Submit by Monday 24 October 2011

DARWIN INITIATIVE APPLICATION FOR GRANT FOR ROUND 18: STAGE 2

Please read the Guidance Notes before completing this form. Where no word limits are given, the size of the box is a guide to the amount of information required. Information to be extracted to the database is highlighted blue.

1. Name and address of organisation (NB: Notification of results will be by post to the Project Leader)

Name:	**Address:**
Dr. Alan J A Stewart	School of Life Sciences, John Maynard Smith Building, University of Sussex, Falmer, Brighton, East Sussex, BN1 9QG, UK

2. Project title (not exceeding 10 words)

Building biodiversity research capacity to protect PNG rainforest from logging

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

Proposed start date: 1st April 2012		**Duration of project:** 3 years			**End date:** 31 March 2015
Darwin funding requested	**2011/12** **£0**	**2012/13** **£**	**2013/2014** **£**	**2014/15** **£**	**2015/16** **£0**	**Total** **£246,488**
Proposed (confirmed and unconfirmed) matched funding as percentage of total Project cost: The partner institutions (University of Sussex and Binatang Research Center) will match 47% and 51% respectively of total project costs, which will include additional staff and trainer time, overheads, lab and office use, equipment use, accommodation, etc, amounting to £245,848.					

4. Define the purpose of the project (extracted from logframe)

Overseas and local researchers, postgraduate students and paraecologists will assist the Wanang village community in Papua New Guinea (PNG) with rainforest conservation programmes on their land while collecting data on biodiversity distribution of selected plant, invertebrate and vertebrate taxa, important for local conservation as well as fundamental studies on biodiversity distribution. This project responds to a mounting crisis in forest conservation in PNG where the latest surveys show increasing rate of forest destruction, while conservation projects are finding it difficult to compete with logging which is increasingly being offered to the forest owners. Unlike all their neighbours, the forest-dwelling community of Wanang turned down logging offers for their traditionally owned lands and opted for conservation, establishing a 10,000 ha rainforest conservation area surrounded by active logging concessions. We will assist in consolidating their Conservation Area and developing it into an internationally important centre for ecological research. This will provide a sustainable annual income for conservation, matching the total potential alternative income from logging in less than 15 years, while also building biodiversity research capacity in the country, which remains seriously underdeveloped. This project thus addresses pressing biodiversity conservation issues while transferring biological expertise to Papua New Guineans including forest dwelling villagers, biology students and young researchers. The Wanang Conservation Area will be established as an example of a sustainable rainforest reserve driven by its indigenous landowners, in collaboration with local and international conservation organisations and the international research community.

5. Principals in project. Please provide a one page CV for each of these named individuals. You may copy and paste this table if you need to provide details of more UK personnel or more than one project partner.

Details	**Project Leader**	**Other UK personnel (working more than 50% of their time on project)**	**Main project partner and co-ordinator in host country/ies**
Surname	Stewart		Novotny
Forename (s)	Alan J. A.		Vojtech
Post held	Senior Lecturer		Director
Institution (if different to above)	University of Sussex		New Guinea Binatang Research Center
Department	School of Life Sciences		--
Telephone			
Email			

6. Has your organisation received funding under the Darwin Initiative before? If so, please provide details of the most recent (up to 6 examples).

Reference No	Project Leader	Title
162/10/030	A. J. A. Stewart	Developing local capacity for biodiversity surveys in Papua New Guinea (2001-2004)
EIDP09/10-030	A. J. A. Stewart	Consolidating Local Capacity for Biodiversity Surveys in Papua New Guinea. (2005-2007)
14/054	A. J. A. Stewart	Training the next generation of Papua New Guinean conservation biologists (2005-2008)
162/15/007	A. J. A. Stewart	Focus for Fiji: Insect inventories for biodiversity assessment (2006-2010)
14/040	M. R. Peck	Developing a sustainable conservation network for primates in Ecuador – PRIMENET (2005-2008)

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 all the partners involved (including the Lead Institution) , and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. This section should illustrate the capacity of partners to be involved in the project. Please provide written evidence of partnerships. Please copy/delete boxes for more or fewer partnerships.

Applicant institution and website where available:	**Details (including roles and responsibilities and capacity to engage with the project):**
Dr Alan Stewart **University of Sussex** http://www.sussex.ac.uk/biology/profile2554.html	The University of Sussex, with Dr Stewart as Project Leader, will be responsible for overall co-ordination of the project, liaison with overseas and UK partners, financial management and report writing. Dr Stewart will co-ordinate the PNG trainees' visits to the UK and assist in planning training visits to PNG by UK experts. Dr Stewart has led four previous Darwin Initiative projects and so has considerable experience of the issues and challenges involved. He will be involved in training activities both in the UK and PNG.

Lead Partner and website where available:	Details (including roles and responsibilities and capacity to engage with the project):
Dr Vojtech Novotny Director **New Guinea Binatang Research Center** www.entu.cas.cz/png/	**New Guinea Binatang Research Center** (BRC): Counterpart in our three previous DI projects, principal partner in project management, training and research. It is a leading biological research institution in PNG with a staff of 24 researchers, students and research technicians which will be involved in the proposed project. It has established long-term collaboration with UoS as well as the other PNG counterparts. It has built and operates a research station in the **Wanang Conservation Area**, the focal site of the project, and leads research projects there, including a 50-ha CTFS forest plot. It is also active in postgraduate student training with the University of PNG.

