of the 80 course participants, 13 failed, 28 passed (45-59%), 18 achieved a credit (60-69%) and 21 achieved distinction (70+%). Longer term impact was assessed through a questionnaire three months after the course. The responses show that the information is being used by participants in their daily work schedules (e.g. community meetings, departmental capacity building). In the advanced course we also provided a session for trainers to reflect on their training and how they have used it practically, including any gaps.

We have also found that by providing course participants with the opportunity to give us feedback we have made our courses much more participatory.

The project has also provided a variety of education materials including the easy to use field guides, website and articles in the national newspaper. All outputs of the project have been achieved despite the delayed start of the project and as such the project represents good value for money. A substantial amount of ecological information has been collected on Abuko Nature Reserve, which will feed into the management plan that is currently being written.

We organised 3 workshops during the project to disseminate information about activities and obtain feedback and input for the training courses. During the final evaluation project we received much praise for the training courses, in combination with concern about the sustainability of the project.

A variety of problems faced us in The Gambia project. Fundamental to this is the general poverty existing in the country and the whole sub-region. Biodiversity is still not a high priority in The Gambia compared with areas such as education and health and there is little understanding about its value to everyday existence. There is still almost a complete lack of capacity in the country to manage the country's natural resources and especially floral and faunal biodiversity. During the Darwin project we had to start our education about biodiversity from scratch, and have attempted to educate people to the fact that if they look after their biodiversity it can improve the quality of life. Added to a lack of capacity is the fact that the Government of The Gambia wishes to retain control in the natural resource sector and is finding it difficult to accept and work in partnership with an NGO. Restrictions have been placed on the project (e.g. location of the Darwin Field Station) – which have also affected the long term sustainability of the project – originally the in-country partner of MWT, an ecotourism venture Makasutu Culture Forest had offered funds to help with the running costs of the field station once the project had finished; the government is unable to provide this type of support. MWT has also experienced attempted censorship over what it says about protected areas and a lack of motivation in the Department of Parks and Wildlife Management staff in learning new field skills. We have attempted to address these problems through dialogue, participation and a lot of patience to push things forward. It is a credit to the dedication of the staff of MWT and especially it's Executive Director that this project has achieved so much despite delays and the short length of the project.

In addition to the lack of capacity, communication between and especially within government agencies is poor. Despite great efforts to keep all partners informed about the project we have still been criticised of not doing so. Most of this criticism originates from the Department of Parks and Wildlife Management, which is in stark contrast to our other in country collaborators who have been completely satisfied with our communication strategy.

Attitudes in The Gambia cannot be changed overnight. There needs to be patience and dialogue with a willingness to listen and compromise on both sides. The Government have had a monopoly on natural resources for a long time and are very suspicious of NGO organisations and outside donors in this area.

10. Actions taken in Response to Annual Report Reviews

The reviews have been shared and discussed with staff of Makasutu Wildlife Trust.

Actions taken in response to reviewer's comments include the installation of a stand by generator in the Darwin Field Station and inclusion of relevant documents with reports which had previously not been included as an oversight.

In response to the reviewer's comments about the involvement of rural communities, from the beginning the project specifically included members of staff from the Department of Community Development (DCD), Forestry and NACO since these people have a lot of experience in dealing with community issues on the ground. The DCD trainers in particular were invaluable in their input during training courses with this regard, together with staff from the National Environment Agency. During the advanced course we also invited a member of staff from the University of The Gambia to be trained as a trainer.

As requested by the reviewer, we have **not** resubmitted copies of previously submitted supporting documentation with this report.

11. Darwin Identity

A great deal of effort has been made to publicise the Darwin Initiative during the project. The Darwin logo was used on all reports and publications, T-shirts and publicity materials.

The profile of the Darwin project within The Gambia is high and has included a visit by the Secretary of State for the Department of State for Fisheries, Natural Resources and the Environment. The Darwin team has made a great effort to promote and raise its profile through newspaper articles, radio and TV broadcasts. In addition the course participants and the trainers have been very impressed by the project and do a lot to promote the project themselves. We have seen an increase in the number and range of people asking about and visiting the project (e.g. from lay people through to politicians) and a great following of the *Focus on Wildlife* articles in the Daily Observer.

The Darwin project was considered as a distinct project primarily with the aim of training.

12. Leverage

Additional funds during the life of the project were those secured from the British High Commission for office furniture for the Darwin Field Station, and from Standard Chartered Bank for the production of the first field guide. The funding

by WWF for the renovation of the crocodile pools in Abuko Nature Reserve also became available to MWT as a result of the Darwin project.

