

Submit by 13 January 2006

**DARWIN INITIATIVE APPLICATION FOR GRANT ROUND 14 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**

<b>Name:</b> Dr. David Harris	<b>Address:</b> Royal Botanic Garden Edinburgh, 20A Inverleith Row, Edinburgh EH3 5LR
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**2. Project title (not exceeding 10 words)**

Building capacity for forest inventory in the Republic of Congo.
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**3. Project dates, duration and total Darwin Initiative Grant requested**

<b>Proposed start date: 1 June 2006 Duration of project: 2 years 10 months End date: 31 March 2009</b>					
<b>Darwin funding requested</b>	<b>Total</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/2010</b>
	£ 184,500	£ 96,093	£ 60,671	£ 27,436	£ 300

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

<p>To facilitate the conservation of forests in northern Congo by building capacity for inventory, using novel ways of presenting botanical data to a variety of local user groups, and supporting evidence-based decisions for forest management. This will include:</p> <ol style="list-style-type: none"> <li>1. Training staff for forest inventory and conservation,</li> <li>2. Developing novel ways of organising &amp; presenting botanical data, and</li> <li>3. Providing crucial data &amp; advice for management.</li> </ol>
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**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 time on project)	Main project partner or co-ordinator in host country
<b>Surname</b>	Harris	Wortley	Mokoko
<b>Forename (s)</b>	David James	Alexandra Helen	Jérôme
<b>Post held</b>	Herbarium Curator	Post-doctoral Researcher	Director, WCS-Congo
<b>Institution</b>	Royal Botanic Garden Edinburgh	Royal Botanic Garden Edinburgh	Wildlife Conservation Society Congo
<b>Department</b>	Herbarium	Science	Directorate

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

Yes. Peru (2001-2003), Vietnam (2001-2004), Chile (2002-2005), Bhutan (2003-2006), Nepal (2003-2006), Lao PDR (2004-2007), Turkey (2005-2009) plus two Darwin Scholarships.

**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)**

**Activities (50 words)**

**Achievements (50 words)**

**8. Please list the UK (where there are partners in addition to the applicant organisation) and host country 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.**

**WCS-Congo** (contact: Dr. Jérôme Mokoko, Director) has extensive experience in northern Congo's forests and will manage the project logistics in Congo in collaboration with the Ministère de l'Economie Forestière et de l'Environnement. WCS-Congo participated in discussions about the project from 2002-2004, including meetings in Brazzaville in 2004 and 2005 and northern Congo in 2002-2005. It has made a commitment to match funds and will be directly involved in implementing the project's long-term goals through continued training, development and workshops.

**Institut Développement Rural**, Marien Nguabi University (contact: Dr. Jean-Marie Moutsamboté) has a long-term involvement in the development of the project. The need for the project was identified by Dr. Moutsamboté with the UK project leader during preliminary inventories in northern Congo and discussed during meetings from 2002-2004. University students will be key beneficiaries of the training components: undergraduate training at the University and training of para-taxonomists in the field will be developed and carried out in partnership by Moutsamboté and Harris.

**Centre d'Etudes sur les Ressources Végétales (National Herbarium) and Centre National d'Inventaire et d'Aménagements des Ressources Forestières et Fauniques**

(Contacts: Dr. Kami and Dr. Boundzanga). The need for the project was discussed, and proposals developed, with these branches of government in 2004 and 2005 in Brazzaville. These two organisations will provide trainers and trainees for the project. They will also participate in the workshops and distribute training materials. Kami, at the herbarium will participate in the collection and identification of specimens and process the specimens deposited at the herbarium.

Individuals have already been identified to replace all key people should staff change at any of the organisations.

For evidence of these partnerships see attached supporting letters from Boundzanga, Medjibe, Mokoko, Moutsamboté, Moyen and Ouabonzi. As further evidence of partnerships, please see joint publications in CVs of Harris, Medjibe and Wortley.

**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.**

Harris and WCS-Congo staff met with local communities in Kabo and Bomassa in 2003, 2004 and 2005. Harris met with logging companies in 2003 and 2004. WCS-Congo is involved in joint projects with two logging companies and its staff are in frequent contact with those companies (see supporting letter from Mokoko). Local government authorities also contributed to the discussions in Kabo and Bomassa in 2003 and 2004, which gave rise to this project.

