



Submit by 21 January 2005

DARWIN INITIATIVE APPLICATION FOR GRANT ROUND 13 COMPETITION:STAGE 2

Please read the Guidance Notes before completing this form. Applications will be considered on the basis of information submitted on this form and you should give a full answer to each question. Please do not cross-refer to information in separate documents except where invited on this form. The space provided indicates the level of detail required. Please do not reduce the font size below 11pt or alter the paragraph spacing. Keep within word limits.

1. Name and address of organisation

Name: Institute of Zoology	Address: Zoological Society of London, Regent's Park, London, NW1 4RY, UK
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2. Project title (not exceeding 10 words)

Developing a National Conservation Action Plan for the mammals of Tanzania

3. Project dates, duration and total Darwin Initiative Grant requested

Proposed start date: July 2005	Duration of project: 3years				
Darwin funding requested	Total	2005/06	2006/07	2007/08	2008/09
	£ 214051	£ 82350	£ 48990	£ 82711	£ 0

4. Define the purpose of the project in line with the logical framework

The project will help Tanzania meet its obligations under the Biodiversity Convention by developing a national conservation action plan for its mammal species. The project will be modeled on the already successful DI funded Tanzania Carnivore Centre, and will strengthen national institutions and increase capacity to monitor and conserve medium to large mammal biodiversity by a) developing a national monitoring Tanzania Mammal Atlas Project (TMAP) to investigate mammal distribution and status in areas where currently little information is available, particularly forests, wetlands and village land; b) establishing protocols to monitor small and cryptic species; c) collating all existing information into a centralised database of distribution, status and, where possible, abundance, for all mammals (excluding rodents, bats, insectivores, and marine mammals). These steps will generate sufficient data to establish an action plan that will be used as a framework to guide future conservation management and policy including sustainable utilisation. The project thus helps Tanzania fulfill its obligations under articles, 7, 8, 10, 11, 12, 13 and 16 of the Biodiversity Convention.

5. Principals in project. Please provide a one page CV for each of these named individuals

Details	Project Leader	Other UK personnel (working more than 50% of their time on project)	Main project partner or co-ordinator in host country
Surname	Durant	Foley	Mlingwa
Forename (s)	Sarah	Charles	Charles
Post held	Senior Research Fellow	Conservation Fellow	Director General
Institution	Institute of Zoology, Zoological Society of London (ZSL)	Zoological Society of London (ZSL)	Tanzania Wildlife Research Institute (TAWIRI)
Department	Behavioural Ecology and Evolution	Behavioural Ecology and Evolution	

6. Has your organisation received funding under the Darwin Initiative before? If so, give details

August 2004 - Addressing a threat to Caribbean amphibians: capacity building in Dominica (Ref unknown; IoZ Applicant: Andrew Cunningham).

May 2004 - Building capacity for the recovery of critically endangered Gyps spp. Vultures in India (Ref: 333 (Post-Project Grant); IoZ Applicant: Andrew Cunningham).

March 2003 - Building capacity for conservation of a critically endangered flagship species (Ref unknown; Applicants: Rajan Amin (CP)/Richard Pettifor(IoZ)).

March 2003 - Building capacity and determining disease threats to endemic Galapagos fauna (Ref: 162/12/017; IoZ Applicants: Andrew Cunningham/Simon Goodman).

July 2002 - A national plan for carnivore conservation in Tanzania (Ref: 162/11/007; IoZ Applicant: Sarah Durant).

June 2002 - Conserving the critically endangered Darwin's fox on Chiloe Island, Chile (Ref: 162/11/013; IoZ Applicant: Stephan Funk).

June 2001 - Conservation of critically endangered vultures in India (Ref: 162/10/013; IoZ Applicant: Andrew Cunningham).

October 2000 - Development of a research and training unit at Garamba (Ref: 162/09/020; IoZ Applicant: Guy Cowlshaw).

March 1997 - Vicuna and guanaco conservation and genetic resource management (Ref: 162/6/126; IoZ Applicant: Michael Bruford).

7. IF YOU ANSWERED NO TO QUESTION 6 describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)

Aims (50 words)

N/A

Activities (50 words)

N/A

Achievements (50 words)

N/A

8. Please list the overseas partners that will be involved in their project and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. What steps have been taken to ensure the benefits of the project will continue despite any staff changes in these organisations? Please provide written evidence of partnerships.

The Tanzania Wildlife Research Institute (TAWIRI) will be the key overseas partner institution. TAWIRI is the national institution responsible for coordinating wildlife research in Tanzania. The Institute advises the government on matters of wildlife management and policy. The project was jointly developed with TAWIRI staff, including the Director General and the Director of the Conservation Information and Monitoring Unit (CIMU), in response to institutional gaps in monitoring capability. The project has therefore been fully endorsed by TAWIRI, which will allocate significant in-kind resources to establishing the new unit. Within TAWIRI the Tanzania Carnivore Centre (TCC) will provide office space to host the unit, training for GIS analysis, personnel to assist with PR campaigns, carnivore records for the database, and access to its list of data contributors. CIMU will assist with database design and provide data from wildlife census aerial surveys. TAWIRI will be responsible for hiring all Tanzanian project personnel according to government guidelines and will be responsible for obtaining permits and any necessary approval for field surveys. TAWIRI will also be responsible for engaging other key partners in the governmental wildlife sector. The stage I proposal has been fully discussed with key senior staff at TAWIRI ensuring that all departments are fully cognisant of the project. Importantly, they have reaffirmed their full support for the proposal. The project is fully in line with stated TAWIRI objectives and any changes in senior personnel are

therefore unlikely to impact progress and implementation of the project.

