

PROJECT MONITORING AND EVALUATION

MEASURING IMPACT

23. LOGICAL FRAMEWORK

Darwin projects will be required to report against their progress towards their expected outputs and outcomes if funded. This section sets out the expected outputs and outcomes of your project, how you expect to measure progress against these and how we can verify this.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Promotion of sustainable agriculture to improve rural livelihoods and protect biodiversity. (Max 30 words)			
Outcome: Improved agricultural practices increase incomes of Ghanaian oil-palm smallholders, boost biodiversity within smallholdings and adjacent forest, promote sustainability certification by smallholders and ensure robust land-use planning to protect high-conservation-value rainforest. (Max 30 words)	0.1 Oil-palm (fresh fruit bunch) yields of focal smallholders using Best Agricultural Practice increase by 50-100%, from 3-5 tonnes ha ⁻¹ year ⁻¹ to 7-10 tonnes ha ⁻¹ year ⁻¹ , increasing annual household incomes by an average of 5,000-10,000 GHC (£900-1800) by end of Yr2. 0.2 Bird, butterfly, ant and termite biodiversity within smallholdings using Best Agricultural Practice and adjacent forest, including foraging success of focal bird species, increase by >10% in comparison to controls by end of Yr2. 0.3 Quantitative evidence of the economic benefits of Best Agricultural Practice (BAP), which we will disseminate to >1000 smallholders. We will train these >1000 smallholders in BAP implementation, including training in how to robustly and cost-effectively identify high-conservation-value forest and prioritise its long-term protection. These dissemination activities will result in >1000 smallholders, divided equally between men and women, learning the economic benefits and practice of BAP, leading to adoption of BAP by >500 smallholders by Yr 3.	0.1 Two technical reports and two peer-reviewed publications on key drivers of variation in oil-palm yields and incomes, and on impacts of Best Agricultural Practice on yields and incomes from BAP experiment. 0.2 Two technical reports and two peer-reviewed publications on impacts of Best Agricultural Practice on bird and insect biodiversity from BAP experiment, and on the robustness and reliability of cost-effective measurements of forest characteristics to identify and prioritise HCV forest for long-term protection. 0.3 Material for use at smallholder knowledge-dissemination, training and certification events; report on outcomes of events including smallholder surveys, questionnaires and multiple-choice quizzes. 0.4 Data on applications by Smallholder Associations for RSPO-certification, success rates of applications, and price premiums paid to certified growers provided by project partners RSPO and Solidaridad.	1. Current oil-palm fresh fruit bunch (FFB) yields are below maximum and can be substantially increased. Discussions with our project partners indicate that average yields are currently below half those achieved on industrial plantations in the region, and that this is largely the result of poor agricultural practices of smallholders. 2. There is access to markets for additional oil-palm yields. The rapid and sustained increased in global demand for certified palm oil indicates this is very likely. 3. Current levels of bird and insect biodiversity in smallholdings and adjacent forest can be enhanced by BAP. Available evidence indicates this is the case for other crops (e.g. coffee, cocoa) and hence is likely to also be the case for oil-palm. 4. Adoption of BAP will enable smallholders to achieve RSPO certification. We will work closely with smallholder communities, palm oil estates wishing to get their smallholder out-growers certified and RSPO agencies to facilitate this process, drawing extensively on the considerable

