

# Darwin Initiative – Final Report

(To be completed with reference to the Reporting Guidance Notes for Project Leaders  
(<http://darwin.defra.gov.uk/resources/reporting/>) -

it is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

## Darwin project information

Project Reference	15034
Project Title	Red List Plants of Cameroon
Host country(ies)	Cameroon
UK Contract Holder Institution	Royal Botanic Gardens, Kew
UK Partner Institution(s)	n/a
Host Country Partner Institution(s)	Herbier National Camerounais, Yaoundé, Cameroon; ERUDEF, ANCO, CWAF, MINEF-MINEP
Darwin Grant Value	£142,225
Start/End dates of Project	July 2006- 4 April 2011
Project Leader Name	Martin Cheek
Project Website	Under development
Report Author(s) and date	Martin Cheek 5 May 2011

## 1 Project Background

Cameroon forest contains the highest plant species diversity per degree square in Tropical Africa. Many such species are threatened. The project purpose was to provide a sound basis for conserving threatened species throughout Cameroon by assessing the status of every species of plant and making the information available in a variety of formats for different user groups.

## 2 Project support to the Convention on Biological Diversity (CBD)

Since this is a plant project, the GSPC (Global Strategy for Plant Conservation) is the most relevant part of the CBD. GSPC Targets 1 (a working list of all known plant species) and 2 (a preliminary assessment of the conservation status of all known plant species...) were met at national level by the publication of a book with the first taxonomic checklist with IUCN assessments (The Vascular Plants of Cameroon, Onana 2011). Since 7850 species are treated in Onana 2011, this meets 2-3% of the Global Target. Target 2 was also met with the publication of the Red Data book of the Plants of Cameroon (Onana and Cheek 2011). Contributions were also made under Targets 3 (developments of models with protocols for plant conservation...) since e.g. monitoring techniques were developed in the Red Data book, and Target 4 (at least 10% of the world's ecological...conserved), Target 5 (protection of 50% of the most important areas for plant diversity) and Target 7 (60% of the World's threatened species conserved in situ) since a new National Park was gazetted due to the project and we have reason to hope that more will follow based on the data and proposals in our Red Data book. The project also contributed to Target 14 (promoting education and awareness) through the publication of guides for secondary school teachers on Red Data species, also the coverage of our project on local national tv, radio and newspapers and Target 15 (number of trained people working with appropriate facilities in plant conservation increased...) through our three training workshops in making IUCN conservation assessments and plant identification, and site monitoring. Five persons from Cameroon visited RBGKew for training and /or research purposes during the project. We also improved the facilities in the National Herbarium by contributing hundreds of high quality accurately identified specimens through the project. These

contributions to multiple GSPC targets have been converted into 2 or 3 main CBD articles as requested in the advice to Annex 3 of this report.

The partnership supported the Herbar National of Cameroon, led by Jean Michel Onana to meet the CBD objectives under GSPC Target 1 and 2 (see above). It also trained Govt Ministry of Environment and Protected (MINEP) areas staff to be able to do IUCN assessments and to have basic training in plant identification.

The CBD focal point person at the inception of the project and for most of its life was Mrs Mary Fosi, senior technical advisor at MINEP. She was consulted in developing and delivering the project, Contact was also established with Mrs Galega Prudence, the new CBD focal point. Mrs Fosi attended the book launch and final workshop and received a framed drawing of a new fruit tree species, *Myrianthus fosi* named in her honour in the course of the project.

### **3 Project Partnerships**

The project built on a long-standing partnership between RBG, Kew and Herbar National Camerounais under a series of 5 year MOUs, the current one covering the life of this project 2006-2011. The partnership between the two institutes has strengthened further

Project partnerships with local NGOs have varied in extent of dialogue and commitment. With ANCO particularly high levels of commitment to partnership, plant conservation and delivery have been experienced consistently over the life of the project.

Although no partnerships with other UK institutions were envisioned originally, a productive relationship developed with Bristol Zoo in the course of the project with respect to their interests in Cameroon, principally the Mefou proposed national Park which they support through CWF/AAA.

### **4 Project Achievements**

A Red Data book of Plants of Cameroon with GIS based map showing concentrations of threatened plant species for national planning of sustainable development, and teachers' packs for schools (guides plus posters) were launched with five other books on plant conservation and diversity in Yaoundé at the end of the project in Spring 2011. The event achieved great publicity with six reports on national television, radio (including a 15 minute programme on the Red Data book alone), newspapers and internet. This is believed to be the first Red data book published for any Tropical African country. In all 35 new species, mostly threatened, were published in 34 publications, mainly peer-reviewed scientific journals. A documentary film "The Mists of Mwanenguba" made with project staff in 2008 resulted in the creation of the Bakossi National Park and has featured widely on television in Africa. The position of the National Herbarium has been greatly strengthened within the Ministry of Scientific Research and Innovation as a result of the project, and its scientific capacity has been increased. Local conservation NGOs were provided with the means to draw new attention to proposed protected areas and to improve their management of the threatened species that they contain through the publication of three new "Conservation Checklists", and through training of their staff.