Partner Name and website where available:	Details (including roles and responsibilities and capacity to engage with the project):
Mr. Filip Damen Leader **Wanang Conservation Area** www.entu.cas.cz/png/wanang	**Wanang Conservation Area** (WCA): A village-owned and run 10,000 ha conservation area in a CBD priority area, one of only two large conservation areas in PNG surviving in direct contact with logging. The focal institution of the project which will aim at securing its long-term future. The WCA has hosted several important research projects, has a field research station built on its lands, and has been successfully collaborating with BRC for over a decade. It has the potential to develop into one of the two best developed and secured conservation areas in PNG.

Partner Name and website where available:	Details (including roles and responsibilities and capacity to engage with the project):
Prof. Frank Griffin Dean **School of Science** **University of Papua New Guinea** www.upng.ac.pg	**University of Papua New Guinea** (UPNG)**:** PNG's leading university and the only university with a postgraduate program. The PNG Honours and MSc students working on the project will enrol at UPNG. The university will be responsible for training and supervision of these students, together with BRC where the students will be in residence. This mechanism has been successfully tested in the past, including during one DI project focused on student training (14/054).

Partner Name and website where available:	Details (including roles and responsibilities and capacity to engage with the project):
Dr. Rose Singadan Section Head **PNG Department of Environment and Conservation** www not available	**Department of Environment and Conservation of the PNG Government** (DEC): This department is responsible for the implementation of CBD and CITES treaties as well as for conservation areas and biodiversity conservation. The department will be responsible for legally securing the status of WCA and will receive all conservation-related research results from the project which can inform government policy on biodiversity conservation, including CBD.

Partner Name and website where available:	Details (including roles and responsibilities and capacity to engage with the project):
Prof. Simon Saulei Director **PNG Forest Research Institute** www not available	**The PNG Forest Research Institute** (FRI) is PNG's leading research institution in botany, harboring also the National Herbarium. In collaboration with BRC, it is active in the survey of the 50-ha CTFS plot in the Wanang Conservation Area. It will provide botanical expertise for the proposed project and will benefit from its results which will be relevant for forestry throughout PNG.

9a. Have you consulted stakeholders not already mentioned above? **If yes, please give details:**	☐ **Yes** ☒ **No**
9b. Do you intend to consult other stakeholders? **If yes, please give details:**	☐ **Yes** ☒ **No**
9c. Have you had any (other) contact with the government not already stated? **If yes, please give details:** Environmental Committee of the Madang Provincial Government supports the WCA project.	☒ **Yes** ☐ **No**
9d. Will your project support any work in the UK Overseas Territories? **If yes, please give brief details stating which Territory/ies will be involved.**	☐ **Yes** ☒ **No**

PROJECT DETAILS

10. Please provide a Concept note (Max 1,000 words) (repeat from Stage 1, with changes highlighted in green)

Background to the problem: The island of New Guinea includes the third largest remaining area of tropical forest in the world, harbouring 5-7% of global biota of which 70% is endemic, and comprising a large bio-reservoir of carbon. Conservation of these resources should be straightforward, at least in Papua New Guinea (PNG) where 97% of forests are owned and governed by forest-dwelling tribal societies. Unfortunately, the reality is rather different. In 1972-2002, 15% of the country's forests were cleared and 9% were degraded through logging. In the absence of feasible development opportunities, remote forest-dwelling communities can easily be enthused about conservation. However, once an area is opened up to logging, few such projects survive (Novotny 2010, Biotropica 42:546-9). This is partly because conservation projects generally fail to present indigenous owners of forests in PNG with a reasonable financial offer in exchange for conserving their forests – i.e. pay conservation's opportunity cost. Therefore, only 4.5% of land is under any protection in PNG and even this is largely ineffectual; PNG's Fourth Report on the CBD (2010) noted that 73% of the existing conservation areas have minimal or no management structure while according to Shearman & Bryan (2011, Austral Ecology 36:9-24) "protected areas are not convincingly protecting the forests within their borders".

A radical alternative to forest logging: Our alternative approach is to work with conservation-minded indigenous communities to develop their forests as internationally recognised areas for ecological research, thereby bringing sustainable income to the community which, over 10-15 years, would match the potential income from logging, while also improving the country's research infrastructure and skills for biological research. This project aims to put one nascent conservation area of ~10,000 ha centred around the village of Wanang on a solid organizational and financial basis, earning £20-30,000 annually, thereby radically improving the livelihoods of the villagers whilst providing an inspiring example of a financially and biologically successful conservation area in PNG, thriving despite competing logging alternatives. A secure and well equipped rainforest research site is urgently needed in PNG for developing local capacity for biodiversity research as well as for the international community of researchers who lack long-term monitoring sites in this biologically key region of the world. In our previous DI grants, we demonstrated the value of using para-ecologists for studying hyper-biodiverse regions such as PNG, a model that has now been widely adopted elsewhere. This project will test a model for conserving critical forest ecosystems for scientific study in the face of increasing pressure from commercial interests.