	<p>0.4 More than 500 smallholder farmers adopting BAP achieve RSPO certification, including approval of plans for identifying and conserving HCV forest, by Yr 3.</p>		<p>expertise and successful experience of our project partners at Solidaridad, and making full use of RSPO funds (their Smallholder Support Fund, RSSF,) specifically for this purpose.</p> <p>5. Smallholders adopting BAP will not subsequently increase the area under cultivation at the expense of high-conservation-value rainforest. In practice, the area of land given over to oil-palm cultivation by smallholders is set for a large increase under Ghana's Poverty Reduction Strategy, and so promoting effective land-use planning as a key component of BAP for both established smallholdings and new plantings is more important than ever. RSPO certification will ensure that high conservation value forest within areas designated for expansion is fully protected from replacement by oil-palm, whereas it is currently highly vulnerable.</p>
<p>Outputs:</p> <p>1. Two Darwin Research Fellows from project partner organizations trained to design and carry out field experiments and to analyse, interpret and report data obtained.</p>	<p>1.1 DRFs successfully complete MRes modules in advanced statistics and experimental design, quantitative census methods, avian and insect identification and GIS.</p> <p>1.2 DRFs each write up two reports on data and findings arising from BAP experiment, which are up-loaded onto the RSPO website.</p> <p>1.3 DRFs are each awarded MRes degrees and co-author a minimum of four peer-reviewed open access publications quantifying the FFB yield, income and biodiversity benefits of improved agricultural practices.</p>	<p>1.1 Transcripts and marks for module assessments, approved by MRes exam board.</p> <p>1.2 Four reports uploaded to RSPO website.</p> <p>1.3 MRes degree certificates and classifications (Pass, Merit or Distinction). Papers published in peer-reviewed journals and freely accessible via the White-Rose Open Access repository of scientific papers.</p>	<p>DRFs and smallholders can be recruited to the project and remain active and fully committed to its aims and objectives. This will be greatly enhanced by the strong links between project partners and the extensive experience and expertise of Ghanaian partners in working with rural farming communities.</p>
<p>2. Measurement and authentication of increases in Fresh Fruit Bunch yield, income and biodiversity resulting from</p>	<p>2.1 Monthly records of oil-palm income (quantity of FFBS sold and price from mill) from control (current management)</p>	<p>2.1 Excel Workbook with spreadsheets of monthly records; report uploaded to project website.</p>	<p>BAP experiment will yield clear results showing publishable benefits of BAP for biodiversity. Our previous research</p>

<p>Best Agricultural Practice, and of the usefulness of easily-obtained measures to identify HCV forest for land-use planning.</p>	<p>and experimental (Best Agricultural Practice) plots of 40 smallholders in BAP experiment, together with report on socio-economic and logistical constraints on both women and men from realizing income benefits of increased FFB yields.</p> <p>2.2 Permanent transects established and census data (species richness, abundance and composition) obtained for birds and insects in experimental and control plots of 40 smallholders in BAP experiment and adjacent forest plots. Additional census data on topographical and vegetation characteristics of study plots in forest. Database on foraging behaviour of focal bird species within oil-palm in experimental and control plots. Fully catalogued reference collections with online databases for new species.</p> <p>2.3 Published data quantifying the FFB yield, income and biodiversity benefits of Best Agricultural Practice for oil-palm smallholders in target communities, and the relationships between topographical and vegetation characteristics of forest and biodiversity.</p>	<p>2.2 Database of results of BAP experiment including bird and insect records published and freely accessible via project website and Global Biodiversity Information Facility. Insect reference collections deposited at KNUST, with full descriptions, images and accession numbers of new species in global online databases.</p> <p>2.3 Papers published in peer-reviewed journals and freely accessible via the White-Rose Open Access repository of scientific papers, with supporting data deposited in a freely-available data repository (e.g. Dryad).</p>	<p>elsewhere supports the notion that birds and insects respond quickly and are sensitive to habitat improvements.</p>
<p>3. More than 1000 smallholder farmers, comprising men and women equally, have raised awareness of benefits and better knowledge of how to apply Best Agricultural Practice, including robust land-use planning to identify, prioritise and protect HCV forest.</p>	<p>3.1 Before-and-after surveys of smallholders participating in Best Agricultural Practice experiment show measured increases in scores for importance of and satisfaction with BAP, equally among women and men.</p> <p>3.2 >1000 smallholders attend knowledge dissemination and training events held within smallholder communities and with smallholder out-growers at oil-palm estates.</p> <p>3.3 Multiple-choice quizzes completed anonymously by smallholders at start</p>	<p>3.1 Anonymised results of before-and-after surveys, stratified by gender, uploaded to project website with accompanying report summarising analysis and findings.</p> <p>3.2 National and social media coverage of smallholder knowledge-dissemination and training events, plus written material used at these events uploaded to project website.</p> <p>3.3 Results of questionnaires and multiple-choice assessments of training outcomes at these events, with reports,</p>	<p>>1000 smallholders, comprising men and women equally, will attend knowledge dissemination and training events, and complete anonymised multiple choice assessments. Our project partners' extensive experience of working with rural farming communities in Ghana strongly suggests that this will be the case.</p>