#### 4.1 Impact: achievement of positive impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

The main goal of the project was to complete and publish a **Red Data book of the plants of Cameroon** together with other publications on plant conservation for a variety of audiences in Cameroon. This was achieved: the first Red Data book on plants for any tropical African country. The Red Data book provides a platform for addressing the conservation of Cameroon's threatened plant species. In addition, for the first time, every vascular plant species known to occur in Cameroon has been assessed for its conservation status (**The Vascular Plants of Cameroon, Onana 2011**). In the Red Data book, each threatened species is provided the scientific name, the IUCN threatened status code, the justification for the assessment, a short description to aid identification, notes on the habitat, threats, and management suggestions to support the survival of the species. The launch of these books in Cameroon at the end of the project created an impact on ministry officials, environmental NGO representatives, scientists, and through repeated broadcast of the event on national tv and on the internet, radio and newspaper, on the population of Cameroon as a whole.

However, it will probably take months for the data in these books to become embedded and utilised to their full potential, e.g. hopefully in modifying the existing national biodiversity strategy and protected area system, and for the mapping of concentrations of threatened species diversity to be utilised at national planning level as was intended at the outset. Further lobbying and conversations are likely to be needed to encourage this. For example the opportunity of a matching UK book launch provides the chance to invite senior Cameroon Govt. Representatives, such as the Minister of the Environment, and so to press for creation of more national parks at the locations identified in the Red Data book. Creation of one new national park, Bakossi Mts, has already been credited to this project, following the release of the film *Mists of Muanengouba* which mainly featured the project team (see previous annual reports).

A major impact of the Red Data book will be on the international conservation community. IUCN have stated that the 815 new Red Data assessments of threatened species in the book should go on their November 2011 redlist website update. Cameroon will then have more formally Red Listed threatened plant species than any other tropical African country- reflecting its global importance for threatened plant diversity. Potentially this will raise awareness among international funding agencies of Cameroon's position as a priority for conservation of plants.

Internet release through the Kew website. Release of the specimen data underlying the Red Data book will soon occur in the form of an interactive Google Earth map interface which was developed by George Gosline in April 2011.

The Red Data book is available through print-on-demand publishing, offering limitless number of copies. Moreover Kew publishing are producing at their own cost, a revised, more highly designed version of the book which will include species maps adjacent to the relevant text (instead of in blocks as at present) and many more plant portraits in colour to aid identification.

**The Dom conservation checklist**, published about 1 year ago in 2010, is reported by ANCO already to have been highly useful in raising the profile of the Dom forest and the validation of their efforts to protect it with local notables and officials. Already they report that forest clearance at Dom has stopped. On May 23 2011 they plan to have a formal book launch at Nkor, a regional centre, which will enable this success to continue. The same positive conservation impacts are to be hoped for with the other two, much more recently published conservation checklists, produced for ERUDEF (**The Plants of Lebialem Highlands, a Conservation Checklist**) and CWAF/Bristol Zoo.

Bristol Zoo, the main supporters of CWAF, are using the recently published **Plants of Mefou, a Conservation Checklist** and the conservation case it makes based on threatened plant species, to support the gazettelement of the proposed National Park.

**The Teaching Guides on Cameroon Red Data plant species.** Completion of the Red Data book was the main goal of the project. Other outputs were seen as secondary. While the Conservation Checklists have high (or potentially so) impacts, these are mainly local in effect and not national. The teaching guides were seen as a way of getting a distillation of the Red Data book to the next generation of Cameroonian decision makers: the children, by way of providing a guide for teacher at each secondary school in the country. With each guide a colour conservation poster would be included of a threatened species specific to the Region of the school concerned (there are ten Regions in Cameroon). Together the guide and poster would make a teaching pack. Thereby teachers in receipt of the pack would be in a position to educate their children on the fragility of the survival of some threatened Cameroonian species, of an example of Cameroonian species already believed to be extinct, and to be aware of some of the basics of specimen collection being the basis for identification and assessment of threatened plant species. At the project planning stage, a Cameroonian environmental education NGO, Living Earth, now FCTV, agreed to assist distribution of the teachers packs and gave 200 as the number needed. As the Red Data book was finalised and writing of the teachers guide became possible, FCTV, now with different staff, were consulted again and it was decided that 400 copies in English and 400 in French were needed. FCTV are now trialling the packs at selected schools and providing feedback before distributing them more widely. They have also sent copies to the Minister of Secondary Education to enquire as to whether the material might be incorporated into the National Curriculum and they believe this to be a real possibility, but that the school inspectorate will probably want to be involved in developing the guide. Jean Michel Onana, Head of the Herbarium National Camerounais our main project partner pointed out that this guide will not just be useful for schools but for many educated Cameroonians since it is concise, attractively designed and engaging and is more likely to be read through from cover to cover than the telephone directory-like Red Data book itself.

#### **4.2 Outcomes: achievement of the project purpose and outcomes**

The project surpassed its planned purpose and outcomes. Cameroonians and the world community now have access to detailed knowledge of the identity, locations, threats and suggested solutions for each of the newly assessed threatened plant species of Cameroon.

#### **4.3 Outputs (and activities).**

The project did achieve its outputs in the logframe, and produced additional outputs, such as the Taxonomic Checklist of Vascular Plants of Cameroon, with IUCN assessments, a new volume of the Flore du Cameroun, not just four papers describing new species but a total of 34 publications in which a total of 35 new species were published including one commemorating the Darwin Initiative project by name, *Psychotria darwiniana*. However, the timeframe proved to be overly ambitious and so two extensions were requested and were kindly granted by the Darwin Initiative.