## 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.**

This is a new initiative, but one which builds upon Harris's twenty years experience of botanical inventory in Central Africa, and long-term collaboration with both WCS-Congo and the Institut Développement Rural. A number of previous and existing DI projects have involved botanical inventory, but none have been based in the Republic of Congo. Our work will benefit from extensive discussions with workers on previous DI taxonomic training and inventory projects including Martin Cheek (Conservation of Plant Diversity in Western Cameroon), Robert Scotland (Plant Endemism of the Central Andean Valleys, Bolivia), Steven Blackmore (Building Capacity for Plant Biodiversity Inventory and Conservation in Nepal) and Mark Newman (Taxonomic Training for a Neglected Biodiversity Hotspot Within Lao PDR). In addition we will be able to learn from those running similar projects, with similar outputs, outside Congo, including Chris Wilks (WCS-Gabon) and William Hawthorne (DFID-FRP Virtual Field Herbarium). This project will co-operate and complement the existing work of WCS-Congo in forest ecology and management, and the work and collections of the National Herbarium in Brazzaville.

**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.**

By providing capacity for Congo to generate recommendations for conservation and sustainable forest utilisation, this project feeds directly into management plans which will be an integral part of the National BAP and therefore helps the country to fulfil its CBD obligations. The project contributes to the Congo government's implementation of CBD articles 12 (25%), 8 (10%), 17 (10%), 6 (5%), 7 (5%), 10 (5%) and 18 (5%). In particular it will emphasise the cross-cutting themes of forest biodiversity (20%), the Global Strategy for Plant Conservation (5%), Global Taxonomy Initiative (5%), protected areas (5%) and sustainable use and biodiversity (5%). The project will be liaising with the national focal point in Congo, Dr Namedoun.

**12. How does this project 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.**

There is an immediate and growing threat to the long-term future of biodiversity in the forests of northern Congo. The government, local NGOs and foresters are faced with inadequate botanical information upon which to base management plans for conservation and sustainable use – only a few people in the world can identify many tree species in northern Congo, and field-guides do not exist. Forest managers have recognised this urgent need and brought it to the attention of Harris and Moutsamboté. They require training, infrastructure development and taxonomic data and manuals for plant identification as tools for inventory in a format suitable for local users' needs. This depends on the development of a comprehensive botanical dataset, accessible to all forest stakeholders, supported by a sustainable, tested infrastructure and trained personnel, and linked to global datasets for identification using modern techniques. In addition to species identification, more complex information is needed to inform conservation strategies and sustainable extraction, including details of distribution and rarity, regeneration and the effect of differing exploitation regimes on both individual species and overall forest structure. The results of the project, in the form of recommendations for forest management, will be used in writing the National Biodiversity Strategy and Environmental Action Plan, to which Mokoko and others are contributing (see letter from Ouabonzi).

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

The project will leave a team of trained para-taxonomists empowered to identify all their local tree species and employed in permanent jobs where they will use this knowledge. Postgraduate training will provide staff with the skills and abilities to continue and advance the work. This person will continue to recruit new groups of stakeholders. In addition, the virtual herbarium and manual will facilitate knowledge-sharing between scientists, policy-makers, foresters and indigenous peoples. This will enhance the status of indigenous people through their active participation in designing the manual and providing local names, which will form a major route for accessing the information. By enabling and encouraging more sustainable forestry practices, sustainable livelihoods for stakeholders in the forest will also be supported.

**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.**

This project will dramatically improve the amount of usable botanical information in northern Congo by transferring taxonomic knowledge from the UK to colleagues in Congo, and providing the materials and support network to produce effective forest inventories, including a large amount of equipment for plant collecting and data-processing. The major impact of the project will be in terms of trained personnel, which will be achieved through a large amount of contact-time between UK and Congo personnel during field-work. This will be reinforced through a focus on workshops, formal training and the training of trainers.