	and end of knowledge dissemination and training events show measured increases in average scores, equally among women and men.	uploaded to project website.	
4. More than 500 smallholder farmers form associations and support networks, receive assistance with costs of certification from RSPO and use this to apply successfully for certification.	<p>4.1 Local smallholder associations and support networks share good practice and knowledge, linked by text messaging networks, social media sites or alternatives as preferred by each community.</p> <p>4.2 Each smallholder association applies successfully for assistance from RSPO's Smallholders Support Fund (RSSF), assisted by community-based certification events and supported by a handbook on achieving RSPO-certification.</p> <p>4.3 Aided by RSSF and with continued support from project partners, each smallholder association applies successfully for RSPO-certification.</p>	<p>4.1 Facebook pages, twitter accounts and tweets, or alternatives as preferred by each community.</p> <p>4.2 Material used at certification events, including handbook on achieving certification, uploaded to project website. Annual reports from RSPO on numbers and outcomes of applications by Smallholder Associations and estates for RSSF assistance with costs of certification.</p> <p>4.3 Annual reports from RSPO on numbers and outcomes of subsequent applications to become RSPO-certified.</p>	Smallholders wish to achieve certification for sustainability. Evidence from RSPO shows strong support from smallholders elsewhere, and enthusiastic uptake of RSSF support once benefits of certification are evident.
5. Evidence and lessons learned from project disseminated to policy makers in Ghana and internationally.	<p>5.1 Fact sheets and policy recommendations submitted to Ghanaian government (Ministry of Food and Agriculture; Ministry of Environment, Science, Technology and Innovation) and equivalent ministries in neighbouring countries committed to rapid expansion of oil-palm cultivation.</p> <p>5.2 Powerpoint presentations to ~ 1000 delegates at each of two annual RSPO Roundtable meetings.</p> <p>5.3 Ministry of Food and Agriculture in Ghana and equivalents in neighbouring countries discuss with project partners how best to further disseminate project findings and facilitate RSPO certification in other communities in Ghana and other West African countries.</p>	<p>5.1 Fact sheets and policy documents, with records of dissemination to government ministries, universities, environmental NGOs and RSPO Roundtable meetings.</p> <p>5.2 Roundtable programmes and proceedings; Powerpoint presentations uploaded to RSPO and project websites.</p> <p>5.3 Minutes and Action Points arising from discussion meetings.</p>	Government agencies in Ghana and neighbouring countries recognize the importance of smallholders for oil-palm production and the value of promoting sustainable cultivation that improves rural livelihoods. CBD reports and Poverty Reduction Strategy Papers of different countries strongly indicate that this is the case.

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1.1 Two graduate Darwin Research Fellows (DRFs) recruited to project from partner organizations.

1.2 DRFs visit UK for two periods of six months each, to take MRes modules at University of Leeds.

1.3 DRFs each complete two project dissertations reporting results of BAP field experiments, which contribute successfully to gaining sufficient credits for award of MRes degrees.

2.1 BAP experiment runs for 12 months; smallholders keep monthly records of FFB weights sold to mill and prices paid, and send data to DRFs by mobile phone texts (SMS).

2.2 Smallholder surveys to obtain data on crop management, socio-economic and environmental variables, including constraints on translating additional FFB yields into additional income, with particular focus on constraints imposed on women. Fieldwork to survey birds and insects in smallholdings and forest, and collect soil samples in smallholdings, at start and end of BAP experiment.

2.3 Spatial modelling of key drivers of variation in FFB yields and incomes, and of the robustness and reliability of cost-effective measures to identify HCV forest; analysis of BAP experiment data, including laboratory analysis of soil quality, identification of insects, and verification of bird vocalizations.

3.1 Organize 10 community-based BAP and land-use planning dissemination and training events, each for ~100 smallholders, supported by Handbook of Best Agricultural Practice and with assistance and input from participants in BAP experiment, who will be trained appropriately (i.e. training the trainers).

3.2 Conduct surveys via questionnaires and multiple-choice quizzes to gauge attitudes and levels of knowledge and understanding of BAP, including identification and prioritisation of HCV forest for long-term protection, before and after each knowledge-dissemination and training event.

3.3 Refine dissemination and training material based on feedback from events, and broadcast via means deemed most suitable by smallholders (social media, website, leaflets, pamphlets, posters, videos, etc).

4.1 Organize 10 community-based certification events, each for ~100 smallholders and supported by a Handbook on Achieving RSPO-Certification, giving guidance on forming Smallholder Associations and support networks, and on applying together to RSSF for assistance with costs of certification.

4.2 Monitor RSSF applications and provide feedback and assistance where needed to ensure successful outcomes.

4.3 Organize community visits and use newly-established support networks to assist Smallholder Associations in receipt of RSSF funding to successfully complete process of RSPO certification.

5.1 Meeting with Ministry of Food and Agriculture in Ghana to present fact sheets and policy recommendations arising from project.