#### **4.4 Project standard measures and publications**

34 publications have resulted from the project so far (at least three more are in press) including seven volumes. A total of 35 new species to science are among these. These are detailed in Annexes 4 and 5.

#### **4.5 Technical and Scientific achievements and co-operation**

The main original planned outputs were four books and one booklet. All were co-authored by Cameroonian and UK (Kew) authors. The books ms were reviewed internally by three Kew staff who are experienced Red Data book/assessment specialists (The Red Data Book of Cameroon Plants) while three conservation checklists were reviewed by the editor of the Journal of Tropical Ecology, and the booklet by a senior member of Kew's Educational dept.

Two additional output volumes were reviewed within the project team before publication, one of which (Onana 2011) was solely Cameroonian authored. The c. 25 publications in scientific journals were peer-reviewed. Of these, **13** were co-authored by Cameroonian authors and **4** were solely authored by Cameroonian scientists. The Darwin Initiative and the Red Data Cameroon Plants Project is acknowledged in these publications.

In the four books referred to, the methodology and development of the research involved is stated in the introductory chapters, each of several pages. The papers in the journals are taxonomic with conservation assessments and follow the standard methodology in those disciplines, elements of which are covered in the introductions to those papers. The content of the four books and booklet, especially the Red Data book, has been summarised in 4.1 above of this report. The staff involved in the publications are listed either as authors (see annexe 5) or in their acknowledgements.

More analytical maps are to be done for co-publication as papers.

This project was primarily biological research focussed – plant surveys, identification and data collection and analysis to produce a Red Data book for the Plants of Cameroon.

#### **4.6 Capacity building**

Three short project workshops in Cameroon have focussed on teaching the IUCN conservation assessment methodology to Cameroonian biologists, from Ministry officials, researchers and students to NGO technicians, using Cameroonian plant examples. Cameroonian counterparts have also had capacity built in a series of plant surveys with Kew staff. Furthermore seven visits to Kew by Cameroonian scientists and technicians for capacity building at different levels during the life of the project, for example: two researchers from the national herbarium visited over several months to complete identifications of specimens with Kew specialists for the conservation checklist and Red Data books, and to complete specific research projects (see authorship of publications in Annexe 5 by Onana and Tchiengue).

Four technicians from Cameroon visited Kew for training over several weeks in herbarium techniques and basic plant identification skills using specimens and are authors or co-authors on several family accounts in the conservation checklists (authored under the names of Nke, Sene, Ndivi and Oben, but not itemised in Annexe 5 where only authors of the whole publication are given). Moreover, Bate Oben, a Cameroonian was supervised at Kew to do the major part of the databasing and georeferencing for the Cameroon Red Data book.

Evidence for the increased capacity of the main country partner, the National herbarium of Cameroon, especially the head, J.-M. Onana, is that they have increasingly taken an important role in the events of the project. For example, JMO took the main lead in the fieldwork filmed in the 'Mists of Mwanenguba' and also led the final project workshop. He is the sole author of 'The vascular Plants of Cameroon' and a major scientific research paper (A revision of *Dacryodes* in Africa). Consequently his prestige and that of NHC have increased greatly. The increased standing of the NHC within Cameroon as a result of this project will undoubtedly maintain and increase its capacity to lead on plant diversity research in Cameroon.

All of our host country partner organisations are keen to take forward plant diversity conservation work after the end of the project.

Kew has increased its capacity to be a better project partner by the experience gained in the life of this project.

#### **4.7 Sustainability and Legacy**

The most enduring project achievements are likely to be the 34 publications which are a permanent record. While the Red Data book and the Taxonomic Checklist are likely to be superseded, they are the essential first steps to future revised editions. These works are the foundations for all further cataloguing and conservation in Tropical Africa's most species diverse nation (plants, per degree square).

The publication of the Cameroon Plants Red Data book, the first for any tropical African country, will set an example to others that such books are possible. It should promote an increase in production of IUCN assessments for Tropical Africa in the run up to producing such books for other nations.

The impetus to finally create the Bakossi National Park, arguably Tropical Africa's most important site in terms of total numbers of plant species, and numbers of narrow endemics, which arose from the work of this project (see earlier annual reports) is an important and enduring legacy.

The resurrection of the Flore du Cameroun series, with two volumes published after a gap of more than ten years, has been welcomed in Cameroon. This gives hope that the series might one day be completed, enabling all the species of Cameroon to be delineated, identified and assessed for conservation status.

As a result of the acclaim and interest at the launch of the outputs of the project in Yaounde in April 2011, the standing and value of the National herbarium, (Cameroon's national centre for plant identification, cataloguing and conservation) in the eyes of the Cameroon Govt, and therefore its future investment in the National herbarium is likely to be maintained or increased. Moreover, the personnel and material capacity of the NHC has been directly enhanced during the life of the project.

Project staff were either permanent institutional employees who will continue in post and focussed on the objectives of the project, or temporary technical staff who have already moved on to other projects or doctoral programmes.

The project partners have kept in touch. Future collaboration to further the conservation of threatened plant species in Cameroon is being discussed and hopefully will result in a new project venture, building on this project.

## **5 Lessons learned, dissemination and communication**

That such a project as this could be completed successfully, the first for any tropical African country, is a key lesson.