UK project staff made contacts in country with international donors in order to find out about funding opportunities. However few presented themselves during the life of the project. The training being provided at the Darwin Field Station after the project is a result of a funding proposal submitted to the Dakar-Plymouth Challenge fund in April 2005.

13. Sustainability and Legacy

Makasutu Wildlife Trust is the most likely element of the project to endure as it now has a firm foundation on which to build, including its headquarters, staff and research accommodation. MWT has also made the commitment to project sustainability and has already secured funds to run further training courses. For a two year project the outputs have been enormous. It is difficult to see how we could have done more in the timescale, the limited resources and lack of existing capacity.

14. Value for Money

All the measurable indicators suggest that the project represents excellent value for money. In addition, intangible benefits, which are difficult to quantify are huge. All objectives of the project were achieved despite the fact that the project was delayed by three months in its start. The Darwin Field Station is now being run by MWT, and many activities have been undertaken in the project to start to educate the Gambian people about the value of its biodiversity. We have witnessed other funded projects in The Gambia which appear to just result in one-off workshops and project leaders having new air-conditioned cars. In contrast in the Darwin project many people have benefited from a variety of activities including training, data collection, research and the production and dissemination of education material as well as the project providing a facility for research, education and training.

Appendix 1: Project Logical Framework

Project summary	Measurable Indicators	Means of Verification	Important Assumptions
<p>Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> • The conservation of biological diversity, • The sustainable use of its components, and • The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources 			
<p>Purpose</p> <p>To build the capacity of relevant personnel in The Gambia to assess and monitor its biodiversity, undertake research on species, habitats and ecosystems and disseminate information to a variety of audiences.</p>	<p>Increase in personnel capable of working effectively on biodiversity and biodiversity related issues.</p> <p>Increase in number of researchers working on biodiversity in The Gambia.</p> <p>Increase in baseline information on biodiversity in the Gambia</p> <p>Development of biodiversity indicators for the Gambia</p> <p>Media items e.g. television and radio programmes.</p>	<p>Field survey reports and publications by partner organisations.</p> <p>Records of workshop and seminars.</p> <p>Biodiversity related courses in place.</p> <p>Research studies and scientific papers on the biodiversity of The Gambia.</p> <p>Training manuals, field guides and website with photographic database in use.</p>	<p>Trained personnel incorporate new knowledge into their future work programmes.</p> <p>Retention of trained personnel in The Gambia.</p> <p>Researchers willing to undertake research in the Gambia.</p>
<p>Outputs</p>			
<p>1. Partner organisation able to run training courses and provide facility to undertake, stimulate and facilitate research.</p> <p>2. Digital photographic database produced and information on the biodiversity of The Gambia</p>	<p>1. Minimum of 8 staff from 5 partner organisations trained in ecology and biodiversity assessment techniques.</p> <p>2. 200 fauna and 300 flora images produced and stored on CD. Active website with hit-rate score.</p>	<p>1. Training centre and monitoring plots. Training manuals. Participant's attendance and assessment records. Correspondence.</p>	<p>1. Co-operation with MWT and partners maintained.</p> <p>2. Compatible information sharing technology.</p> <p>3. Publishers, producers and distribution</p>

<p>disseminated.</p> <p>3. Publication and presentations.</p> <p>4. TV and radio programmes</p>	<p>3. Regular meetings to disseminate information.</p> <p>4. 4 radio, 2 TV broadcasts, 4 easy to use field guides, 6 training manuals, annual symposium, two scientific papers.</p>	<p>2. Images used in production of field guides, website and promotional material. Minutes from meetings with Gov. Agencies, NGOs and civil society groups.</p> <p>3. Copies of all publications sent to Darwin Initiative and branded with Darwin logo.</p>	<p>methods identified.</p>
<p>Activities</p> <ol style="list-style-type: none"> 1. Workshops 2. Training and research programme 3. Publications 4. Publicity 	<p>Activity Milestones (Summary of Project Implementation Timetable)</p> <ol style="list-style-type: none"> 1. Planning Workshop (Nov 03 2 wks); project assessment and development of advanced courses workshop (August 04 3 wks); evaluation workshop August 05 (1 week). 2. Field Station built and equipped (March 04); training course for trainers (March 04 2 wks); long term monitoring plots established (march 04); promotional material produced (April 04); training and research commences (April 04); advanced course for trainers (Jan 05). 3. Production of easy to use field guides 1 & 2 (Aug 04), training manuals 1 & 2 produced (Jan 04); website on line with pictorial database (June 04); Field guides 3 and 4 produced (April 05); Training manuals 3, 4, 5 & 6 produced (Feb 05). Scientific papers (September 05). 4. National opening of Darwin Filed station (March 04); launch of website with photographic database (June 04); one day national symposium (Feb 05). 4 radio, 2 TV broadcast and 8 newspaper articles (Sept 05). 		

