Submit by Monday 1 December 2014

DARWIN INITIATIVE APPLICATION FOR GRANT FOR ROUND 21: 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.

ELIGIBILITY

1. Name and address of organisation (NB: Notification of results will be by email to the Project Leader in Question 7)

Applicant Organisation Name:	**Royal Botanic Gardens Kew**
Address:	**Kew, Richmond**
City and Postcode:	**Surrey TW9 3AE**
Country:	**UK**

2. Stage 1 reference and Project title

Ref: 2775	Mainstreaming biodiversity conservation and climate resilience at Yayu Biosphere Reserve

3. Project dates, and budget summary

Start date: 1 April 2015		**End date:** 31 March 2018		**Duration:** Three years
Darwin request	**2015/16** **£130,793**	**2016/17** **£119,680**	**2017/18** **£65,317**	**Total request** **£315,790**
Proposed (confirmed and unconfirmed) matched funding as % of total Project cost: 44%				
Are you applying for DFID or Defra funding? (Note you **cannot** apply for both)		**DFID**		

4. Define the outcome of the project. This should be a repetition of Question 24, Outcome Statement.

Five coffee cooperatives in the UNESCO registered Yayu Coffee Forest Biosphere Reserve, move to sustainable and resilient livelihoods, whilst conserving local biodiversity.

5. Country(ies)

Which eligible host country(ies) will your project be working in. You may copy and paste this table if you need to provide details of more than four countries.

Country 1: Ethiopia	**Country 2:**

6. Biodiversity Conventions

Which of the conventions supported by the Darwin Initiative will your project be supporting? Note: projects supporting more than one convention will not achieve a higher scoring

Convention On Biological Diversity (CBD)	**Yes**
Nagoya Protocol on Access and Benefit Sharing (ABS)	**No**
International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)	**No**
Convention on International Trade in Endangered Species (CITES)	**No**

6b. Biodiversity Conventions

Please detail how your project will contribute to the objectives of the convention(s) your project is targeting. You may wish to refer to Articles or Programmes of Work here.
Note: No additional significance will be ascribed for projects that report contributions to more than one convention

(Max 200 words)

In Ethiopia c. 22% of the population (around 18m people) depend on coffee for their livelihoods. Ethiopia's 5th CBD Progress Report (2014; https://www.cbd.int/reports/search), states that there is a specific objective to half habitat conversion. Ethiopia's *Poverty Reduction Strategy Paper* and *Growth and Transformation Plan* (2010/11–2014/15) highlights that increasing coffee productivity, while conserving biodiversity [CBD goals] and genetic resources, will play an important role in Ethiopia reaching Millennium Development Goal (MDG) 1.

Through its focus and mainstreaming approach the project covers numerous CBD Articles, including: 6 (b); 7 (c); 8 (e), (i), (j); 11; 12 (a), (b), (c); 13 (a), (b); 17 (1), (2); 18 (1), (2), (4), (5); 20 (7).

In particular the project will:

"*Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas*..." (Art. 8(e). Article 8. In-situ Conservation).

"...*adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity*." (Art 11. Incentive Measures).

"*Promote and encourage understanding of the importance of biodiversity, as well as its propagation through media, and the inclusion of these topics in educational programmes*" (Art. 13(a). Public Education and Awareness).

Is any liaison proposed with the CBD/ABS/ITPGRFA/CITES focal point in the host country?

☒ **Yes** ☐ **No** **if yes, please give details:**

We have been in contact with the main national CBD contact, the Ethiopian Biodiversity Institute (EBI) in Addis Ababa, and at Yayu, regarding coffee climate change/resilience work. The EBI are partners in our ongoing SCIP-fund project (Building a Climate Resilient Coffee Economy for Ethiopia). We plan to build on our existing relationship with EBI, in Addis and at Yayu.

7. Principals in project. Please identify and 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 personnel or more than one project partner.

Details	**Project Leader**	**Project Partner 1 - Main**	**Project Partner 2**
Surname	Davis	Woldermariam Gole	Macatonia
Forename (s)	(Dr) Aaron Paul	(Dr) Tadesse	(Dr) Steven
Post held	Senior Research Leader, Provisioning	Director	Director of Production
Organisation (if different to above)		Environment and Coffee Forest Forum (ECFF)	Union Hand Roasted Coffee (UHRC)
Department	Natural Capital	Senior Management	Production

Details	Project Partner 3	Project Partner 4	
Surname	Cruz	Schuit	
Forename (s)	Graciano	Pascale	
Post held	Director	Socio-economist	
Organisation (if different to above)	HiU Coffee	UHRC	