Other key partners include **Tanzania National Parks (TANAPA)**, **Tanzania Wildlife Division (WD)** and the **Tanzania Department of Forestry and Bee Keeping (FBD)** all of which operate under the **Ministry of Natural Resources and Tourism (MNRT)**. Together these three institutions are responsible for managing most of Tanzania's terrestrial wildlife resources. All of these institutions currently support the wildlife monitoring efforts of CIMU and TCC through data acquisition and commissioned surveys, and will contribute to the proposed project by assisting with surveys in focal areas under their jurisdiction.

9. What other consultation or co-operation will take place or has taken place already with other stakeholders such as local communities? Please include details of any contact with the government not already provided.

The project will make use of existing relationships between TCC and a variety of other governmental and private bodies. The **Tanzania Association of Tour Operators (TATO)** and the **Tanzania Association of Hunting Operators (TAHO)** will be asked to assist in promoting the activities of the project and soliciting data contributions from tour operators, guides, and hunters. The project will make use of and extend a network of interested individuals from across Tanzania developed by the TCC who are regular contributors of carnivore sightings. These individuals will be contacted to request additional input for the wider mammal database, and efforts will be focused on expanding the contributor network to include more members from the south of Tanzania and other under-represented areas.

Linkages will also be developed with the East African Wildlife Society which also has a large network of active members that could become potential data contributors, and Nature Kenya, which publishes the Journal of East African Natural History, the standard place for submission for mammal checklists and sightings in the region. Particularly interesting mammal sightings originating from the work of the project will be submitted to the newsletters of both societies to stimulate interest from their members.

Both the Zoology Department of the University of Dar es Salaam and the Department of Wildlife Management at the Sokoine University of Agriculture will be contacted to coordinate exchange of information on mammal sightings, access to unpublished literature from university field surveys, and to explore potential collaboration in field surveys.

PROJECT DETAILS

10. Is this a new initiative or a development of existing work (funded through any source?) Are you aware of any other individuals/organisations carrying out similar work, or of any completed or existing Darwin Initiative projects relevant to your work? If so, please give details explaining similarities and differences and showing how results of your work will be additional to any similar work and what attempts have/will be made to co-operate with and learn lessons from such work for mutual benefits.

The project is a new initiative, but builds on the successful DI funded Tanzania Carnivore Centre (TCC), making use of the impetus and momentum generated by over two years of TCC's operation and modelling some of its activities on those already effectively employed by the TCC. This project hence captures substantial added value from the original investment by the DI in the TCC. The Tanzania Mammal Atlas Project (TMAP) shares similar aims with the TCC of creating an atlas of select animal species and developing a conservation action plan for those species, though the target taxa are different. However, this project will additionally:

1. Extend taxonomic coverage beyond carnivores to include all medium to large mammals.
2. Institutionalise the TCC's camera trapping program (currently supported by non-guaranteed external funds leveraged through the TCC) into a key component of TAWIRI's activities.
3. Conduct detailed structured questionnaire interviews with local residents to gain information on mammal biodiversity and threats, particularly in the form of consumptive use.
4. Establish linkages between TMAP, wildlife utilization and the new WMA network being developed throughout the country.

In implementing this program the project will develop its own capacity but will also make use of capacity already existing in the TCC in the following ways:

- The TCC Public Relations officer, trained in graphic design and website management, will help train project staff and assist in developing PR materials
- The TCC GIS and database and analyst will train the project assistant in GIS and database management.

- The camera trapping survey team developed and trained under TCC will operate entirely under this project and will gather data on the abundance and distribution of all medium to large mammals, including carnivores.
- The project will have access to TCC's extensive contributor database, and will build and extend the good will generated among stakeholders and data contributors developed by TCC.
- The project will duplicate the effective management frameworks successfully implemented by the TCC, involving quarterly management meetings structured around the project's logical framework, and regular informal reporting through the project manager.
- The project will establish its own contributor feedback mechanisms modeled on those effectively implemented by the TCC, involving a regularly updated website that maps contributor data by species, and a newsletter which credits contributors of exceptionally large or unusual data contributions.
- Key TCC facilities and resources will be available to project personnel, including access to the project administrator, internet and meeting room.

The project will also work closely with TAWIRI's Conservation Information and Monitoring Unit (CIMU). CIMU is responsible for conducting aerial counts of large herbivores in priority wildlife areas in Tanzania - particularly National Parks, Game Reserves and hunting blocks. CIMU therefore has already accumulated a large amount of information on large mammals across Tanzania's protected areas. All relevant data from CIMU surveys will be incorporated into the mammal database and action plan, and information will be shared between the two projects via a jointly accessible database. The database analyst at CIMU will supervise the development and implementation of this database that will be more extensive and sophisticated than those already existing under CIMU and TCC. However CIMU data are limited to large mammals and savannah ecosystems. This leaves clear gaps in coverage in areas which potentially hold highly threatened species (e.g. Abbotts duiker, and Rhondo and Mountain galagos), including forests, swamps and non-protected areas. There are also gaps in major taxonomic groups including groups that are a key component of the Tanzanian bush meat trade, such as duikers, and groups that are important for attracting wildlife tourism, such as primates. This project will aim to fill these gaps by collecting information on all mammal species and targeting forests, swamps and non-protected areas, including pilot WMAs, where little is currently known. It will also establish a lasting capacity within TAWIRI to survey such areas, expanding TAWIRI's coverage and hence its ability to fulfil its mandate to supply information relevant to wildlife management authorities.