The focal area: Wanang is a remote village (population 300) situated in lowland rainforests of the Ramu Basin (a priority area identified in PNG's Fourth CBD report, 2010). The villagers, living on <£1.00 per person per day, declined logging offers by the PNG Forestry Authority and established the Wanang Conservation Area (WCA), unlike all neighbouring communities which formed the Ramu Block 1 logging concession (110,000 ha), now surrounding the WCA. Our aim is to develop, in collaboration with BRC who are already working with WCA, management and research skills in the Wanang community so that they will be able to maintain rainforest conservation sustainably whilst also improving living standards in their village.

Outputs: Building on the results and experience from our three previous Darwin Initiative projects in PNG (162/10/030, 14/054, EIDP09/10-030), the project will:

- assist landowners with the formal establishment of the Wanang Conservation Area, including its institutions (Conservation Board), by-laws, and a formal application to the Department of Environment and Conservation for official designation as a protected area
- develop the capacity of WCA to host and assist local and overseas research projects in their rainforests by training 10 villagers as field research assistants, and other community members in the basic management of logistical support for research projects and eco-tourism (communication, accommodation, security, transport, field data collection protocols, field sample collection and storage, etc.)
- survey focal plant and animal taxa in the WCA along a forest regeneration gradient, in order to provide baseline information for forest conservation decisions and future ecological studies and to test ecological hypotheses for explaining high local biodiversity and trajectories of forest regeneration
- expand the ongoing plant survey of a 50-ha forest dynamics plot to estimate forest biomass and carbon storage for the REDD+ projects in WCA and elsewhere in PNG lowland rainforests, through training by Dr Peck (Sussex)
- generate guides and databases for focal plant, insect and vertebrate taxa as an information source for local people, visiting researchers, tourists and PNG government departments, and enhance the PNG national collections of plants and of insects
- develop the capacity of WCA to generate annual income of £20-30,000 (matching £250,000 of maximum potential logging income in <15 years) to sustain rainforest conservation and improve livelihoods in the village, by (i) bringing research projects to WCA (attracted to a secure, well studied site with skilled assistants and good logistics) that will pay land fees for forest use, employ local research assistants, and use accommodation and catering services, (ii) attracting visitors interested in rainforest fauna and flora, and (iii) attracting informal (and later formal REDD+) payments from businesses for carbon storage, which will be quantified by our research and secured by the WCA's conservation status.
- develop in-country capacity for biodiversity surveys and the collection of ecological data by using internationally-recognised research biologists to train 18 para-ecologists and three postgraduate students at the Binatang Research Center (BRC), one of the three leading institutions for para-ecologist training in the world and one of three institutions active in postgraduate biology training in PNG.

Relevance to CBD: According to its Fourth Report on CBD (2010), PNG plans to increase protected areas from 4.5 to 10% of the country in 2011-2015 and improve their management. Our project contributes to these goals. It is also relevant to the CBD Aichi Biodiversity targets for 2011-2020, particularly Target 5 (halving the rate of loss of forests by 2020), Target 11 (protecting minimum areas of important habitats) and Target 19 (building research capacity and knowledge base).

11a. Is this a new initiative or a development of existing work (funded through any source)? Please give details:

This is a new initiative, building on our previous work in PNG. Our previous DI project developed research capacity and trained paraecologists at BRC (10/030, EIDP09/10-030) and also trained postgraduate PNG students (14/054), one of which is presently the BRC Deputy Director. These projects created a new opportunity for our long-term UoS – BRC collaboration to enter the field of direct conservation and use our research and managerial capacity to ensure the survival of 10,000 ha of lowland rainforest area which would otherwise be logged, whilst also contributing to research of PNG biodiversity.

The BRC is already working in the WCA rainforests on two research projects: a permanent forest dynamics 50-ha plant plot and insect surveys. However, these projects (funded by the US and Czech National Science Foundations) are strictly research-oriented so that although they are benefiting the Wanang community by bringing job opportunities, they cannot be used for local training and management development which could put WCA on a financially and legally sustainable footing.

11b. Are you aware of any other individuals/organisations/ projects carrying out or applying for funding for similar work? ☐ **Yes** ☒ **No**

If yes, please give details explaining similarities and differences, and explaining how your work will be additional to this work and what attempts have been/will be made to co-operate with and learn lessons from such work for mutual benefits:

PNG's Fourth Report on CBD (2010) noted that 73% of conservation areas have minimal or no management structure. In our opinion there are only two large rainforest conservation areas in PNG with active plans for management and sustained conservation, namely the Wanang Conservation Area where the conservation of its lowland forest is the focal point of the present proposal, and the YUS Conservation Area in the Finisterre Mts., where the management plans are developed by the Tree Kangaroo Conservation Program (TKCP, www.zoo.org/treekangaroo). The two projects differ in their approach, as WCA focuses on hosting research while YUS on sustainable agriculture, particularly organic coffee, and have to cope with different threats – logging and hunting respectively, There is already close collaboration and experience sharing between BRC and TKCP including mutual visits of conservation leaders (funded by the Christensen Fund, USA) which will continue with the aim of developing sound conservation strategies for PNG and ensuring the survival of both conservation areas.

11c. Are you applying for funding relating to the proposed project from other sources? ☒ **Yes** ☐ **No**

If yes, please give brief details including when you expect to hear the result. Please ensure you include the figures requested in the spreadsheet as Unconfirmed funding.

The project will obtain cost shares from several existing and pending projects (funded by the Czech Academy of Sciences Foundation, Czech Science Foundation and Christensen Fund, plus as yet unconfirmed funds from the US National Science Foundation) which fund biodiversity research through BRC. This funding will decrease the required funds for biodiversity research needed for the DI project, which remain essential to achieve the conservation and development goals for WCA.