The project achieved far beyond its original planned targets in terms of publications, surveys, protected areas achieved, showing the benefits of seizing opportunities as they arise.

The delays in completing the project were due to:

1. over-ambitious initial project planning in proposing to complete four major volumes in the final few months.
2. unexpected and unavoidable delays due to the shooting and subsequent incapacitation of the PI while in Cameroon.
3. a delay of over a year (beyond the control of the Nat. herb. Cameroon) in getting permits to export specimens needed for the project outputs.
4. taking up opportunities consistent with the aims of the project.

The target audiences were:

1. Conservation professionals and policy makers at ministerial level in Cameroon (through the Red Data book of Cameroon)
2. Local conservation NGOs, "elites" (influential tribal educated cliques) and communities neighbouring the three selected natural areas that had been proposed by partner NGOs for protection (through the three Conservation Checklists).
3. Secondary School children throughout Cameroon (through the bilingual guides for secondary school teachers on the Red Data plants of Cameroon with ten region-specific plant species conservation posters).

Dissemination will continue after project completion. Stocks of the different book titles are held by the Nat. herb. Cameroon (for dissemination in Cameroon) and by Kew Publishing in London (for International Sales). The Red Data book itself is print on demand and revised editions are planned as new data becomes available.

Further information on this topic is presented in 4.1 above.

## 5.1 Darwin identity

This has been a distinct Darwin Initiative project and not part of a wider project. All seven project output volumes carry the Darwin logo, and the remaining publications, communications and reports acknowledge the Red Data Plants Darwin Initiative supported project from which they arose.

At the Govt. ministry level and in the Universities and Cameroonian NGOs, the DI is well understood since all workshops were opened and closed by UK High commission staff who helped explain the aims and origins of this UK Govt grant.

*Psychotria darwiniana* Cheek, a threatened forest shrub of Cameroon, was named in honour of DI during the life of this project.

## 6 Monitoring and evaluation

There were no major changes to the project design (see annexes 1 and 2).

Defining and timing the steps needed to execute the project in the stage 2 application logframe was a useful exercise in planning. However, this did not prevent the unrealistic planning referred to under 5 above! Nor was it possible to plan for unforeseen circumstances also mentioned under 5 above.

The work of the project was reviewed against the logframe with all partners at the final workshop and booklaunch in Yaounde in April 2011. Feedback was received over several days from the partners and requests and suggestions were made that will be useful in developing a new project, for example a request was made for funding to collect seed, raise plants and distribute threatened species for reintroduction; another was to seek to incorporate the teaching guide into the national curriculum; extending and intensifying botanical surveys to address conservation needs in future was also raised.

Evaluation of most of the outputs was conducted by peer review. The Red Data book itself saw major adjustments to the introductory chapters as a result of internal reviews: extra chapters needed to be written. Reviews of annual reports were also received from anonymous DI reviewers (see below).

### 6.1 Actions taken in response to annual report reviews

Thorough and insightful reviews were received on annual reports which were discussed initially at Kew and with our major Cameroonian collaborator. No outstanding issues are recorded.

## 7 Finance and administration

### 7.1 Project expenditure

	Budget	Actual from Claims	Variance	Variance %
Salaries				
Overheads				
Travel and Subsistence				
Printing				
Conference & Seminars				
Other				
Capital Items				
<b>Total</b>				

Darwin grant expenditure over the life of the project is detailed in the table above. Expenditure for travel & subsistence, printing and capital items were more than 10% less than the original stage 2 budget because ways were found of achieving the objectives more cheaply. The overspend on Conferences and seminars, which took place in Cameroon, exceeded more than 10% of the planned budget line, but are interlinked with Travel and Subsistence for which there was an underspend. Accurate forecasting of expenditure on events such as workshops in Cameroon can be difficult to achieve. The budget line "other" (from the Darwin stage 2 application form) relates to laptop computers and accessories, and herbarium mounting stationery, and field equipment items purchased for the National Herbarium of Cameroon

## **7.2 Additional funds or in-kind contributions secured**

During the lifetime of the project, additional funds were secured over and above the confirmed matching funding identified in the original project document as follows:

£2475 (Y1 costs of Neil Brummitt to Cameroon to co-convene workshop);

£17,000 costs in producing a globally released film on our work conserving plants in Cameroon raised primarily from EU by the production company

\$8000 raised by WCS from US Govt to cover the costs of a collaborative survey at Mone Forest reserve.

c. 80% of the full-time salary costs of the PI M Cheek and his deputy Yvette Harvey in the unscheduled one year over-run of the project

Costs of two receptions for c. 50 people each at the British High Commission funded by Foreign Office in 2007 and 2011 (cost unknown).

## **7.3 Value of DI funding**

The project could not have been completed without the DI funding. While considerable contributions in kind and some additional funds were secured, the major outputs planned and delivered depended entirely on DI support.