8. Has your organisation been awarded a Darwin Initiative award before (for the purposes of this question, being a partner does not count)**? If so, please provide details of the most recent awards (up to 6 examples).**

Reference No	Project Leader	Title
21-006	Kate Gold	Balancing conservation and livelihoods in the Chimanimani forest belt, Mozambique
21-005	Moctar Sacande	Pesticide plants for organic cotton, livelihoods and biodiversity in Mali
21-003	Hugh Pritchard	Protecting Ugandan endemic cycads from biodiversity loss and trafficking
20-021	William Milliken	Forest Futures: livelihoods and sustainable forest management in Bolivian Amazon
20-020	Stuart Cable	Madagascar Agroforestry Livelihoods Project

9a. If you answered 'NO' to Question 8 please complete Question 9a, b and c.
If you answered 'YES', please go to Question 10 (and delete the boxes for Q9a, 9b and 9c)

10. 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.

Lead institution and website:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
RBG Kew https://kewnet.kew.org/	Kew would be the project leader and be responsible for: the organization and day-to-day management of the project, science activities, budget, and M&E management. Kew would lead on science activities including: experiment design, analyses and evaluation, including environmental monitoring components, GIS and remote sensing. Kew has long-standing excellence in biodiversity research in Ethiopia and worldwide. Kew specialises in coffee research and environmental analysis and monitoring, with world-class GIS, remote sensing, and modelling capabilities. Expertise also includes identification skills (e.g. species used in agronomy and biodiversity recording) and coffee agronomy. In partnership with ECFF, Kew is the lead research group for coffee and climate change in Ethiopia. Since 2009 Kew has been monitoring climate and coffee production in Ethiopia, using GIS and remote sensing, and meteorological equipment especially designed for understanding the interactions between weather/climate and coffee farming. We are currently running a project called *Building a Climate Resilient Coffee Economy for Ethiopia,* funded by the DFID Strategic Climate Institutions Programme (SCIP) http://www.kew.org/science-conservation/research-data/science-directory/projects/building-climate-resilient-coffee.

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Environment and Coffee Forest Forum (ECFF) http://www.ecff.org.et/	ECFF would be the in-country project leader and negotiating body for government agencies, in-country civil societies, coffee exporting bodies, and community governance (including cooperatives and local administration). It is co-responsible for experimental design, science activities, impact and evaluation. ECFF would undertake the bulk of the GIS and remote sensing activities, including land-use change analyses. ECFF were the Main Project Partner for a Round 19 Scoping Award (EIDPR150) Mainstreaming Biodiversity and Sustainable Livelihoods in the Yayu Biosphere Reserve. ECFF's role in the award was to arrange logistics at Yayu, including meetings with cooperative heads, and visits to the coffee production and processing areas. ECFF then worked closely with UHRC and HiU Coffee during their follow-up visits following the scoping trip. ECFF is Ethiopia's leading civil society for wild coffee forests, indigenous Arabica genetic diversity, and climate resilience for coffee. It is the main partner of the SCIP-fund project *Building a Climate Resilient Coffee Economy for Ethiopia*, and has build significant capacity for undertaking climate resilience agronomy work during this project. ECFF is the main actor in research at Yayu and played the key role in the designation of this area as a UNESCO registered Coffee Forest Biosphere (designated in 2010). The organization is deeply engaged in community support at Yayu, and coffee production for beneficial livelihood and environmental outcomes.

Have you included a Letter of Support from this institution?	Yes/~~No~~

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
Union Hand Roasted Coffee (UHRC) http://www.unionroasted.com	UHRC would be responsible for providing access to market for Yayu cooperatives, and assessing coffee processing, quality and market value. UHRC will provide socio-economic support and project evaluation, via the employment of a socio-economist. UHRC has made a commitment to supporting Yayu farmers through purchasing agreements and nonprofit ethical investment. UHRC is a green coffee importer and roaster, based in London. The company is committed to "relationship coffee purchasing" via the direct trade route ('Union Direct Trade'), a model it uses for much of the coffee it trades as an importer, roaster and distributor. A leader in this mode of operation, almost since the inception of the company, and one of the first coffee companies to invest in Rwandan coffee following the period of intense civil unrest in 1994. The high quality ('speciality') coffees sold by UHRC are sourced from small-holder farms from around the world. UHRC have previously worked with USAID, Comic Relief, and Farm Africa. Please see covering letter.
Have you included a Letter of Support from this institution?	Yes/~~No~~