12. Please indicate which of the following biodiversity conventions your project will contribute to: -
At least one must be selected.
- Only indicate the conventions that your project is directly contributing to.
- No additional significance will be ascribed for projects that report contributions to more than one convention

Convention on Biological Diversity (CBD)	☒ **Yes** ☐ **No**
CITES	☒ **Yes** ☐ **No**
Convention on Migratory Species (CMS)*	☐ **Yes** ☒ **No**

*If CMS please indicate whether it is the main Convention or one or more of the daughter agreements/MoUs (ACAP, AEWA etc)

Is any liaison proposed with the CBD/CMS/CITES focal point in the host country? ☒ **Yes** ☐ **No**
If yes, please give details:

The Department of Environment and Conservation of the PNG Government (DEC), which is the focal point for the CBD and CITES treaties in PNG, is one of the project's partners (see section 8, above).

What specific issues covered by the Convention(s) will this project address and how were they identified? (150 words)

According to PNG's Fourth Report on CBD (by the DEC Secretary Wari Iamo, 2010), PNG plans to increase protected areas from 4.5 to 10% of the country in 2011-2015 and improve their management since 73% of them have minimal or no management structure. Our project contributes directly to these goals and addresses seven of the 14 tasks of the Programme of Work on Protected Areas, namely to (i) strengthen the national system of protected areas, (ii) improve site-based protected area planning and management, (iii) enhance involvement of indigenous local communities, (iv) build capacity for the establishment and management of protected areas, (v) develop appropriate technologies for protected areas, (vi) ensure financial sustainability of protected areas, and (vii) strengthen education and public awareness. We will achieve this by securing the conservation of WCA in Ramu Basin, one of the CBD priority areas (and home to at least 18 CITES-listed bird species).

What will change as a result of this project? (150 words)

We will develop a large village-based conservation area which will sustainably maintain rainforest conservation and improve livelihoods of the forest owners even in direct contact with, and challenged by, commercial logging. This would (i) secure the conservation of 10,000 ha of lowland rainforest in a priority CBD area which would otherwise be logged, (ii) improve the lives of Wanang villagers and confirm their commitment to conservation, (iii) provide an inspiring example to other rainforest dwelling communities contemplating conservation versus logging in PNG, (iv) create a secure rainforest site for long-term ecological research and training in community forest monitoring for the carbon market, (v) build biodiversity research capacity by training PNG para-ecologists and postgraduate students, and (vi) improve the biodiversity knowledge base in PNG.

Why is the project important for the conservation of biodiversity? (150 words)

This project responds to a current crisis in PNG conservation, which is important because PNG contains 5-7% of the world's biodiversity. According to its own CBD report (2010), the country protects only 4.5% of the land area, and the existing conservation areas are poorly managed and fail to protect their forests (Shearman & Bryan 2011, Austral Ecology 36:9-24). Most conservation projects fail when confronted with logging because indigenous rainforest owners prefer logging for economic reasons (Novotny 2010, Biotropica 42:546-549). Our project will develop a large conservation project in such a way that it remains competitive with logging, This could serve as an important example and inspiration to other conservation areas in PNG and elsewhere in the tropics, whilst also conserving 10,000 ha of priority rainforest area which would otherwise be logged, and improving livelihoods in a remote village community.

13. How will the results of the project be disseminated; how will the project be advertised as a Darwin project and in what ways will the Darwin name and logo be used? (max 200 words)

Dissemination of results will take place both in the international conservation and research communities through technical papers as well as more popular media, scientific conferences, lectures and also locally in PNG by talks to village communities, and through national publications. The direct conservation goals combined with improving village livelihoods and important biodiversity research have the potential to become a very visible story in conservation, social development as well as research communities.

The project will be advertised as a Darwin Initiative project through the DI logo and an acknowledgement of DI support in all publications, theses, posters, teaching materials etc. Darwin support will also be acknowledged at public presentations and seminars, and we will outline the project's aims, objectives, partners and progress on the WCA and BRC websites. The WCA will be visited by numerous researchers and conservationists who will be made aware of the DI's role in its development by the villagers and public displays in the village.

International recognition. The Darwin Initiative would be able to share the credit for PNG capacity building through their funding of BRC and WCA. This would be important as BRC is well known in the international research community. For instance, it was recently featured in a Science article as one of the leading tropical biodiversity research institutions (Simons 2011, Science 332: 298-299).

14. What will be the long term benefits (particularly for biodiversity and local communities) of the project in the host country or region and have you identified any potential problems to achieving these benefits? (max 200 words)

WCA will demonstrate to others in PNG that conservation can be a superior option to logging. At present, most communities opt for logging, including all WCA neighbours. We will save 10,000 ha of rainforest from logging, create a base for long-term biodiversity research and train local biologists.

Wanang villagers subsist on just over £1.00 a day, have no access to medical care, electricity, and with no road cannot easily sell garden produce and access services in town. We aim to secure an annual sustainable income of £20-30,000 (PGK70-100,000), amply compensating for potential logging income. This includes assistance to researchers (10 assistants, 100 days, PGK25 daily), long-term monitoring (4 assistants, 200 days, PGK25 daily), accommodation and catering for researchers and eco-tourists (300 days, PGK 80 daily), land fees for research (5 projects, PGK2,000 each annually), and voluntary (or later formal REDD+) carbon payment by businesses (PGK20,000 annually), totalling £29,000. This income would substantially raise living standards. We do not propose businesses unrelated to conservation (except eco-tourism) as these either fail or conflict with conservation (Novotny 2010, Biotropica 42:546).