As well as using volunteer data contributions the project will collect much of its data directly in a new initiative using intensive field surveys using camera traps and detailed interviews with local residents. Such field surveys will form a major component of the project's activities. Surveys implemented by TMAP will have the additional benefit in that they will also contribute directly to both the TCC and CIMU databases, since camera trap surveys are not species specific.

In addition to these major linkages within the host organization, there are clear links between this project and other organizations. This project will build on the relationships already established by the TCC and CIMU and initiate new initiatives where necessary to expand coverage across taxonomic groups and habitats::

1) The Endangered Wildlife Trust and IUCN recently completed the Red Data Book of the Mammals of South Africa, which is the first comprehensive Red Data Book for an African country. It provides detailed distribution and abundance figures and outlines conservation threats to each species. The project will use this model for cataloging the data and presenting the action plan.

2) Extensive biodiversity work has already been conducted in selected areas of the country (with a particular concentration in the eastern forests and the southern highlands) and TMAP will work with these organisations to share and build on existing databases. FRONTIER-Tanzania in particular has conducted extensive biodiversity work across coastal and Eastern Arc forests in Tanzania and has developed preliminary mammal lists for several of these areas based on direct sightings. Other likely partners include the Tanzania Forest Conservation Group (TFCG) and the Critical Ecosystems Partnership Fund (CEPF) which has recently targeted the eastern arc and coastal forests as a high priority conservation area emphasising the need for further biodiversity surveys. TMAP will seek to share information with these groups, and where possible collaborate in setting up camera trap lines to improve the sampling of mammalian diversity.

11. How will the project assist the host country in its implementation of the Convention on Biological Diversity? Please make reference to the relevant article(s) of the CBD thematic programmes and/or cross-cutting themes (see Annex C for list and worked example) and rank the relevance of the project to these by indicating percentages. Is any liaison proposed with the CBD national focal point in the host country? Further information about the CBD can be found on the Darwin website or CBD website.

The project helps Tanzania fulfill its obligations under articles, 7, 8, 10, 11, 12, 13, and 16 of the Biodiversity Convention. The project goals of developing national capacity to produce a comprehensive atlas and action plan for the large mammals of Tanzania has particular relevance to articles 7, 8, 12 and 13 of the CBD. Specifically the project will:

- Monitor large mammal biodiversity and maintain a database of past and present records (article 7b,d) 25%
- Produce an action plan that will promote and develop guidelines for the protection of populations of large mammal species and draw attention to species or areas where significant threats have been identified (article 8b,d,1) 20%
- Use the mammal action plan to guide and encourage adoption of measures by national institutions to minimize loss of mammal biodiversity (article 10a,b) 7%
- In areas where wildlife utilisation is a key form of land use, the action plan will produce recommendations to encourage economically sound incentives for conservation and sustainable use of components of mammal populations (article 11) 3%
- Establish a team of trained Tanzanian personnel capable of conducting surveys across a range of different habitat types and maintaining a national mammal database for use in monitoring (article 12 a,b,c) 20%
- Use the results of the mammal atlas and action plan to promote the understanding of the importance of the conservation of mammal biodiversity among government institutions and to educate the public through production of newsletters, posters and press releases (article 13 a) 15 %
- Train project members in use of latest techniques to determine presence and abundance of mammal species (article 16) 10 %

The CBD national focal point, will be kept informed of project progress at regular intervals.

12. How does the work meet a clearly identifiable biodiversity need or priority defined by the host country? Please indicate how this work will fit in with National Biodiversity Strategies or Environmental Action Plans, if applicable.

Conservation of wildlife was prioritised in Tanzania soon after independence by the first president, Julius Nyerere, in the Arusha declaration. This declaration was instrumental in attaining protection for the extensive wilderness areas that still survive in the country, such that today, Tanzania has the largest total area under protection in sub-Saharan Africa. Four major governmental institutions oversee wildlife conservation in Tanzania: Wildlife Division, responsible for hunting and game reserves; TANAPA, responsible for the national parks; TAWIRI, responsible for wildlife research and FBD responsible for forestry and beekeeping. This project will work closely with all organisations, and will fall directly under TAWIRI, which has a mandate to supply wildlife research relevant to management issues within the wildlife sector. The project directly addresses three of five priorities for wildlife research identified by TAWIRI at a workshop in October 1999: 1) Ecological interactions - to gain a better understanding of the ecology and ecological processes for more effective conservation of biodiversity; 2) Biodiversity Inventory - to gain a better understanding of the status, trends and value of biodiversity resources; 3) Database - to continually provide updated information to researchers and resource managers. Furthermore the work addresses priorities in the National Wildlife Policy of the MNRT, which states that research and monitoring of change in wildlife resources and their use remains an integral part of wildlife management and planning, and lists a number of strategies for this, of most relevance to this project are regulating and monitoring wildlife research in Tanzania, strengthening capabilities of the wildlife authorities in research and monitoring, facilitating regular censusing of wildlife populations, and encouraging and motivating Tanzanian researchers to undertake wildlife research.

Tanzania's National Biodiversity Strategy is still awaiting final approval and has yet to be released.