Appendix 2: Minutes from Evaluation Workshop

Held at the Darwin Field Station 21st September 2005.

Persons present:

Mr Craig Emms, Makasutu Wildlife Trust

Mr Malang Jambang, Makasutu Wildlife Trust,

Mr Lamin Jarjusey, Department of Community Development

Ms Ajie Binta Kinteh, NEA,

Mr Alhagie Manjang, Department of Parks and Wildlife Management

Mr Lamin Jarjusey, NACO,

Ms Amie Touray, Gunjur Environmental Protection and Development Group

Dr Linda Barnett, Darwin project co-ordinator

Absentees: NARI, Department of Forestry, Department of Fisheries, University of The Gambia

Background

This one day workshop was convened to discuss the activities and achievements in the project, especially the training courses. A further aim of the workshop was to discuss future activities and funding possibilities, after Darwin funding is finished.

After welcoming everyone to the workshop, the following report was presented by Dr Linda Barnett and Mr Craig Emms. Comments were then received from those present.

Report

Activities

Training Courses

Since January, two further step down training courses have been run on Biodiversity, National Environmental Policy and the Law (targeting NGOs, Custom and Excise, Tourism Security Unit, Police Force, NARI and Department of water Resources and Soil and Management Unit). In total 10 staff from 8 collaborating organisations have been trained as trainers in ecology and biodiversity assessment techniques. Subsequent step down courses provided by the Gambian trainers have resulted in 70 individuals from ten government departments and eleven other organisations (including NGOs, ecotourism projects) attending courses at the Darwin Field Station.

The 10 day Research Skills course also ran targeting DPWM, Forestry, Fisheries, National Agricultural Research Institute (NARI), Community Development and the University of The Gambia.

Finally a 5 day advanced training of trainers course on 12th-16th September was run for staff from DPWM, DCD, NEA, GEPADG, UTG, NACO,

TANGO, MWT and NARI. Although invited, staff from the Departments of Fisheries and Forestry were not able to attend.

Funding has been sought and gained for a further two step down courses to be given to local decision makers around Abuko Nature Reserve and members of the media. In addition funding has been obtained for a course on wildlife guiding for the freelance birding guides.

Research

Since the project started 14 Gambian and 4 European individuals have undertaken research in Abuko Nature Reserve on biodiversity (increase of 600% over the last three years). The research has varied from short one day projects as part of the research skills course (e.g. pilot projects on primate behaviour, insect and bird activity, economic evaluation of forest resources) through to longer term inventory and monitoring projects (e.g. vegetation inventory and monitoring, establishment of herbarium, amphibian and reptile monitoring, butterfly transect and movement, moth and beetle inventory, antelope identification and monitoring).

The Darwin Field Station is now fully equipped to provide researchers with basic laboratory facilities and a resource centre. The field station has mains power and a back-up generator and mains water. During the project we have produced and distributed promotional material to encourage researchers to work at the Darwin Field Station. This has been done in such a way that it can be regularly updated and sent via post or email.

In addition to the field work and research based in Abuko Nature Reserve, the project leader and Executive Director of MWT have been collecting and collating literature about the flora and fauna of The Gambia for the resource centre in the Darwin Field Station. This has enabled us to prepare the first comprehensive species list for the country (of only about 3,300 species). Copies of these are being widely disseminated to interested institutes throughout The Gambia. A specific outcome of the project is thus that we have now identified specific and large gaps in knowledge about The Gambia's biodiversity. The species list is available to view and download from the website, and has been circulated to the projects collaborators and other interested stakeholders and parties.

Dr Barnett presented a paper and poster about the Darwin Field Station and the butterfly research in Abuko Nature Reserve in April 2005 at the International Butterfly Symposium in the UK. Two further papers on the amphibians and reptiles of The Gambia are currently being finished off for submission to scientific journals.

Researchers Accommodation

Basic self-catering accommodation has been built in the buffer zone of Abuko Nature Reserve for 8 researchers in a fenced compound. The plans for the accommodation have been drawn up and the site chosen with the approval of the ANR Conservation Management committee. This land has also been donated by the Government of the Gambia to the project. The building has, of course undergone an environmental impact assessment.

The first long term volunteers arrived in April 2005, and we now have a further three currently staying. These have included one person from Hungary, two from Germany, three from the UK and one from the Netherlands. Our visitors so far have found the accommodation to be comfortable and quiet, and very convenient for carrying out research in the reserve.