5.2 Dissemination of material to other government ministries, universities and environmental NGOs operating in region, including through end of project workshop.

5.3 Presentations to RSPO Roundtable Meetings in 2018 (RT15) and 2019 (RT16).

24. 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 (Q1 starting April 2016)

Activity	No of Months	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1 Training Darwin Research Fellows	27												
1.1 Two Ghanaian graduate students selected and recruited													
1.2 DRFs receive training in UK													
1.3 DRFs complete MRes project dissertations													
Output 2 Quantifying benefits of Best Agricultural Practice	27												
2.1 Best Agricultural Practice experiment													
2.2 Smallholder surveys and biodiversity sampling													
2.3 Data analysis and spatial modelling													
Output 3 Raising smallholder awareness and understanding of BAP	12												
3.1 BAP knowledge dissemination and training events													
3.2 Assessment of impact and effectiveness of events													
3.3 Publication and broadcast of training materials													
Output 4 Facilitating RSPO certification by smallholders	12												
4.1 RSPO-certification knowledge dissemination events													
4.2 Assistance with applications to Smallholder Support Fund													
4.3 Assistance with RSPO certifications													
Output 5 Influencing policy makers in Ghana and internationally	12												
5.1 Meetings with Ministry of Food and Agriculture in Ghana													
5.2 Dissemination of material to other GOs and NGOs in region													
5.3 Presentations at RSPO Roundtable Meetings and documents to RSPO secretariat													
5.4 End-of-project workshop													

25. Project based monitoring and evaluation (M&E)

Describe, referring to the Indicators above, how the progress of the project will be monitored and evaluated, making reference to who is responsible for the project's M&E. Darwin Initiative projects are expected to be adaptive and you should detail how the monitoring and evaluation will feed into the delivery of the project including its management. M&E is expected to be built into the project and not an 'add' on. It is as important to measure for negative impacts as it is for positive impact.

(Max 500 words)

Project management will be overseen by Leeds, with an adaptive approach ensuring that assumptions identified during project planning are regularly reassessed. A steering group (Hamer, Asare, Hill) will hold quarterly teleconferences and meet face-to-face with all project partners including DRFs at annual management meetings in Ghana, allowing the project logframe to be updated and adapted based on progress. DRFs will gather regular feedback from smallholders and present summaries to each steering group meeting, allowing project activities to be revisited and adapted if necessary. A final stakeholders' workshop will evaluate the project's success close to its end, make recommendations on future activities, and review the exit strategy. We will use the following specific means to establish baselines, monitor progress and evaluate impact:

(1) *Smallholder surveys and questionnaires* – All smallholders in the Best Agricultural Practice (BAP) experiment will provide monthly data by text-messaging on both fresh fruit bunch yields and prices paid at the mill, allowing not only quantification of baseline economic data and regular monitoring of impacts on poverty reduction, stratified by gender, but also monthly monitoring of continued smallholder engagement with the project. These smallholders will also be interviewed (by DRFs, supervised by Addico) before and after the experiment to ascertain initial knowledge, understanding and attitudes towards BAP, and subsequent changes, among those implementing BAP and those not doing so. In addition, the >1000 smallholders attending 10 knowledge-dissemination and training events will complete anonymous questionnaires and a multiple-choice quiz at the beginning and end of each event to quantify changes in their knowledge, understanding and intentions towards BAP, with a follow-up mobile-phone survey by Solidaridad (co-ordinated by Addico) to verify BAP uptake rates.

(2) *Field surveys* – By assessing bird and insect biodiversity and soil quality at the beginning and end of the BAP experiment, we will quantify changes against measured baselines over known time-periods. By sampling biodiversity in natural forest, we will measure changes against baselines for all species and for forest-dependent species of greatest conservation concern, and identify HCV forest areas for highest-priority protection (carried out by DRFs, supervised by Hamer (birds), Hill (butterflies, termites), Lucey (ants), Asante (soil quality)).

(3) *DRF Evaluations* – Progress of DRFs towards obtaining MRes degrees will be monitored at six-monthly meetings with their training committee (Hamer, Asante, Ziv) and via their scores for completed degree module assessments at Leeds. Overall success in this respect will be gauged from awarded degree classifications (Pass, Merit, Distinction).

(4) *Interrogation of RSPO data* – Smallholders' success in achieving sustainability certification will be assessed by Lucey using data provided by RSPO (Kumaran) at project start and annually thereafter on the number and outcome of: (i) applications by Ghanaian Smallholder Associations and estates for RSSF assistance with costs of certification, and (ii) subsequent applications to become RSPO-certified growers.