13. If relevant, please explain how the work will contribute to sustainable livelihoods in the host country.

To date much of the mammal survey work in Tanzania has concentrated in protected areas, particularly in the savannah dominated national parks and game reserves. However, just as in Kenya where 60% of wildlife is thought to occur outside protected areas, Tanzania village lands are likely to harbour significant populations of many mammal species. Until recently, the wildlife laws prohibited local communities from using wildlife for any commercial purposes. Without opportunity to utilise and profit from natural resources on their land, communities had little incentive not to cultivate, even in areas of low rainfall where crop success was marginal. More recently the 1998 Wildlife Policy of Tanzania called for the creation of Wildlife Management Areas (WMA's) on village lands where wildlife populations persist, which enables landholders to receive income from wildlife related activities*. Similarly the recently released Tanzania National Forest Policy (1998) allows extensive community autonomy in management and enterprise development in forested lands. However the act stipulates that if communities are to be empowered to take advantage of sustainable wildlife-related activities on their land, they must provide information on the status of existing biodiversity – indeed resource assessments are required before communities can manage forests under any community based schemes. TMAP will be in a unique position to assist communities in this activity. All information collected by TMAP from non-protected areas and community administered forest reserves will be openly available and will be made accessible to communities. TMAP will also target selected pilot WMA areas in its survey activities and will respond to specific requests from local communities within these areas for information on mammals, although there will be limits in terms of the number of surveys TMAP will be able to implement within the 3 year framework of the project. To ease access to data, TMAP will also ensure that all information generated is available in KiSwahili. TMAP will pay particular attention to community owned land which has been identified as being likely to hold high mammal diversity or harbour species of particular conservation concern, including several such areas that are already pilot WMA's. Such areas are also likely to be the most promising for community tourism development initiatives. All areas surveyed will use structured questionnaire based interviews to assess patterns of consumptive use, and major threats to mammal biodiversity. The information gathered by the project will be used in the Mammal Conservation Action Plan to provide recommendations to encourage local community initiatives for the sustainable utilisation of mammal populations in areas with strong tourism and conservation potential.

*WMA regulations are currently in a three year pilot phase.

14. What will be the impact of the work, and how will this be achieved? Please include details of how the results of the project will be disseminated and put into effect to achieve this impact.

The project will have several major impacts related to mammal biodiversity conservation in Tanzania.

1. It will produce the first comprehensive database detailing the distribution and status of all medium to large mammals in Tanzania. It will achieve this by compiling data from a large variety of published and unpublished sources, using volunteer data contributors as in the TCC carnivore atlas project, and using targeted field surveys to address geographical and taxonomic gaps in data coverage.
2. It will provide detailed information on abundance, distribution and threats from its field surveys in selected priority areas. Particular attention will be paid to a) assessing overall mammal biodiversity in areas where there is little data available, including forests, wetlands, thicket and village owned land outside protected areas, and b) targeting mammal species that, by virtue of their size or habits, have been overlooked by traditional survey techniques; these include potentially endangered species such as the endemic Abbots duiker and Udzungwa Red Colobus. This will be achieved by implementing targeted field surveys using remote camera traps and interviews with local residents and hunters. Specific site selection will be finalized at an initial stakeholder meeting, but will be selected according to potential conservation significance, urgency, threat and data coverage. Pilot WMAs will also be targeted. Likely priority areas, will be sites where little or no mammal survey work has been conducted and include forests in the west and north-west of the country which are an extension of the Congolese forest biome, wetlands such as the Moyowosi and Malagarasi swamps and the Itigi thicket.
3. It will strengthen capacity in TAWIRI to monitor mammal populations across the country by institutionalizing a team of scientists trained to conduct surveys, manage a national database, and to analyse, interpret and present data. By the completion of the project this team will be capable of training other wildlife managers across the region in all these techniques.
4. It will establish a library, both digital and hardcopy, of papers relating to mammal status, distribution and abundance in Tanzania that will be easily accessible to all students and scientists stationed at TAWIRI.
5. It will raise environmental awareness and interest in mammal conservation in the country. This will be

achieved by distributing PR material widely in the form of posters and issuing quarterly newsletters to raise awareness and interest about mammal conservation. A website, both in English and Kiswahili will be established to promote and disseminate the results of the atlas and action plan, and will provide protocols for other scientists for mammal surveys across a range of habitats.

6. It will produce a national action plan for the medium to large mammals of Tanzania. The Action Plan will be developed using the same protocol established through the TCC. Species chapters will first be drafted in consultation with relevant experts and key stakeholders, and will then be presented at a national workshop held at the end of the project period. Key issues relating to conservation status, management and research recommendations will be discussed and finalized at the workshop, which will involve representatives from all of the main wildlife authorities, scientists and other key stakeholders. The Action Plan will summarise information collected to date detailing status and threats for all mammal species, identify priority areas of conservation need, and highlight data deficiencies, management recommendations and areas requiring further study. It will not include carnivores which will already be covered by the action plan produced by the TCC. The plan will be available in English and Kiswahili and will be disseminated widely to all government institutions and other stakeholders, and a digital copy will be placed on the TMAP website. This action plan will provide the most comprehensive analysis of the status of mammals in Tanzania and will be used to guide government policy on the conservation of mammalian diversity.

15. How will the work leave a lasting legacy in the host country or region?

The project will provide the following lasting legacies to Tanzania:

- 1) A completely new survey team at TAWIRI that will expand TAWIRI's long-term capacity to monitor mammal species to include non-savannah ecosystems and smaller and more cryptic species.
- 2) A library and a database covering all medium to large mammal species.
- 3) A series of reports providing detailed baseline information on abundance, distribution and threats to mammals from field survey sites.
- 4) A team of trainers that will allow TAWIRI to be able to further develop such capacity in other institutions within the country.
- 5) The first comprehensive Conservation Action Plan for Mammals.