## Annex 1 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements July 2006 - March 2011	Actions required/planned for next period
<p><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 constrained in resources to achieve</p> <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 the benefits arising out of the utilisation of genetic resources</li> </ul>		(report on any contribution towards positive impact on biodiversity or positive changes in the conditions of human communities associated with biodiversity eg steps towards sustainable use or equitable sharing of costs or benefits)	(do not fill not applicable)
<b>Purpose</b> (insert original project purpose statement)	(insert original purpose level indicators)	(report on progress towards achieving the project purpose, ie the sum of the outputs and assumptions )	(Highlight key actions planned for next period)
<b>Outputs</b>			
<b>Candidate list of threatened plant taxa distributed</b>	List available by end July 06	Candidate list based on Onana ms was made available to participants in first workshop, September 2006. See below.	
<b>Conservation checklist of three or more poorly known but probably conservation-important areas</b>	Copies peer-reviewed, 300+ copies printed by end Year 3	3 Conservation Checklists reviewed by the editor of Journal of Tropical Ecology and published April 2010, September 2010 and March 2011 respectively.	
<b>Distribution maps of Red List species</b>	Maps completed by end yr 3	815 maps of threatened species with Red List assessments included in print publication March 2011. Now exploring map publication via Google Earth.	
<b>Red Data book of the threatened plant species of Cameroon</b>	Copies peer-reviewed, 500+ printed by end yr 3	Published March 2011. Low initial print run to allow for 'print on demand' incorporating latest updates.	
<b>Teaching packs on threatened plants of Cameroon</b>	Ms and materials reviewed by Living Earth. Publisher and printer agreed, 2,000 copies by end Yr 3.	Ms and materials reviewed and critiqued by Living Earth. Initial print run of 800 copies, to allow for incorporation of feedback in subsequent editions with the eventual aim of inclusion in national curriculum	

<b>10 trained staff in taxon conserve assessment techniques</b>	10 staff able to assess taxon conserve. status independently	Total of 15 staff and 12 students trained and now competent to assess species conservation status independently.
<b>Activities</b>		
<b>Workshops</b>	1 <sup>st</sup> workshop, planned for July 06 was delayed to Sept 06 due to clash with another meeting commitment at the National Herbarium Cameroon. 2 <sup>nd</sup> workshop took place March 2007 as planned. Final workshop took place April 2011 and coincided with Cameroon launch of project publications.	
<b>Field Research and Conservation Checklist production</b>	1 <sup>st</sup> surveys took place at Dom and at Lebialem Highlands (Bechati) in Sept 2006; 2 <sup>nd</sup> survey took place at Bakossi Mts in May-June 2007; Extra surveys in May 2007 at Korup and Jan-Feb 2008 at Korup and in Nov-Dec 2008 at Mone. Specimens pertaining to local checklist areas were databased and identified, and species descriptions and data, and introductory chapters compiled and written, over the period July 2007 to December 2010.	
<b>Candidate Red List production</b>	Candidate list was reviewed at first workshop (Sept 2006). Candidate species were screened using IUCN 2001 criteria, principally Criterion B.	
<b>Map development</b>	All specimen records of screened species were databased and georeferenced (the Cameroon database), using literature sources, online databases and specimens principally at Kew and Nat. Herb. Cameroon (also BM(NH) and some at P) mainly 2006-2008. 815 low grade maps were produced in Diva for error checking purposes mainly 2008-2010. The final high quality species maps were produced direct from the database, together with maps showing concentrations of threatened species, in Feb-March 2011	
<b>Red Data book production</b>	Onana's existing ms reviewed at Kew in July 06, text written family by family, based on specimen data collected on database, and authors own field experience of threats in Cameroon, and reviewed family by family in 2007-2011, reviewed as a whole March 2011, published March 2011.	
<b>Teaching pack production</b>	Written, reviewed and designed in Spring 2011, published April 2011.	

## Annex 2 Project's final logframe, including criteria and indicators

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p><b>Goal:</b></p> <p>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"> <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>			
<p><b>Purpose</b></p> <p>To provide a sound basis for the conservation of the threatened plants of Cameroon, making this information available for national planning of sustainable development and for national education in secondary schools.</p>	<p>Poorly known areas surveyed by mid yr 2.</p> <p><b>Threatened species of Cameroon doc'ted by end yr 3</b></p> <p>GIS generated distribution maps of threatened species available by end yr 3.</p> <p><b>Teaching packs for teachers assembled by end yr. 3</b></p>	<p>Survey reports available, copies to D.I.</p> <p><b>Red Data book published, copies with Darwin Initiative.</b></p> <p>Maps with MINEF and available for final workshop. Copies to D.I.</p> <p><b>Living Earth have packs for distribution to schools, Copies to D.I.</b></p>	<p>Government policies remain supportive of conservation at HNC. NGOs remain viable and committed.</p>
<p><b>Outputs</b></p> <p>Candidate list of threatened plant taxa distributed.</p> <p><b>Conservation checklists of three or more poorly known but probably conservation-important areas.</b></p> <p>Distribution maps of Red List species.</p> <p><b>Red Data book of the threatened plant species of Cameroon.</b></p> <p>Teaching packs on threatened plants of Cameroon.</p>	<p>List available by end July 06.</p> <p><b>Copies peer-reviewed, 300+ copies printed by end yr 3.</b></p> <p>Maps completed by end yr 3.</p> <p><b>Copies peer-reviewed, 500+ copies printed by end yr 3.</b></p> <p>Ms and materials reviewed by Living Earth. Publisher and printer agreed, 2,000 copies by end</p>	<p>Available for 1st workshop; two copies to D.I.</p> <p><b>Reviews published; feedback received; featured in Kew book catalogue. 2 copies to D.I.</b></p> <p>MINEF staff in receipt of maps. Published on web.</p> <p><b>Reviews published; feedback received; featured in Kew book catalogue. 2 copies to D.I.</b></p> <p>Feedback received;. 2 copies to D.I.</p>	