Materials to support the impact of this work, including a training manual, tree checklist, protected area checklists and posters will be translated into local languages and distributed in-country. A further key impact of the project is that it will generate the data and infrastructure to build and maintain an electronic "virtual herbarium," the most efficient way to store, provide access to and disseminate botanical information. Most project end-users have good access to computers; for other stakeholders the virtual herbarium provides the best means to generate hard-copy identification manuals. Reference collections to support further taxonomic work will be named and deposited in the National Herbarium in Brazzaville, and permanent forest plots will provide a basis for further ecological work. Evidence-based forest management reports will be disseminated to managers and policy-makers in a usable format and language. These people will also be involved in outputs workshops, to ensure maximum impact from the project upon the National Biodiversity Strategy and on practices for sustainable forestry and conservation.

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

By working with the university, an established local NGO (WCS-Congo) and local foresters (through the Union des Industries du Bois which represents forestry companies in the area), the project will leave a strong legacy: a team of trained para-taxonomists employed in permanent jobs where they will use their skills and knowledge. By strengthening long-term collaborations between WCS-Congo, the government, the university, forest managers and other stakeholders, this project builds towards a lasting infrastructure for conservation of the forests of northern Congo.

MSc training will provide at least one person, permanently employed post-project, with the skills and abilities to continue and advance the work. They will continue to train the team and catalyse further funding. A legacy workshop conducted at the end of the project will focus the efforts of the team on attaining funding from new sources to ensure the continued legacy of the project and uptake of project outputs. All outputs will be disseminated freely to stakeholders, and management recommendations will be supplied to forest managers and policy-makers in a usable format, to ensure a long-term impact on conservation and sustainable forestry.

**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.**

We have established a clear timetable leading up to the end of this project, which includes identifying and mentoring a new team-leader well in advance of the end of the project. This person will, with support, write proposals to obtain funding for the continuation of the work, which will be drafted from the second year of the project. The project timetable includes continued dialogue, planning and review meetings between all stakeholders to identify and review opportunities for project development, and risk analysis to identify potential problems. By involving the maximum number of partners in all activities, the project will strengthen the links between conservation, education, research and commercial organisations in Congo, to build a network with the capacity to continue similar collaborative work. Targets and obligations for all partners will be clearly laid-out well in advance of the end of the DI project. Project trainees will be in supported positions of employment to continue their work and the university will be provided with the courses and materials needed to continue course development and tuition.

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

All outputs will advertise this project as a Darwin project. Almost all of these, including posters, workshop programmes and proceedings, manuals, teaching materials and the virtual herbarium will bear the Darwin logo. Additionally, press articles and radio broadcasts in the UK and Congo will publicise the activities and results of the project and the support received from the DI.

**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?**

The main focus of the project is training and development. Trainees will be drawn from WCS, CERVE, CNIAF staff and a pool of recent graduates. The criteria for selection will be the relevance of their job description, amount of support they can be given after training, proven ability, and interest in botany. The training will be at advanced professional, postgraduate and undergraduate level. Up to 50 people will be involved from the Republic of Congo. The effectiveness of training will be measured through practical and written exams, ongoing assessment and feedback sessions. The training is designed so that those trained are competent to train others. In particular, the university lecturer and plant taxonomist (MSc level) will continually be developing their teaching skills and knowledge of training techniques. Training courses will each last up to two weeks and be spread throughout the project period. Trainee outcomes will be monitored by assessing the quality of data they collect, the accuracy of their identifications and quality of their collections. Training of trainers will be monitored by assessing their performance when training; more senior trainees will be monitored through their reports and publications.