The remarkable abundance and diversity of mammals in Tanzania forms the cornerstone of the country's burgeoning tourism industry, supporting both photographic safaris and sport hunting activities. Tourism, which is principally wildlife based, is the second highest earner of foreign currency for Tanzania and hence sustainable management of the country's rich wildlife resources is key to future development. The potential role of wildlife based tourism plays in rural development and poverty alleviation on community lands has also been increasingly recognized and supported in national policy documents, including the current draft Poverty Reduction Strategy (PRS). The establishment of a system for monitoring the distribution, status and trends of mammals throughout the country is an important step ensuring sustainable utilization of these resources.

The action plan will provide the most thorough and detailed description of the status of mammals in Tanzania and will play an important role in drawing the attention of the government to species and areas of special conservation concern, and provide an important reference document to guide conservation strategy. As such it will provide a framework for future governmental decision making and management to ensure the conservation of mammal biodiversity across the country. Furthermore, by providing clear conservation priorities in a format accessible to international donors, the plan will also assist in leveraging additional funding for conservation. Finally, the project will increase TAWIRI's standing and reputation within Tanzania and overseas as well as further strengthening national institutional linkages between TAWIRI and other governmental institutions responsible for wildlife conservation.

16. Please give details of a clear exit strategy and state what steps have been taken to identify and address potential problems in achieving impact and legacy.

TAWIRI is mandated by the government to advise on wildlife policy, it therefore has strong institutional links to all the governmental agencies involved with wildlife conservation. TAWIRI already obtains a portion of its funding from Wildlife Division and Tanzania National Parks who commission CIMU to conduct routine aerial surveys of protected areas as part of their long term monitoring programs, generating information to inform protected area management policy. This project will extend this existing institutional capacity at TAWIRI for monitoring to include all medium to large mammal species and to operate in

forested areas and outside the protected area system. By the end of this project, it will have established a team of trainers who will be able to implement surveys commissioned by the various government wildlife agencies and NGO's in Tanzania, following the system currently operated by the CIMU team. Finding means to enable this survey team to continue to operate under TAWIRI beyond the end of this project will be fundamental to any exit strategy.

In the short to medium term, obtaining funding through commissioned surveys via other wildlife agencies is likely to be problematical, as new institutions are traditionally treated with distrust in Tanzania. However provided this project demonstrates clearly that it can deliver outputs needed by other institutions, it is likely that it will also ultimately be accepted. Obtaining financial support from these institutions however may be further hampered by a lack of resources. Tanzania is one of the poorest countries in the world, and hence, although it attaches a high value to its wildlife resources, it has very little funds available for research and monitoring. Nonetheless, provided Tanzania continues to develop and its economy continues to maintain the steady economic growth observed over the last decade, eventually such resources will become available.

17. How will the project be advertised as a Darwin project and in what ways would the Darwin name and logo be used?

The project will generate extensive opportunities for advertising:

1. The project vehicle will carry the Darwin logo. The vehicle will be seen frequently in Arusha and across the country during surveys and will also appear in publicity material.
2. The substantial publicity material generated by the project (leaflets to tourists, resident experts, posters, newsletters etc.) will all credit Darwin as the donor to the project. This material will reach a substantial number of residents and visitors during the course of the project.
3. The Tanzania Mammal Conservation Action Plan will show the Darwin logo in a prominent position on its cover, and will explicitly credit the Darwin Initiative.
4. All scientific publications and reports arising from this work will credit the Darwin Initiative.
5. All press releases will acknowledge the Darwin Initiative.
6. All possible effort will be made to ensure that the Darwin Initiative is credited in any radio or TV coverage.
7. Workshops will be arranged and publicised as 'Darwin workshops'.

18. Will the project include training and development? Please indicate who the trainees will be and criteria for selection and that the level and content of training will be. How many will be involved, and from which countries? How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length and dates (if known) of any training course. How will trainee outcomes be monitored after the end of the training?

Training will focus on project staff and will be aimed at providing them with the skills they need to implement the project in the short and long term. Principally the skills needed include database management, GIS, camera trapping techniques, questionnaire survey methods, graphic design, web site management, data analysis and scientific writing. Where possible the project will make use of skills already established within the TCC and at CIMU, whereby the staff at both units will provide on the job training for staff on this project.

Database management

The project manager and GIS analyst will both be trained to operate a new database currently being developed for CIMU. Training will be carried out in-house by a consultant attached to the TAWIRI CIMU department during 2005-2006. A 3-week training course for these two personnel will cover topics such as database operations and data entry, customizing scripts and functions, linking databases with existing systems and GIS software, access and security parameters, and troubleshooting common problems. The database analysts should ultimately be able to independently maintain the database and provide basic training to assistants and others assigned to data entry. Following the training period the two trainees will immediately start to use the new database and the results of the training will be reflected in their ability to manage the system. Further training assistance will be provided as needed.

GIS

The GIS analyst will receive on the job training from the TCC as well as advanced training in **remote sensing, spatial data analysis, and map production**, allowing him to remain current with developments in those fields. Several advanced short-courses (3-weeks) are available regionally and two courses will be

selected over the project period based on needs of the trainee. Additionally a GIS specialist from WCS will spend 8 days at the TCC to demonstrate habitat mapping using satellite imagery, series map production, and conservation priority setting based on spatial data analysis. The GIS analyst will use his new skills to conduct the majority of the project's spatial data analysis and map production.