There are potential misunderstandings and differences in priorities when indigenous communities work with overseas partners, but our 15-year long PNG experience should help to resolve them.

15. State whether or not the project will reach a stable and sustainable end point. If the project is not discrete, but is part of a progressive approach, give details of the exit strategy and show how relevant activities will be continued to secure the benefits from the project. Where individuals receive advanced training, for example, what will happen should that individual leave? (Max 200 words)

Achieving sustainability of the WCA as a conservation area and a secure base for long-term biodiversity research is the primary goal of this proposal. We will lay strong foundations for the organizational stability and financial sustainability of WCA, focusing on four key areas: the management structure and training of local conservation leaders, the skills of the field research

trainees recruited among the rainforest owners, the research infrastructure developed in WCA and the biodiversity information available, attracting further research. Financing conservation by research is not a universal solution for PNG. However, WCA is exceptionally well positioned for achieving sustainability in this manner, if assisted by this project.

Our DI-sponsored training had a long-lasting impact: 16 of the 22 paraecologists we trained continue working in research and 3 study university biology (in PNG and Australia), while 5 of our 8 Hons and MSc students remain in research and 3 continue in PhD studies (in Australia and USA). The deputy director of BRC, a botanist at the Forestry Research Institute and a university lecturer are past DI trainees. We expect a similar impact from the present project.

BRC is a stable partner which has been active in PNG for over 15 years.

16. If your project includes capacity building in local communities in the host country, please indicate how you will assess the training needs in relation to the overall purpose of the project. Who are the target groups? How will the training be delivered? What skills and knowledge you expect the beneficiaries to obtain and how these may be used beyond the life of the project and any wider application How will you measure training effectiveness. (max 300 words)

You should address each of these points.

Assessment of training needs: BRC's 15 years of experience in PNG has given us an unparalleled appreciation of the country's training needs. After several years of collaboration with WCA we have detailed knowledge of the community's needs and human resources. A combination of UoS researchers and BRC staff will train a wide range of audiences, from villagers through para-ecologists to postgraduate students, and promote synergy between these disparate focal groups:

Wanang villagers: We will hold a series of village meetings (in the Neomelanesian language) on environmental issues, WCA management and the needs of visiting researchers.

WCA village managers: Workshops at BRC will be combined with hands-on training in Wanang, when the trainees manage conservation and research under supervision and later independently. This takes into consideration their often low educational level.

Wanang field assistants: Workshops at BRC (basics of biology, computers, carbon and forests, ecological methods) and practical assistance to researchers will comprise on-the-job training focused on plants, vertebrates and insects, following our model of successful early-career training for BRC paraecologists.

BRC para-ecologists: Existing and new para-cologists will train as versatile biodiversity technicians. Selected trainees will be brought to the UK for one month of training at universities (Sussex, Oxford, Cambridge, Imperial College), museums (Cardiff, London) and research institutes (RBG Kew). BRC receives >100 applications for every para-ecologist vacancy.

Honours and MSc students: The dissertations, supervised by UoS and BRC staff, shall be internationally publishable. We already have a successful training program at BRC, which will benefit this project.

Training effectiveness will be monitored via semi-annual trainee reviews, external assessments by UPNG (student theses and essays), knowledge and skills tests (example: http://www.entu.cas.cz/png/ParataxTest06.pdf), and presentations at BRC seminars and external conferences. Each trainee will have a mentor: para-ecologists will serve as mentors for Wanang villagers, students for para-ecologists, and researchers for students.

LOGICAL FRAMEWORK

17. Please enter the details of your project onto the matrix using the note at Annex 3 of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes. (Use no smaller than Arial 10 pt)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.			
Sub-Goal: • To develop a sustainable approach to rainforest conservation supported by indigenous landowners. • To further the ability of PNG nationals to conduct research and biological training in their own country for CBD/CMS/CITES adherence. • Collect data on the responses of focal taxa to rainforest disturbance to allow evidence-based conservation decisions to be made.	• Model conservation area supported and operated by landowners • Improved capacity of PNGeans for biodiversity research and training. • Improved understanding of species responses to disturbance in rainforests informing national strategic conservation policy	• On-site visit to the model conservation area • Trained PNG students, para-ecologists, and researchers. • Biodiversity data and biological specimens held and used by BRC and PNG government departments • PNG authored research papers • DI project evaluation.	[redacted]
Purpose • Establish a model rainforest conservation area (CA) with management structure and conservation plan in place • Develop facilities and expertise of the landowners and PNG professionals to host biological research in the CA, thus raising funds for conservation • Establish an internationally competitive PNG research team that will be the centre of excellence	• The continuing existence of the CA and its support by the indigenous landowners • The ability of the CA to host and support ecological research • A 'critical mass' of DI-trained researchers, students and para-ecologists working in PNG on conservation policy-relevant questions. • Data on distributions for selected taxa and modelled predictions of	• On-site visit, minutes from the Conservation Board meetings • List of research projects hosted by the CA • Honours and MSc degrees defended • Test results of para-ecologists trained • Insect and plant specimens deposited in research collections • Public databases of species and specimens	• Landowners are interested in rainforest conservation • Monetary benefits from conservation and research can compete with the benefits from the alternative use of the forest, particularly logging • Sufficient supply of suitably qualified and motivated personnel exists within PNG to sustain an ecological research team.