<p><b>10 trained staff in taxon conserve. assessment techniques.</b></p>	<p>yr 3. <b>10 staff able to assess taxon conserv. status independently.</b></p>	<p><b>Staff credited as assessors in Red Data book. Test results. Certificates issued at end of course, copies to D.I.</b></p>	
<p><b>Activities</b></p> <p>Workshops</p> <p><b>Field Research &amp; Conservation checklist production</b></p> <p>Candidate Red List Production</p> <p><b>Map development</b></p> <p>Red Data book production</p> <p><b>Teaching pack production</b></p>	<p><b>Activity milestones (summary of project implementation timetable)</b></p> <p>Yr 1: project launch workshop with NGO, HNC and MINEF staff to establish objectives and methodologies incl.Red List training. July 2006; Yr 1: Basic plant identification and GIS workshops, March 07 to coincide with AETFAT Congress at Yaounde; Yr 3: closing workshop, presenting results to NGO, MINEF, HNC and teacher trainers, June 09.</p> <p><b>Yr 1: first survey to poorly known areas, late June 06; Yr 2: second survey to poorly known areas Oct. 07. Specimens identified and dbase for conservation checklist production ready Oct.. 08; intro chapters written by Feb. 09; reviewed by April 09, published May 09.</b></p> <p>Yr 1: Taxa on draft list screened using geography and frequency of collection for Red List candidates, May-July 06, reviewed at 1st workshop.</p> <p><b>Technicians in place at HNC and Kew, July 2006 , complete specimen databasing and georef. June 2008. Maps produced from database by end yr 3.</b></p> <p>Onana's existing ms reviewed at K by end June 06. Ready for review, then publication, by April 09.</p> <p><b>Popular introduction to Red Data book assembled with species specific posters, relevant to particular areas, as advised by Living Earth, April &amp; May 09, for printing in June 2009.</b></p>	<p><b>Assumptions</b></p> <p><b>Permit process runs to normal timetable so specimens available for identification at Kew by Jan. 08.</b></p>	

## Annex 3 Project contribution to Articles under the CBD

### Project Contribution to Articles under the Convention on Biological Diversity

Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use	10	Develop national strategies that integrate conservation and sustainable use.
7. Identification and Monitoring	55	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	10	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	5	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		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	10	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
14. Impact Assessment and Minimizing Adverse Impacts		Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine mechanisms for re-dress of international damage.
15. Access to Genetic Resources		Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair

<b>Article No./Title</b>	<b>Project %</b>	<b>Article Description</b>
		and equitable way of results and benefits.
16. Access to and Transfer of Technology	5	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.
Other Contribution		Smaller contributions (eg of 5%) or less should be summed and included here.
Total %	100%	Check % = total 100

## Annex 4 Standard Measures

Code	Description	Totals (plus additional detail as required)
<b>Training Measures</b>		
1a	Number of people to submit PhD thesis	-
1b	Number of PhD qualifications obtained	-
2	Number of Masters qualifications obtained	-
3	Number of other qualifications obtained	-
4a	Number of undergraduate students receiving training	20
4b	Number of training weeks provided to undergraduate students	1.5 (over 3 workshops)
4c	Number of postgraduate students receiving training (not 1-3 above)	3 (mainly at RBG, Kew)
4d	Number of training weeks for postgraduate students	2
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification( ie not categories 1-4 above)	-
6a	Number of people receiving other forms of short-term education/training (ie not categories 1-5 above)	10 Govt staff- conservation assessments and basic plant identification
6b	Number of training weeks not leading to formal qualification	-
7	Number of types of training materials produced for use by host country(s)	1 guide for secondary school teachers
<b>Research Measures</b>		
8	Number of weeks spent by UK project staff on project work in host country(s)	28
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	Management recommendations published for 815 species in the Red Data book
10	Number of formal documents produced to assist work related to species identification, classification and recording.	6 books
11a	Number of papers published or accepted for publication in peer reviewed journals	28 (incl. 3 accepted)
11b	Number of papers published or accepted for publication elsewhere	8 (incl. 7 books)
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	-
12b	Number of computer-based databases enhanced (containing species/genetic	1

<b>Code</b>	<b>Description</b>	<b>Totals (plus additional detail as required)</b>
	information) and handed over to host country	
13a	Number of species reference collections established and handed over to host country(s)	5 collections each of more than a hundred specimens
13b	Number of species reference collections enhanced and handed over to host country(s)	-
<b>Dissemination Measures</b>		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	3
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	2
15a	Number of national press releases or publicity articles in host country(s)	3
15b	Number of local press releases or publicity articles in host country(s)	2
15c	Number of national press releases or publicity articles in UK	ongoing
15d	Number of local press releases or publicity articles in UK	-
16a	Number of issues of newsletters produced in the host country(s)	-
16b	Estimated circulation of each newsletter in the host country(s)	-
16c	Estimated circulation of each newsletter in the UK	-
17a	Number of dissemination networks established	-
17b	Number of dissemination networks enhanced or extended	-
18a	Number of national TV programmes/features in host country(s)	1
18b	Number of national TV programme/features in the UK	-
18c	Number of local TV programme/features in host country	-
18d	Number of local TV programme features in the UK	-
19a	Number of national radio interviews/features in host country(s)	1
19b	Number of national radio interviews/features in the UK	-
19c	Number of local radio interviews/features in host country (s)	1
19d	Number of local radio interviews/features in the	-