Camera trapping

New survey team members, including the project manager and project assistant, will receive a six week training session in survey **monitoring techniques** using camera traps, taught by the TCC staff in January 2005. This course will be overseen by Marcella Kelly (WCS) who has substantial field experience in camera trapping survey methods. This course will serve the dual purpose of initiating new staff in these techniques, and testing the TCC staff in their role as trainers. This course will cover the basics of camera trapping including proper survey design, use and placement of traps under different field conditions, equipment care, problem solving in the field, and data analysis and interpretation for different trapping design protocols. Trainees will be tested in their ability to select the appropriate trapping design for each site, and to monitor trap sites over a period of time. A field manual summarizing all data collection protocols will be produced by the end of the training session. The PI's will attend all initial surveys until trainees are confident in all aspects of the methods and project design.

Questionnaire surveys

All survey team members, including the project manager and project assistant, will attend a course on social data collection methodologies with emphasis on questionnaire design, interview techniques and data analysis. Courses are available locally in Dar es Salaam and at the Danish Volunteer Training Centre in Arusha. The project manager and assistant will be tested frequently in their ability to design and implement questionnaire surveys until, by the end of the project they will be sufficiently proficient to train others.

Graphic design and web site management

The project manager will be responsible for the PR component of the project, and will receive a 2-week advanced training in **website design and desktop publishing**. S/he will also receive on the job training from the TCC PR officer. By the end of the project s/he will be sufficiently proficient to be able to maintain and update the project web site and design and produce the project newsletter on his/her own,

Data analysis and scientific writing

The PIs and the project's team of advisers will train the project manager and project assistant in data analysis techniques relevant to the project and in scientific writing. This will be achieved through on the job training, and by the project manager taking increasing responsibility for producing reports and writing scientific papers.

LOGICAL FRAMEWORK

19. Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes.

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 benefits arising out of the utilisation of genetic resources 			

Purpose			
<p>To develop a national monitoring system of large mammals that addresses current geographic and taxonomic data gaps, in order to produce a detailed distributional atlas and conservation action plan for large mammals in Tanzania.</p>	<p>Mammal monitoring system, which addresses current data deficiencies, in place by 2008.</p> <p>Distribution Atlas of Tanzanian mammals developed by 2008.</p> <p>Increased skills in mammal monitoring for TAWIRI staff through creation of a new monitoring unit.</p> <p>Conservation action plan published and widely disseminated by 2008.</p>	<p>Reports summarising database records and a manual covering monitoring protocols produced.</p> <p>Distribution maps published and disseminated via the project website</p> <p>TAWIRI team conducting surveys independently as part of their annual workplan.</p> <p>Conservation Action Plan published by target date.</p>	<p>TAWIRI remains supportive and committed to the project.</p> <p>Key stakeholders endorse Conservation Action Plan.</p>
Outputs			
<p>Sub-unit of TAWIRI developed to monitor large mammals in data deficient areas using standardised methods.</p>	<p>3 new staff and existing TAWIRI staff trained as trainers in mammal monitoring by early 2006.</p> <p>Data contributors identified and submitting sufficient mammal sightings regularly to ensure wide coverage of the country.</p> <p>Mammal distribution data acquired for at least 15 target areas using remote camera traps</p> <p>Manual of survey protocols produced.</p>	<p>Training report submitted and attendees have proven aptitude in survey methods.*</p> <p>Contributor contact list and correspondence on file at TAWIRI HQ.</p> <p>Interview forms and reports from each survey filed and submitted to project library.</p> <p>Copies of survey manual available at TAWIRI HQ</p>	<p>Network of data contributors keen and willing to send in data.</p> <p>Data can be collected from all parts of the country.</p> <p>Key stakeholders support data collection activities.</p>
<p>Centralised database of mammal distribution and status that integrates historical records, and information from CIMU, TCC and proposed project.</p>	<p>Centralised database of mammal distribution on file at TAWIRI.</p> <p>Library of historical data established and both hard and electronic filed copies at TAWIRI.</p> <p>Distribution atlas for targeted mammal species</p>	<p>Database accessible to authorised personnel at HQ.</p> <p>Library available for viewing by authorised personnel. Copies to be sent on CD to Darwin and key stakeholders.</p> <p>Atlas distributed to all stakeholders in hardcopy or electronic form and published on the web.</p>	<p>Data contributors prepared to supply data</p>