## 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
<b>Goal:</b> 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 <ul style="list-style-type: none"> <li>• the conservation of biological diversity,</li> <li>• the sustainable use of its components, and</li> <li>• the fair and equitable sharing of benefits arising out of the utilisation of genetic resources</li> </ul>			
<b>Purpose</b> 1. To train staff for forest inventory and conservation.  2. To develop novel ways of organising and presenting botanical data.  3. To provide crucial data & advice for management.			
One trained plant taxonomist (MSc), eight para-taxonomists & c.30 BSc students.	Training reports; payroll records; university exam records; reports.	Continued support for conservation & sustainable use of forest resources by Congo government, NGOs and other stakeholders.	
Virtual herbarium developed, distributed & made available online, personnel trained to maintain it.	Distribution list and website.		
Papers, reports & recommendations on sustainable forest management.	Copies of papers, reports & recommendations, with distribution lists.		
<b>Outputs</b> Checklist of tree species with local names.  Species checklists for 2 protected areas.  30 x 30 m permanent plots  Herbarium collections.  Virtual herbarium.  Tree identification training manual.  Papers & reports on forest management & conservation.  Publicity material.			
200 copies of checklist published by end Yr 2.	Copy submitted with annual report.	Partners continue to have access to electronic media.	
2 manuscripts drafted Yr 2; published in peer-reviewed journal Yr 3; 2 x 300 copies distributed	Drafts & copies of papers sent with annual reports.	Recommendations incorporated into management.	
120 plots established by end Yr 2.	Plot data sent with annual reports.	Management plans continue to be prepared.	
4,000 specimens representing 1,500 species by end Yr 3.	Specimen lists sent with annual reports.	Conservation messages understood and acted upon.	
5,000 images of 1,500 species by end Yr 3.	Image lists & CD sent with annual reports.		
Drafted Yr 1; reviewed Yr 2; published Yr 3; 300 copies distributed.	Draft, reviews, copy of manual & distribution list sent with reports.		
At least 2 peer-reviewed papers & 4 reports published, sent to managers & policy-makers by end Yr 3.	Copies of manuscripts, reviewers' comments and reports sent with final report.		
200 copies of 2 posters, 3 press articles, 2 radio/TV broadcasts.	Copies of all outputs sent with annual reports.		

<b>Activities</b>	<b>Activity milestones</b>	<b>Assumptions</b>
1. Training	Yr 1: 6 wks para-taxonomy training; BSc course developed. Yr 2: MSc student enrolled; 5 wks para-taxonomy training; 2 wks undergraduate training. Yr 3: MSc completed; 4 wks para-taxonomy training; 2 wks undergraduate training.	MSc candidate & para-taxonomists of suitable calibre are selected, complete training & remain employed.
2. Documenting	Yr 1: Tree checklist written; manual drafted. Yr 2: Virtual herbarium & protected area checklists started; manual tested. Yr 3: Herbarium & checklists completed; manual published & distributed.	Papers accepted for publication.
3. Advising on forest management	Yr 1: Plots selected; herbarium specimens collected. Yr 2: Data analysis; reports & papers submitted. Yr 3: Papers reviewed & published; management recommendations disseminated.	
4. Publicising and disseminating	Yr 1: Project initiation workshop; UK press release; Congo radio/TV broadcasts. Yr 2: Congo radio/TV broadcasts; posters. Yr 3: UK press release; results & outputs workshops.	Press take up stories.

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

<b>Project implementation timetable</b>		
<b>Date</b>	<b>Financial year</b>	<b>Key milestones</b>
Jun-Aug 2006	Apr-Mar 2006/7	Project start. UK project leader to Congo: project initiation workshop, para-taxonomist training
Aug 2006	Apr-Mar 2006/7	Permanent plot delimitation, herbarium specimen collection, image collection and BSc course development started
Sep 2006	Apr-Mar 2006/7	UK project leader to Congo: para-taxonomist training
Sep 2006	Apr-Mar 2006/7	Congolese candidate MSc student to UK to learn English
Sep-Mar 2006/7	Apr-Mar 2006/7	UK staff draft training manual
Dec 2006	Apr-Mar 2006/7	UK project leader to Congo: para-taxonomist training
Feb 2007	Apr-Mar 2006/7	Tree checklist completed
Feb-Mar 2007	Apr-Mar 2006/7	2 UK staff to Congo: para-taxonomist training, manual testing
May 2007	Apr-Mar 2007/8	Virtual herbarium started
May 2007	Apr-Mar 2007/8	Candidate MSc student accepted onto course
Jun-Jul 2007	Apr-Mar 2007/8	Project leader & MSc student to Congo: para-taxonomist training, MSc student begins 3 months fieldwork
Sep 2007	Apr-Mar 2007/8	MSc student enrolled at University of Edinburgh
Sep 2007	Apr-Mar 2007/8	2 project participants attend conference
Sep-Dec 2007	Apr-Mar 2007/8	2 protected area checklists drafted
Dec 2007	Apr-Mar 2007/8	UK project leader to Congo: para-taxonomist training, undergraduate teaching
Mar 2008	Apr-Mar 2007/8	4 reports and 2 papers submitted
Sep 2008	Apr-Mar 2008/9	MSc student completes course and returns to Congo
Sep 2008	Apr-Mar 2008/9	Virtual herbarium completed, website placed on-line
Oct 2008		UK project leader to Congo: para-taxonomy training, legacy workshop
Jan-Feb 2009	Apr-Mar 2008/9	UK project leader to Congo: para-taxonomist training, undergraduate teaching, results & outputs workshop
Feb 2009	Apr-Mar 2008/9	Submission of grant applications
Mar 2009	Apr-Mar 2008/9	Project end