in biodiversity research and training in PNG. • Gather key data on biodiversity response to rainforest disturbance to guide conservation policy.	impacts on their communities under rainforest disturbance scenarios. • Research published in international peer-reviewed research publications.	• Reprints of published papers.	
Outputs 1. Wanang Conservation Area (WCA) established.	WCA has a Conservation Board and a Management Plan in place.	On-site visit, minutes from the Conservation Board meetings.	Landowners are interested in rainforest conservation. Monetary benefits of conservation & research can compete with the benefits from alternative uses of the forest, particularly logging
2. Ten village assistants and 18 para-ecologists trained to support research in the WCA. Two para-ecologists visit UK and other countries for networking and for intensive training.	Training and evaluation programmes in PNG and UK completed.	Feedback from trainees and trainers; results of tests of trainees' progress and learning.	Local villagers and para-ecologists are interested and capable of working as research assistants. Challenging but realistic training programmes can be devised to suit the range of abilities of trainees.
3. Three completed Honours or Masters degrees by PNG students with dissertations focusing on biodiversity research	Honours or MSc dissertations completed	Theses and dissertations. Degree certificates.	A supply of talented undergraduate students exists who are interested in post graduate education and careers in ecology & conservation.
4. Biodiversity surveys for plants, insects and vertebrates along a disturbance gradient to document rainforest response to anthropogenic threats, including carbon storage estimates	Surveys completed, samples sorted, specimens identified, data analysed and results published.	Public databases of species available on-line. Specimens deposited in museums. Reprints of scientific papers.	Researchers, para-ecologists and village assistants can work in synergy and accomplish surveys in remote field conditions.
5. Guides for focal plant and animal taxa as an information source for local people, visiting researchers and PNG government departments	Guides produced, printed and distributed.	Electronic and printed copies of biodiversity guides.	Researchers, para-ecologists and village assistants can describe local biodiversity on levels that are useful for local villagers, the educated public, as well as researchers.
6. Sustainable income of £20-30,000 per year generated by supporting research in WCA, to replace potential income from logging.	Money deposited in the bank. Contracts signed with research clients	Financial records. Research contract reports.	WCA is attractive to local and particularly overseas researchers and can provide high quality services to a range of research projects.

Activities (details in workplan)

1.1 WCA management training
1.2 WCA legal declaration by the Department of Environment and Conservation
1.3 WCA logistical support for research (accommodation, communication, carriers, catering) established
2.1 WCA field assistants training at BRC
2.2 WCA field assistants training in the field
3.1 BRC paraecologist training at BRC
3.2 BRC paraecologist training in UK
4.1 Hons. and MSc student research
4.2 Hons. and MSc student field ecology course
4.3 Hons. and MSc student dissertation writing and defense
5.1 Plant biodiversity surveys and carbon storage estimates
5.2 Insect biodiversity surveys
5.3 Vertebrate biodiversity surveys
5.4 Biodiversity guides and publications
6.1 Fund raising for WCA

18. Provide a project implementation timetable that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project.

	Activity	No of Months	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.1	WCA management training	36	X	X	X	X	X	X	X	X	X	X	X	X
1.2	WCA legal declaration by the Department of Environment and Conservation	24	X	X	X	X	X	X	X	X				
1.3	WCA logistical support for research established	33	X	X	X	X	X	X	X	X	X	X	X	
2.1	WCA field assistants training at BRC	3		X				X				X		
2.2	WCA field assistants training in the field	33	X	X	X	X	X	X	X	X	X	X	X	X
3.1	BRC paraecologist training at BRC	36	X	X	X	X	X	X	X	X	X	X	X	X
3.2	BRC paraecologist training in UK	6			X				X				X	
4.1	Hons. and MSc student research	30	X	X	X	X	X	X	X	X	X	X		
4.2	Hons. and MSc student field ecology course	1							X					
4.3	Hons. and MSc student dissertation writing and defense	6											X	X
5.1	Plant biodiversity surveys and carbon storage estimates	27	X	X	X	X	X	X	X	X	X			
5.2	Insect biodiversity surveys	27	X	X	X	X	X	X	X	X	X			
5.3	Vertebrate biodiversity surveys	27	X	X	X	X	X	X	X	X	X			
5.4	Biodiversity guides and publications	9										X	X	X
6.1	Fund raising for WCA	36	X	X	X	X	X	X	X	X	X	X	X	X

19. Please indicate which of the following Standard Measures you expect to report against by providing indicative figures. These will help gauge project achievements if you receive funding. You will not necessarily plan to cover all these Standard Measures in your project. Separate guidance on Standard Measures can be found at http://darwin.defra.gov.uk/resources/reporting/standard_measures/