Conservation Action Plan for Tanzania's mammals developed to identify conservation priorities for each species and establish areas of data deficiency.	Action Plan supported and endorsed by governmental wildlife agencies and NGOs in Tanzania.	Action Plan published and distributed to all stakeholders. Letters of endorsement by government and relevant authorities. Copies to be sent to Darwin Initiative.	Sufficient data exist to produce a meaningful plan. Sufficient buy-in from all stakeholders to ensure endorsement of plan.
Activities	Activity Milestones (Summary of Project Implementation Timetable)		
Administration	An MOU between ZSL and TAWIRI will be drafted and signed, posts for the positions of the project manager and field assistants will be filled, and an office will be established in the existing Tanzania Carnivore Centre. Quarterly project meetings will be held to assess progress against the logframe. Timetables for the following quarter will be drawn up at these meetings.		
Developing contributor network	TCC will provide their existing contributor list. An information packet with the project background, data check-sheets and identification characteristics will be produced and mailed to all contacts on the list in 2005. An email listserv will be set-up in order to encourage online discussions and facilitate easy data contributions. The contributor network will be continually updated as new contacts are made.		
Field surveys	Camping equipment and a project vehicle will be purchased at the start of the project, and key survey areas identified during the inception workshop in 2005. A survey technique training session will occur in November 2005, resulting in the production of a comprehensive field survey manual for TAWIRI. The survey team will attend a course on questionnaire design and interview techniques in February 06. Beginning in May 2006, approximately eight field surveys will be conducted per year during the first two years of the project. Interviews will be conducted during field surveys and on an opportunistic basis throughout the project period.		
Training	Training will begin in October 2005 with a GIS and remote sensing specialty course hosted by the WCS regional GIS technician. Additionally, training in database design and management, advanced website design and desktop publishing, and survey techniques including camera trapping and social surveys/questionnaire development, will also take place in the first year of the project. Further training in GIS, data analysis, report and scientific paper writing will be conducted in Year 2 and Year 3.		
Data entry and analysis	During Year 1 an integrated database will be established at TAWIRI, linking the existing databases for TCC and CIMU and incoming data from TMAP. Field surveys will begin in late Year 1 and continue through early Year 3. An extensive literature search including visits to public and private libraries, museums, and offices will occur in Years 1 and 2 and the early part of Year 3. Data entry by trained assistants will be an ongoing activity. Final collation and analysis of data from field surveys, contributed data, the literature, and TCC/CIMU data will begin in early Year 3. Final distribution maps will be produced in Year 3.		
Workshops	An inception workshop in early Year 1 will introduce the project and its objectives and encourage participation by relevant partners, stakeholders, and existing and potential data contributors. Initial survey sites will also be identified during this workshop. A final workshop will be held in Year 3 to bring together experts and relevant stakeholders to draft the Tanzania Mammal Conservation Action Plan.		

Publications	<p>The first issue of a quarterly newsletter will be published in February of Year 1 and will continue for the duration of the project. Posters advertising the project and encouraging participation will be produced as part of an awareness campaign and distributed throughout the country. The project's website will be published in November of Year 1 and will be regularly updated to inform data contributors and stakeholders about project activities. Following the survey techniques training in Year 1, a comprehensive field survey protocol manual will be produced and made available to TAWIRI and other partners. A draft Tanzania Mammal Atlas will be produced in December 2007, with final publication and distribution scheduled for February 2008. The draft Tanzania Mammal Action Plan will be compiled in April 2008, following the workshop; a final plan is scheduled for publication and dissemination in June 2008. Two manuscripts will be submitted to peer-reviewed journals for papers on the status and distribution of mammals in Tanzania and the conservation priorities for mammals in Tanzania.</p>
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* New addition to logframe

20. Provide a project implementation timetable that shows the key milestones in project activities.

Project implementation timetable		
Date	Financial year	Key milestones
	Apr-Mar 2005/6 Apr-Mar 2006/7 Apr-Mar 2007/8	
May 05	2005/6	Sign MOU between ZSL and TAWIRI
Jun 05	2005/6	Develop job descriptions for project manager and field assistants and advertise positions nationally
Aug 05	2005/6	Interview candidates for project positions
Aug 05	2005/6	Order project vehicle and survey equipment
Aug 05	2005/6	Inception workshop with relevant partners and potential stakeholders to encourage participation in data collection and to identify initial survey areas
Sept 05	2005/6	Hire project manager and field assistants
Oct 05	2005/6	Establish office in existing Tanzania Carnivore Centre
Oct 05	2005/6	GIS and remote sensing training (8 days) conducted by WCS regional GIS specialist
Oct 05	2005/6	Initiate training in management and operation of new CIMU database.
Oct 05	2005/6	Initiate advanced training in website design and management and desktop publishing
Nov 05	2005/6	Develop and publish project website (Updating the site will be an ongoing activity).
Nov 05	2005/6	Develop project information package (project background, data checksheets, mammal identification characteristics)
Nov 05	2005/6	Finalize initial list of contributors to contact and disseminate project information packet (updating the contributor list will be an ongoing activity). Establish listserv for contributors to easily exchange information.
Dec 05	2005/6	Initiate training in survey techniques and development of protocol manual
Dec 05	2005/6	First quarterly meeting of project team to assess progress
Jan 06	2005/6	A field manual summarizing camera trapping data collection protocols finalized.
Feb 06	2005/6	PR campaign launched through press release and possible radio interview

		of project manager.
Feb 06	2005/6	Begin extensive literature search to obtain published and unpublished literature; identify resources in Tanzania and abroad (libraries, universities, technical colleges, museums, NGO offices, websites, etc.) This activity will be an ongoing activity.
Feb 06: based on course availability	2005/6	Initiate training in conducting social surveys.
Feb 06	2005/6	First quarterly newsletter produced; subsequent publications will be an ongoing activity.
Mar 06	2005/6	Initiate first of eight annual field surveys
Jun 06		Annual meeting to review progress and select sites for coming year.
2006: based on course availability	2006/7	Advanced GIS and Remote Sensing training (3 weeks)
Jan 07	2006/7 and 07/8	Initiate second year of annual field surveys
Sept-Oct 07	2007/8	Research and compile available information for each selected mammal species
Nov 07	2007/8	Finalize range maps for each selected mammal species
Nov 07	2007/8	Draft Tanzania Mammal Atlas produced
Dec 07	2007/8	Meeting with internal and external experts to discuss and finalize draft Tanzania Mammal Atlas
2007: based on course availability	2007/8	Advanced GIS and Remote Sensing training (3 weeks)
Jan 08	2007/8	Final Tanzania Mammal Atlas released and disseminated
Jan 08	2007/8	Workshop to draft Conservation Action Plan
Mar 08	2007/8	Draft Tanzania Mammal Conservation Action Plan produced and widely disseminated to partners for comments
May 08	2008/9	Final Tanzania Mammal Conservation Action Plan published and disseminated
May 08	2008/9	Press release and local and national radio interviews by project manager highlighting key findings of Mammal Conservation Action Plan
Jun 08	2008/9	MCAP translated into Kiswahili and published and disseminated
Sept 08	2008/9	Paper published in scientific literature on mammal distribution and status in Tanzania.
March 09	2008/9	Paper published in scientific literature on conservation priorities for mammals in Tanzania.