Dissemination of information

Promotional information about the Darwin Field Station has been produced and we continue to circulate it to interested parties and Universities and Colleges in the UK and USA. The British Ecological Society feature the Darwin Field Station on their West Africa Ecological Research poster which has been distributed throughout West Africa. The Darwin project website www.darwingambia.gm is hosted on a local server in The Gambia (Quantumnet). Amongst many other items of interest, it now contains over 600 images of Gambian flora and fauna, the Gambian checklist of species and the Focus on Wildlife articles written and published in the Daily Observer during the time of the project. The website is updated on a monthly basis.

There have been numerous articles written and published about the project and Dr Linda Barnett attended an international symposium on butterfly conservation in April 2005 to promote the project. A 2006 calendar "Gambian Biodiversity at a Glance", is being produced to promote biodiversity conservation in the Gambia. 1000 calendars will be distributed.

The Darwin team produced a drama to be broadcast on radio. This was translated into Mandinka, Wolof and Fula and repeated three times each. This was followed up by a radio discussion and telephone phone in with a panel of experts from the Darwin project (MWT, DPWM and NEA).

The promotional DVD is currently being translated into Mandinka and Wolof and will be broadcast on GRTS in English and the two local languages very soon.

Easy to Use Field Guides

2000 copies each of Guide 2 on common Gambian mammals and guide 3 on common Gambian reptiles have been produced. 400 copies of each guide (and the common butterflies of The Gambia) were given to the Department of State for education to distribute to Lower Basic Schools in The Gambia. The last field guide on the common amphibians of the Gambia is currently being produced.

National Symposium on Biodiversity Research in the Gambia

This event was held on the 26th May 2005 at the Senegambia Beach Hotel. It was opened by Mr Edward Singateh, SOS of the Department of State for Forestry and the Environment and was covered by TV and radio as well as all national newspapers.

Biodiversity research papers were given by members of staff from MWT, DPWM, Department of forestry, NARI and Department of Fisheries. The project co-ordinator is currently finalising the symposium proceedings which will be disseminated to all relevant stakeholders, libraries and resource centres.

Comments

There was a general agreement amongst those present that the Darwin project had achieved all that it was meant to in that all outputs had been achieved in the timescale. All those present wishes the facility to continue it activities but were

unable to provide any concrete ways or funds to enable this to happen. It was generally considered that MWT must take the lead and responsibility for these actions. Future funding should also cover the expenses of providing facilities for the trainers to be able to go out into the field to meet local communities.

It was also suggested that the research accommodation be used to accommodate local people staying near to Lamin when it was not full with researchers to bring in extra income for the project in this way.

Extra Comments from Project Leader Having Meetings with:

NARI:

Present: Mr Ansama Jarju and Dr Linda Barnett

Staff at NARI particularly complimented the multidisciplinary nature of the courses the production of the species list and the network of natural resource managers that had been created through the project. They also thought that staff from 3 rural agricultural training colleges should also be part of the training courses

Department of Fisheries:

Present: Director of Fisheries, MS Anna Cham and Famara Darboe and Dr Linda Barnett

Staff from this department congratulated the Darwin project on its achievements but also emphasised their lack of senior officers in their department and thus availability of staff to be trained.

Department of Forestry:

Present: Mr Lamin Bojang, Dr Linda Barnett and Mr Craig Emms

The assistant director was very complementary about the Darwin project and acknowledged that it has not been an easy road to travel. He said that it is a good starting point to build on. He also reiterated his department's willingness to provide trainers for the courses that the Darwin Field Station runs, and suggested that other institutes be integrated into the system including closer ties with the University of The Gambia, GGTI, College of Agriculture. He also emphasised that there needs to be an attitudinal change at the level of government in their willingness to work in partnership rather than in competition with NGOs. He also recommended that policy makers be sensitised.

Appendix 3: Darwin Contacts

Project Title	Darwin Field Station for Biodiversity Research, Education and Training, The Gambia, West Africa
Ref. No.	162/12/009
UK Leader Details	
Name	Dr Linda Barnett
Role within Darwin Project	Project leader and joint co-ordinator in country
Address	57, Sycamore Lane, Ely, Cambs
Phone	-----
Fax	-----
Email	
Other UK Contact (if relevant)	
Name	Dr Susan Barker
Role within Darwin Project	Project support
Address	Department of Secondary Education, University of Alberta, Edmonton, Canada,
Phone	
Fax	
Email	
14.	
Partner 1	
Name	Mr Craig Emms/ Mr Malang Jambang
Organisation	Makasutu Wildlife Trust
Role within Darwin Project	Joint in country project co-ordinators
Address	P.O. Box 2164, Serrekunda, The Gambia
Phone	
Fax	
Email	