Standard Measure	Description	Estimate
1A	Number of people to submit thesis for PhD qualification (in host country)	
1B	Number of people to attain PhD qualification (in host country)	
2	Number of people to attain Masters qualification (MSc, MPhil etc)	X
3	Number of people to attain other qualifications (ie. Not outputs 1 or 2 above)	X
4A	Number of undergraduate students to receive training	
4B	Number of training weeks to be provided	
4C	Number of postgraduate students to receive training	X
4D	Number of training weeks to be provided	X
5	Number of people to receive at least one year of training (which does not fall into categories 1-4 above)	X
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above)	X
6B	Number of training weeks to be provided	X
7	Number of (ie different types - not volume - of material produced) training materials to be produced for use by host country	
8	Number of weeks to be spent by UK project staff on project work in the host country	X
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country	
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	X
11A	Number of papers to be published in peer reviewed journals	X
11B	Number of papers to be submitted to peer reviewed journals	X
12A	Number of computer based databases to be **established** and handed over to host country	
12B	Number of computer based databases to be **enhanced** and handed over to host country	X
13A	Number of species reference collections to be **established** and handed over to host country(ies)	
13B	Number of species reference collections to be **enhanced** and handed over to host country(ies)	X
14A	Number of conferences/seminars/ workshops to be **organised** to present/disseminate findings	
14B	Number of conferences/seminars/ workshops **attended** at which findings from Darwin project work will be presented/ disseminated.	X
15A	Number of national press releases in host country(ies)	X
15B	Number of local press releases in host country(ies)	
15C	Number of national press releases in UK	
15D	Number of local press releases in UK	
16A	Number of newsletters to be produced	
16B	Estimated circulation of each newsletter in the host country(ies)	
16C	Estimated circulation of each newsletter in the UK	
17A	Number of dissemination networks to be **established**	
17B	Number of dissemination networks to be **enhanced/ extended**	
18A	Number of national TV programmes/features in host country(ies)	
18B	Number of national TV programmes/features in UK	
18C	Number of local TV programmes/features in host country(ies)	
18D	Number of local TV programmes/features in UK	
19A	Number of national radio interviews/features in host county(ies)	
19B	Number of national radio interviews/features in UK	
19C	Number of local radio interviews/features in host country(ies)	
19D	Number of local radio interviews/features in UK	
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)	
21	Number of permanent educational/training/research facilities or organisations to be established and then continued after Darwin funding has ceased	X
22	Number of permanent field plots to be established during the project and continued after Darwin funding has ceased	X
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work	X

PROJECT BASED MONITORING AND EVALUATION

20. 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.

Progress in WCA managerial training and establishing logistic support for research at WCA (activities 1.1 and 1.3) will be monitored quarterly, based on the report by BRC and UoS staff on practical performance of WCA at these tasks. A more detailed assessment will be performed annually, identifying persisting problems and needs for future training.

The progress of legal declaration of WCA (activity 1.2) and the need for further action will be assessed at annual meetings between WCA, BRC and DEC.

Training of WCA field assistants (activities 2.1 and 2.2) will be assessed semi-annually by their mentors, who will monitor their practical performance in the field, and annually by formal knowledge and skills tests.

Training of BRC para-ecologists (activities 3.1 and 3.2) will be assessed semi-annually by their mentors, who will monitor their practical performance in the laboratory and the field, and annually by formal knowledge and skills tests. Further, their trainers will separately evaluate their performance during overseas training in the UK.

The progress of Hons. and MSc students (activities 4.1, 4.2 and 4.3) will be monitored by their supervisors, based on quarterly reviews of their research and essays they are required to submit. The ultimate performance test will be the defense and publication of their dissertations. Further, their teachers will separately evaluate their performance during the field ecology training course.

The progress of biodiversity and carbon storage surveys (activities 5.1 – 5.4) will be monitored quarterly by UoS and BRC researchers, with the resultant publications and biodiversity education materials being the final indicators of quality.

Progress in fund-raising for WCA will be assessed annually by the number of research projects, person-days of researchers, person-days of employment for WCA assistants, and the amount of funds raised.

FUNDING AND BUDGET

Please complete the separate Excel spreadsheet which will provide the Budget information for this application. Some of the questions below refer to the information in this spreadsheet.

NB: Please state all costs by financial year (April to March). Use current prices – and include anticipated inflation, as appropriate, up to 3% per annum. The Darwin Initiative cannot agree any increase in grants once awarded.

21. How is your organisation currently funded? (max 100 words)

The University of Sussex receives income from the Higher Education Funding Council for England (HEFCE) and the Capital Investment Framework (CIF) for refurbishment of existing facilities and the creation of new centres of excellence. Over the last five years, the School of Life Sciences has received an average of £9-10M per year in research income from a wide variety of sources including: research councils (BBSRC, EPSRC, MRC, NERC, NSF); charities (Leverhulme, Nuffield, Welcome Trust); EU; UK Government departments and agencies (DEFRA, DTI, English Nature, Environment Agency, Food Standards Agency); and business (CORUS, Horticultural Development Council, Protenix, Rio Tinto). The School of Life Sciences generates just under half of the income received by the University from external sources.

22. Provide details of all <u>confirmed</u> funding sources identified in the Budget that will be put towards the costs of the project, including any income from other public bodies, private sponsorship, donations, trusts, fees or trading activity. Please include any additional <u>unconfirmed</u> funding the project will attract to carry out addition work during or beyond the project lifetime. Indicate those funding sources which are confirmed.