21. Set out the project's measurable outputs using the separate list of output measures.

PROJECT OUTPUTS		
Year/Month	Standard output number	Description (include numbers of people involved, publications produced, days/weeks etc.)
Continuous	5	Project manager and project assistant will receive continuous supervision and varied training in all aspects of project operations, from organising and conducting surveys to data analysis and report write-up.
Oct 05 Oct 05 Dec 05 06 and 07	6a,b	Project manager and GIS analyst receive training in database design and management (3 weeks) PR officer trained in website design and desktop publishing (2 weeks) Four project team members trained in camera trapping monitoring techniques and data analysis (6 weeks) GIS analyst receives training in remote sensing and advanced GIS techniques (two courses of three weeks).
Jan 06	7	Camera trapping protocol manual produced for TAWIRI.
Continuous	8	Charles Foley 90 weeks and Sarah Durant 35 weeks.
May 08 Jun 08	9	A mammal action plan covering the target mammal species will be published and widely disseminated to relevant wildlife authorities and government officials. The plan will also be published in Kiswahili.
Feb 06	10	Mammal identification guide produced for survey team to cover easily confused species.
Sep 08	11b	2 paper submitted to a peer-reviewed journal describing the results of the mammal atlas and the mammal action plan.
Oct 05	12a,b	New integrated database developed for TAWIRI's CIMU, TCC, and TMAP. The new database will become the main warehouse for national data on mammal sightings and distribution. The existing TCC database on carnivore sightings will be enhanced and updated to include new technology and lessons learned from the TMAP database.
Aug 05	14a,b	Inception workshop to encourage participation in data collection and to identify target survey areas. The workshop will last one day and will include members from all national wildlife institutions, major tour operators and mammal specialists. Workshop with national wildlife authorities, government agencies, and internal/external experts to draft the Mammal Action Plan. The workshop will last 4 days.
Jan 06 May 08	15 a, b	National and local press releases to launch project and following release of Action Plan
Feb 06 and at quarterly intervals throughout project	16a, b	Quarterly newsletter to inform participants of the project's activities and progress to date and to encourage future and continued participation. Total in-country circulation will be 500 quarterly.
Dec 05	17a,b	Contributor listserv network established to promote efficient electronic exchange of mammal sightings and other data and encourage communication between participants. Existing TCC contributor network enhanced and expanded with new TMAP contributors.
Jan 06 May 08	19a	Radio marketing will take place at the inception of the project to inform and promote the project and following the release of the Action Plan to disseminate the key findings
	20	£48624 - Value of physical assets given to TZ.
	23	£110,206 - Value of all other resources raised.

MONITORING AND EVALUATION

22. Describe, referring to the Indicators in the Logical Framework, how the progress of the project will be monitored and evaluated, including towards delivery of its outputs and in terms of achieving its overall purpose. This should be during the lifetime of the project and at its conclusion. Please include information on how host country partners will be included in the monitoring and evaluation.

Monitoring and Evaluation

The project will use an internal monitoring and evaluation framework that has been developed and successfully implemented by the TCC. In this framework the activities of the project are monitored against workplans drawn up at quarterly meetings attended by the entire project team. Workplans are structured according to the logical framework in the original proposal and modified according to project progress. The minutes and revised workplans developed in the meetings will all be kept in the project files. The project manager will also submit weekly informal reports to the project leaders for monitoring and evaluating progress against the quarterly workplans and all project staff will submit reports on any training, surveys or trips they undertake for the project. Monitoring information will be additionally available through project progress reports, mission reports from visiting experts, and training course and workshop reports. These reports will be circulated widely to wildlife professionals and experts both within country and in UK research institutions. The feedback obtained from these reports will form the basis of an informal evaluation. Periodic informal review meetings will be held between ZSL and key stakeholders to review progress and to assess future priorities. These meetings will take place at a minimum 6 monthly intervals.

Disseminating results

Dissemination outputs are specified in section 17. Capacity and mechanisms for dissemination are dealt with here.

- The Tanzania Mammal Conservation Action plan will be printed and distributed to all governmental institutions and stakeholders. It will also be distributed internationally to key individuals who are in a position to initiate similar centres elsewhere.
- 2 scientific papers will be produced, to be co-authored, as appropriate by scientists at TAWIRI and ZSL as well as other members of the project team. Likely target journals are Conservation Biology, Animal Conservation and Journal of Animal Ecology.
- Posters and newsletters will be printed and distributed either through TANAPA at park gates, through email and post or through lodges and safari operators using the distribution network established under the TCC and extended under this project.
- Tanzanian press releases will be handled through the project manager, who will make use of contacts with local and national media developed through the TCC to gain maximum coverage. UK press releases will be handled through the ZSL and University of Cambridge press offices, who will use their wide range of contacts with local and national media to gain maximum coverage.
- TV and radio coverage will be handled through the project manager or through the ZSL and University of Cambridge press offices, depending on the country where coverage will be shown.
- Awareness in the international conservation community will be promoted through links with WCS international and through ZSL in the UK. Relevant information will be disseminated through the relevant IUCN specialist groups, academic institutions and NGOs. The project leaders have strong links with these organisations and with the international conservation community.