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

<b>PROJECT OUTPUTS</b>		
<b>Year/Month</b>	<b>Standard output number (see standard output list)</b>	<b>Description (include numbers of people involved, publications produced, days/weeks etc.)</b>
Jul-Aug 2006	8	6 weeks spent by UK project leader in Congo
Jul-Aug 2006	6A, 6B	2 weeks training 4 para-taxonomists
Aug 2006	14A	1 project initiation workshop
Aug 2006	15C	1 UK national press release
Aug 2006	19C	1 Congo local radio broadcast
Sep 2006	8	4 weeks spent by UK project leader in Congo
Sep 2006	6A, 6B	2 weeks training 4 para-taxonomists
Dec 2006	8	4 weeks spent by UK project leader in Congo
Dec 2006	6A, 6B	2 weeks training 4 para-taxonomists
Feb 2007	n/a	1 checklist of tree species published/distributed
Feb-Mar 2007	8	6 weeks spent by 2 UK staff in Congo
Feb-Mar 2007	6A, 6B	4 weeks training 4 para-taxonomists
Jun-Jul 2007	8	4 weeks spent by UK project leader in Congo
Jun-Jul 2007	6A, 6B	2 weeks training 4 para-taxonomists
Jul 2007	22	120 30 x 30 m forest plots established
Sep 2007	14B	2 staff attend 1 conference, paper presented
Dec 2007	7	2 posters published/distributed
Dec 2007	9	4 weeks spent by UK project leader in Congo
Dec 2007	4A, 4B	2 weeks training 15 undergraduate students
Dec 2007	6A, 6B	1 week training 4 para-taxonomists
Dec 2007	15A	1 Congo national press release
Dec 2007	19C	1 Congo local radio broadcast
Sep 2008	n/a	1 website established to access virtual herbarium
Sep 2008	2	1 student trained to MSc
Sep 2008	12A	1 virtual herbarium of images of 1,500 species
Sep 2008	13B	1 herbarium collection (IEC) enhanced
Oct 2008	8	4 weeks spent by UK project leader in Congo
Oct 2009	6A, 6B	2 weeks training 4 para-taxonomists
Oct 2009	14A	1 legacy workshop
Nov 2008	7	1 tree identification training manual published
Jan 2009	14A	1 project results & outputs workshop
Jan 2009	4A, 4B	2 weeks training 15 undergraduate students
Jan 2009	6A, 6B	2 weeks training 4 para-taxonomists
Jan 2009	9	4 forest management reports written & distributed
Jan-Feb 2009	8	6 weeks spent by UK project leader in Congo
Jan-Mar 2009	23	£199,799 of funding in-kind
Feb 2009	11A	2 peer-reviewed papers published
Mar 2009	11A	2 protected area checklists published/distributed
Mar 2009	15C	1 UK national press release
Mar 2009	20	Computers, cameras, collecting, herbarium and forestry equipment worth £12,000 left in Congo

**PROJECT BASED 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.**

The means of verification outlined in the Logical Framework form a key part of the monitoring and evaluation process. All project staff and trainees will be required to fill in evaluation sheets regularly, and trainees will be monitored by their trainers using frequent tests. This will allow any



changes in training delivery and content to be implemented as soon as possible. The project's key indicators will be evaluated in appropriate ways: publications will be peer reviewed, the virtual herbarium will be evaluated through conference presentations and progress of the MSc student will be monitored and evaluated by systems already in place at the University of Edinburgh. The project reports and external assessments will be crucial in monitoring and evaluating this project in meeting its overall purpose. Partners from the host country will play a key role in monitoring and evaluating the project throughout its life: partner organisation staff not directly involved in the project will evaluate it against this proposal; and all the main project partners' management structures include reporting systems which will be used extensively in monitoring and evaluation.