Further independent evaluation of project progress and impacts will be provided through annual and final reports to LTS, citations of peer-reviewed papers describing project findings (Google-Scholar data), and feedback on recommendations to policy makers (Ministry of Food and Agriculture, RSPO) and environmental NGOs.

Total budget for M&E	£8,200
Percentage of total budget set aside for M&E	2.5%

FUNDING AND BUDGET

Please complete the separate Excel spreadsheet which provides the Budget for this application. Some of the questions earlier and below refer to the information in this spreadsheet. You should also ensure you have read the 'Finance for Darwin' document and considered the implications of payment points for cashflow purposes.

NB: The Darwin Initiative cannot agree any increase in grants once awarded.

26. Value for Money

Please explain how you worked out your budget and how you will provide value for money through managing a cost effective and efficient project. You should also discuss any significant assumptions you have made when working out your budget.

(max 300 words)

A total budget of £489,910 is needed for the implementation of this project, including 65% (£327,744) requested from the Darwin Initiative and 33% (£162,166) as matching funds from other sources. Additional funding is also available from the RSPO's Smallholder Support Fund (RSSF), to help smallholders with costs of certification. We estimate that for 20 Smallholder Associations of ~50 member each, these costs will be ~£40K (£2,000 per Association), a sum which is likely to be secured by each association applying for funding, given RSPO's role as a partner in the project. >80% of the Darwin Initiative funding of this project will be invested in Ghana. Costs for the two Darwin Research Fellows are based on MRes fees at the University of Leeds and stipends equivalent to the maintenance component of RCUK postgraduate studentships. Costs of fieldwork, knowledge-dissemination and training events, and travel within Ghana are based on the knowledge and experience of our in-country project partners, and include 40,000 GHC (£7,000) to be paid directly to smallholders to support their participation in the Best Agricultural Practice experiment. Two 4x4 vehicles and experienced drivers, essential for reliable and safe transport of personnel, equipment and samples to and from remote fieldwork sites, will be provided by NCRC at a fraction of total cost. Salary costs are based on current emoluments and annual incremental adjustments where applicable, but not inflation. Funds for only a proportion of staff time allocated to the project have been requested by project partners, and the remaining costs will be met by their respective Institutions.

27. Capital items

If you plan to purchase capital items with Darwin funding, please indicate what you anticipate will happen to the items following project end.

(max 150 words)

Computers, software, binoculars for censusing birds and digital sound-recorders (to record unfamiliar bird calls for later verification or identification using expert advice and global databases; e.g. <http://www.xeno-canto.org>) will be retained at KNUST and NCRC for continued use by the Darwin Research Fellows and project partners in Ghana.

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 your Foreign Ministry or the local embassy or High Commission (or equivalent) 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

On behalf of the trustees/ of _____ the University of Leeds
(*delete as appropriate)

I apply for a grant of £327,744 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 applicant institution to submit applications and sign contracts on their behalf.)

- I enclose CVs for key project personnel and letters of support.
- I enclose our most recent signed audited/independently verified accounts and annual reports (if appropriate)

Name (block capitals)	GILL HARRISON
Position in the organisation	Research and Innovation Manager

Signed**

PDF

Date:

27/11/2015

If this section is incomplete or not completed correctly the entire application will be rejected. You must provide a real (not typed) signature. You may include a pdf of the signature page for security reasons if you wish. Please write PDF in the signature section above if you do so.

Stage 2 Application – Checklist for submission

	Check
Have you read the Guidance Notes ?	✓
Have you provided actual start and end dates for your project?	✓
Have you indicated whether you are applying for DFID or Defra funding? NB: you cannot apply for both	✓
Have you provided your budget based on UK government financial years i.e. 1 April – 31 March and in GBP?	✓
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?	✓
Has your application been signed by a suitably authorised individual ? (clear electronic or scanned signatures are acceptable)	✓
Have you included a 1 page CV for all the key project personnel identified at Question 10?	✓
Have you included a letter of support from the <u>main</u> partner organisations identified at Question 9?	✓
Have you been in contact with the FCO in the project country/ies and have you included any evidence of this?	✓
Have you included a signed copy of the last 2 years annual report and accounts for the lead organisation?	✓
Have you checked the Darwin website immediately prior to submission to ensure there are no late updates?	✓

Once you have answered the questions above, please submit the application, not later than 2359 GMT on Tuesday 1 December 2015 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**. 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). You are not required to send a hard copy.

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.