<b>Code</b>	<b>Description</b>	<b>Totals (plus additional detail as required)</b>
	UK	
<b>Physical Measures</b>		
20	Estimated value (£s) of physical assets handed over to host country(s)	£1700 (does not include the cost of hundreds of copies of 7 project output volumes sent to Cameroon)
21	Number of permanent educational/training/research facilities or organisation established	-
22	Number of permanent field plots established	-
23	Value of additional resources raised for project	£25,000 (does not include extra salary costs at Kew: see 7.2 of main report)
<b>Other Measures used by the project and not currently including in DI standard measures</b>		
	Globally released film on plant conservation in Cameroon and the need for it: Mists of Muanenguba (see details in Annex 5)	1
	Red Data book for the Plants of Cameroon	1
	New protected areas created	1 (Bakossi National Park due to Film above)
	Region specific conservation posters (French and English versions)	10

## Annex 5 Publications

Type * (eg journals , manual , CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £ (if applicable)
Journal : Kew Bulletin	<u><i>Psychotria kupensis</i> ( <i>Rubiaceae</i> ) a new dwarf, litter-gathering species from western Cameroon</u> Martin_Cheek, Aline Horwath and Daniel Haynes <u><i>Kew Bulletin</i>, Volume 63, Number 2 / June, 2008</u>	RBG, Kew/Sprin ger	Springerlink.c om	Free on web
See above	<u>Four new submontane species of <i>Psychotria</i> ( <i>Rubiaceae</i> ) with bacterial nodules from Western Cameroon</u> Martin_Cheek, Marcella Corcoran and Aline Horwath <u><i>Kew Bulletin</i>, Volume 63, Number 3 / September, 2008</u>	See above	See above	See above
See above	<u>Revised treatment of <i>Memecylon</i> sect. <i>Azeliana</i> ( <i>Melastomataceae</i>: <i>Olisbeoideae</i> ), including three new species from Cameroon</u> R. Douglas Stone, Jean-Paul Ghogue and Martin_Cheek <u><i>Kew Bulletin</i>, Volume 63, Number 2 / June, 2008</u>	See above	See above	See above
See above	<u>Two new names in West-Central African <i>Quassia</i> L. ( <i>Simaroubaceae</i> )</u> Martin_Cheek and Carel C. H. Jongkind <u><i>Kew Bulletin</i>, Volume 63, Number 2 / June, 2008</u>	See above	See above	See above
See above	<u><i>Berlinia korupensis</i> (Leguminosae – Caesalpinioideae), a new tree species from Cameroon</u> Barbara A. Mackinder and Xander M. van der_Burgt <u><i>Kew Bulletin</i>, Volume 64, Number 1 / March, 2009</u>	See above	See above	See above
See above	<u><i>Ledermannia pollardiana</i> sp.nov.(<i>Podostemaceae</i>) from western Cameroon. Cheek, M. &amp; Ameka, G. Nordic. J. Bot. 26: 214-217</u>	Nordic J. Bot./Wiley Interscien ces	cs- journals@wil ey.com	See above
See above	Bakossi National Park, Cameroon. Cheek, M. (2008). <i>Kew Scientist</i> 34: 4.	RBG, Kew	www.kew.org	Free on application to RBG, Kew

Type *(eg journals = J, books=B manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £ (if applicable)
J	Cheek, M., Oben B. & Heller, T. The identity of the West-Central African <i>Orcia lecomteana</i> Pierre, with a new combination in <i>Vepris</i> ( <i>Rutaceae</i> ). Kew Bull. 64(3): 509-512 Publ. online w/e 22 Oct. 2009.	RBG, Kew	www.kew.org	Free on application to RBG, Kew
J	Cheek, M. & Etuge, M. A new submontane species of <i>Deinbollia</i> ( <i>Sapindaceae</i> ) from Western Cameroon and adjoining Nigeria. Kew Bull. 64(3): 503-508, Publ. online w/e 22 Oct. 2009.			
J	Cheek M. & Etuge, M. <i>Allophylus conraui</i> ( <i>Sapindaceae</i> ) reassessed and <i>Allophylus ujori</i> described from western Cameroon. Kew Bull. 64(3): 495-502. Publ. online w/e 22 Oct. 2009.			
J	Stone, R.D., Ghogue, J.-P. & Cheek, M. (2009). <i>Warneckea austro-occidentalis</i> , a new species from Cameroon and Nigeria, and re-evaluation of <i>W. fascicularis</i> var. <i>mangrovensis</i> ( <i>Melastomataceae-Olisbeoideae</i> ). Kew Bull. 64(2): 307-312, Publ. online w/e 22 Oct. 2009.			
J	Cheek, M. (2009). <i>Mussaenda epiphytica</i> sp. nov. (Rubiaceae_) an epiphytic shrub from cloud forest of the Bakossi Mts, western Cameroon. Nordic J. Bot. publ. online 12 Oct. 2009.	Nordic J. Bot./Wiley Intersciences	<a href="mailto:cs-journals@wiley.com">cs-journals@wiley.com</a>	Free on internet
J	Sene, O. & Cheek, M. <i>Psychotria monensis</i> sp. nov. (Rubiaceae) a tree species from Cameroon. Nordic J. Bot. 28(2): 130 (- 133; fig. 1, map). 2010 [4 Apr 2010]	Nordic J. Bot./Wiley Intersciences	<a href="mailto:cs-journals@wiley.com">cs-journals@wiley.com</a>	See above
B	Cheek, M. Harvey, Y. & Onana, J-M. The Plants of Dom, Bamenda Highlands, Cameroon, A Conservation Checklist, RBG, Kew, 162pp. Publ. April 2010	RBG, Kew & Herbar National Camerounais (HNC)	www.kew.org	£30UK lower price on application to HNC