Confirmed:

- The University of Sussex will match-fund 47% of the contribution to salaries for Dr Stewart, Dr Peck, a finance clerk and associated overheads, based on full economic costing (totalling £XXX over the three years).
- The NG Binatang Research Center will discount institutional overheads and office costs in recognition that a dormitory and a vehicle sponsored by past DI projects will be used for the present project logistics, thereby providing £XXX match funding for DI funding.

In addition, the following projects will contribute match-funding:

- Czech Science Foundation. *Ecological determinants of biodiversity distribution in tropical forests: a synthesis for Lepidoptera communities in New Guinea*. PI: V. Novotny, 2009-2014, £XXX match funding for Darwin Initiative
- Biology Center, Czech Academy of Sciences, *Ecology of Tropical Rainforest*. PI: V. Novotny, 2012-2015, £XXX match funding for Darwin Initiative
- Christensen Fund. *Connecting biological research with biodiversity conservation in rainforest-dwelling communities of Papua New Guinea* PI: V. Novotny, 2011-2013, £XXX match funding for Darwin Initiative

Unconfirmed:

- US National Science Foundation. Grant DEB-0841885: *Ants as key component of rainforest food webs: a whole-forest experiment.* PI: V. Novotny, 2012-2014, £XXX match funding for Darwin Initiative (proposal submitted in 2011)

23. Please give details of any further resources (confirmed or unconfirmed) for this project that are not already detailed in the Budget or Question 22. This will include donations in kind or un-costed support eg accommodation. (max 50 words per box)

Possible additional financial resources (not yet applied for): These will be explored in case our pending application (US NSF) for match funding for 2012-2014 is unsuccessful.
Funding in kind: BRC will provide cost shares for accommodation, transport and salaries via its grant support listed above.

FCO NOTIFICATIONS

Please check the box if you think that there are sensitivities that the Foreign and Commonwealth Office will need to be aware of should they want to publicise the project's success in the Darwin competition in the host country. ☐

Please indicate whether you have contacted the local UK embassy or High Commission directly to discuss security issues (see Guidance Notes) and attach details of any advice you have received from them.

Yes (no written advice) ☒ **Yes, advice attached** ☐ **No** ☐

CERTIFICATION 2011/12

On behalf of the trustees/company* of The University of Sussex

(*delete as appropriate)

I apply for a grant of £246,488 in respect of all expenditure to be incurred during the lifetime of this project based on the activities and dates specified in the above application.

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful. (*This form should be signed by an individual authorised by the lead UK institution to submit applications and sign contracts on their behalf.)*

I enclose CVs for project principals and letters of support. Our most recent audited accounts and annual report can be found at:
http://www.sussex.ac.uk/finance/documents/uos_09_10_financial_statement.pdf

Name (block capitals)	
Position in the organisation	

Signed		**Date:**	

Stage 2 Application - Checklist for submission

	Check
Have you provided actual start and end dates for your project?	✓
Have you provided your budget based on UK government financial years ie 1 April – 31 March?	✓
Have you checked that your budget is complete, correctly adds up and that you have included the correct final total on the top page of the application?	✓
Is the concept note within 1,000 words?	✓
Is the logframe no longer than 3 pages and have you highlighted any changes since Stage 1?	✓
Has your application been signed by a suitably authorised individual? (clear electronic or scanned signatures are acceptable in the email, but a wet signature should be provided in the hard copy version)	✓
Have you included a 1 page CV for all the Principals identified at Question 5?	✓
Have you included a letter of support from the main overseas partner(s) organisations identified at Question 5?	✓
Have you checked with the FCO in the project country/ies and have you included any evidence of this?	✓
Have you included a copy of your most recent annual report and accounts? An electronic link to a website is acceptable.	✓
Have you read the Guidance Notes ?	✓
Have you checked the Darwin website immediately prior to submission to ensure there are no late updates?	✓

Once you have answered Yes to the questions above, please submit the application, not later than midnight GMT on Monday **24 October 2011** to Darwin-Applications@ltsi.co.uk using the application number (from your Stage 1 feedback letter) and the first few words of the project title **as the subject of your email**. However, if you are e-mailing supporting documentation separately please include in the subject line an indication of the number of e-mails you are sending (eg whether the e-mail is 1 of 2, 2 of 3 etc). **In addition**, a hard copy of the signature page should be submitted to Darwin Applications, c/o LTS International, Pentlands Science Park, Bush Loan, Penicuik EH26 0PL **postmarked** not later than Tuesday 25 October 2011**.**

DATA PROTECTION ACT 1998: **Applicants for grant funding must agree to any disclosure or exchange of information supplied on the application form (including the content of a declaration or undertaking) which the Department considers necessary for the administration, evaluation, monitoring and publicising of the Darwin Initiative. Application form data will also be held by contractors dealing with Darwin Initiative monitoring and evaluation. It is the responsibility of applicants to ensure that personal data can be supplied to the Department for the uses described in this paragraph. A completed application form will be taken as an agreement by the applicant and the grant/award recipient also to the following:- putting certain details (ie name, contact details and location of project work) on the Darwin Initiative and Defra websites(details relating to financial awards will not be put on the websites if requested in writing by the grant/award recipient); using personal data for the Darwin Initiative postal circulation list; and sending data to Foreign and Commonwealth Office posts outside the United Kingdom, including posts outside the European Economic Area. Confidential information relating to the project or its results and any personal data may be released on request, including under the Environmental Information Regulations, the code of Practice on Access to Government Information and the Freedom of Information Act 2000.**