B	Harvey, Y., Tchiengue, B. & Cheek, M. The Plants of the Lebialem Highlands, A Conservation Checklist. RBG, Kew. publ. Sept. 2010	RBG, Kew & Herbar National Camerounais (HNC) BP 1601 Yaoundé.	www.kew.org	£30UK lower price for Africa on application to HNC
B	Cheek, M., Harvey, Y. & Onana, J.-M. (2011). The Plants of Mefou Proposed National Park, Yaoundé, Cameroon, A Conservation Checklist. RBG, Kew. Published March 2011.	RBG, Kew & Herbar National Camerounais (HNC) BP 1601 Yaoundé.	www.kew.org	£30UK lower price for Africa on application to HNC
B	Onana, J.-M. & Cheek, M. Red Data Book of the Flowering Plants of Cameroon: IUCN Global Assessments. RBG, Kew. 578pp. Published March 2011.	RBG, Kew & Herbar National Camerounais (HNC) BP 1601 Yaoundé.	www.kew.org	on application to HNC
B	Onana, J.-M. & Cheek, M. Red Data Plant Species in Cameroon, A Guide for Secondary School Teachers. RBG, Kew. 16pp. Published March 2011.	RBG, Kew & Herbar National Camerounais (HNC) BP 1601 Yaoundé.	www.kew.org	on application to HNC
B	Onana, J.-M. The Vascular Plants of Cameroon. A Taxonomic Checklist with IUCN Assessments. National Herbarium of Cameroon, Yaoundé. 194pp.	RBG, Kew & Herbar National Camerounais (HNC) BP 1601 Yaoundé.	www.kew.org	on application to HNC
B	Phillips, S. (2011) Eriocaulaceae. Flore du Cameroun 38. National Herbarium of Cameroon, Yaoundé.	RBG, Kew & Herbar National Camerounais (HNC) BP 1601 Yaoundé.	www.kew.org	on application to HNC
J	Muthama Muasya, A., Harvey, Y., Cheek, M., Tah, K. & Simpson, D.A. A new species of epiphytic <i>Coleochloa</i> (Cyperaceae) from Cameroon. Kew Bull. 65: 1-3 online June 2010	RBG, Kew	www.kew.org	Free on internet or on application to RBG, Kew
J	* Onana, J.M. (2008). A synoptic revision of <i>Dacryodes</i> ( <i>Burseraceae</i> ) in Africa, with a new species from Central Africa. Kew Bull. 63: 385-400.			

J	*Onana, J.-M. 2008. A New combination and key to the species of <i>Cuviera</i> subgenus <i>Globulostylis</i> (Rubiaceae: Vanguerieae) from Central Africa. Kew Bulletin 63: 401-403			
J	* Onana, J.-M. (2009) Le genre <i>Santiria</i> (Burseraceae) en Afrique: redefinition de <i>Santiria trimera</i> . Syst. Geogr. Pl. 79 : 215-224			
J	<i>Talbotiella bakossiensis</i> Cheek in Mackinder et al . Kew Bull. 65(3): 404 (fig. 1). 2011 [2010 publ. Jan 2011]			
J	Burgt, van der X., & Eyakwe, M. (2009). <i>Lecomteodoxa plumosa</i> (Sapotaceae) A new tree species from Korup national park, Cameroon. Kew Bull. 64; 313-317 (2009).			
J	*Burgt, V. der, X. (2010). Two new taxa in <i>Magnistipula</i> (Chrysobalanaceae) from Korup National Park, Cameroon. Pl. Ecol. Evol. 143(2): 191-198	J of Plant Ecology and Evolution	<a href="http://www.ingentaconnect.com">www.ingentaconnect.com</a>	Free on internet
J	*Gosline, G. (2009) Two new <i>Diospyros</i> species (Ebenaceae) from Cameroon. Nordic J. Botany 27(5): 353-358	Nordic J. Bot./Wiley Inter sciences	<a href="mailto:cs-journals@wiley.com">cs-journals@wiley.com</a>	Free on internet

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Cheek, M., Arcate, J., Choung, H. S., Herian, K., Corcoran, M., Horwath, A. Three new or resurrected species of *Leptonychia* (*Sterculiaceae-Byttneriaceae-Malvaceae*) from West-Central Africa. Kew Bull. Subm. 20 July 2007.

## Annex 6 Darwin Contacts

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<b>Partner 2 (if relevant) Not relevant</b>	
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Organisation	
Role within Darwin Project	
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