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project): (max 200 words)**
HiU Coffee http://www.hiucoffee.com	HiU Coffee would be responsible for providing the coffee harvesting, and post-harvesting and packaging, training programme, for the five Yayu cooperatives. HiU will also supervise the installation of the processing (drying beds, etc.) and evaluation (cupping labs) equipment for the cooperatives, and manage the administration of the cooperatives during the project. It will also work with the milling and exporting company in Addis, in order to ensure quality and tractability. HiU coffee is a company that produces its own coffee, from farms in El Salvador. It also runs a long-established coffee production consultancy. HiU has projects running in Central America, Africa (Ethiopia) and Asia. The Director, Graciano Cruz, was employed by UHRC as a consultant to run a pilot for the project being proposed here, making a total of five visits to Ethiopia in 2013 and 2014. Graciano Cruz has considerable coffee consultancy experience, especially in coffee agronomy and processing, including significant fieldwork for Technoserve and ACDI VOCA in Ethiopia.
Have you included a Letter of Support from this institution?	Yes/~~No~~

11. Have you provided CVs for the senior team including the Project Leader	Yes/~~No~~

12. Problem the project is trying to address

Please describe the problem your project is trying to address. For example, what biodiversity and challenges will the project address? Why are they relevant, for whom? How did you identify these problems?

(Max 200 words)

Yayu Reserve (167,000ha) is divided into: (1) core zone, (2) buffer zone, (3) transition area(s). It is home to around 450 higher plants, 50 mammal, 200 bird, and 20 amphibian species, plus important wild crop genetic resources (including *Coffea arabica*). Coffee cultivation occurs within forests of the buffer zone and transition areas. At Yayu, coffee generates up to 70% of the cash income for over 90% of the population.

The problem is that most farmers in the area are struggling to make sufficient income from coffee. This causes a conversion away from forest production, to non-forest crops such as khat (*Catha edulis*) and maize (*Zea mays*), leading to forest loss, biodiversity loss, a reduction in ecosystem services, and a narrowing of income diversity. The most important factor restricting coffee income is coffee quality, rather than productivity/quantity. If quality is assured then the market will exist. At Yayu we need to: (1) reduce poverty; (2) reduce land-use change/conversion; (3) preserve biodiversity; and (4) minimize farmer's vulnerability to climate perturbations. This can be achieved by implementing the project outlined in this proposal.

These problems were identified by the project participants and especially by ECFF during more than a decade of work at Yayu.

13. Methodology

Describe the methods and approach you will use to achieve your intended outcomes and impact. Provide information on how you will undertake the work (materials and methods) and how you will manage the work (roles and responsibilities, project management tools etc.).

(Max 500 words – repeat from Stage 1 with changes highlighted)

1. Increase farmer income by improving coffee quality through harvest and post-harvest (processing) interventions.

This will be achieved by training and supervision, in conjunction with the installation of equipment, in coffee harvesting and processing, including pulping, drying bed installation and management, female-led management in crop sorting, dry mill management, and coffee evaluation. It has been consistently shown that small investments in coffee harvest and processing lead to significant increases in quality, which in turn means higher prices and an improved producer-supplier relationship. The model enables each of five Yayu cooperatives to have their own processing and quality grading equipment, which not only improves quality but also reduces numerous operational costs (leading to further income gains), and a significant 'greening of the value chain' via a reduction in water and transport costs. A business model has already been constructed for this activity, during five independent site visits (led by HiU Coffee and UHRC), for the five coffee cooperatives in the Yayu Reserve area. In the longer term, the extra income generated for farmers will enable them to make their own investments, including those for on-farm adaptation to ensure climatic resilience.

2. Provide a baseline and evaluation of forest change (stability vs. conversion) from 2000 – 2018

Monitoring of project success in terms of stabilizing/reducing forest loss will be made using two activities: (1) high resolution mapping of the Yayu Reserve; (2) Field survey and farmer interview. Activity (1) will compare Rapid Eye satellite imagery (5m resolution) from 2012 with that of 2018, to assess precise forest cover change and forest conversion over a six year period, and Landsat data from 2000 onwards. Activity (2) will be used to ground-truth satellite data, via targeted field survey and interviews with farmers and their communities.

3. Understand the relationship between coffee yield and coffee quality in relation to climatic variables, in order to best inform farmers about on-farm resilience and adaptation.

Yayu is identified as a climate change vulnerable area (Davis et al., 2012. PLOS ONE 7(11): .e47981), and thus farmers will need a sound financial incentive to invest in resilience.

This will be achieved by installing temperature and humidity data-loggers, soil moisture probes and rainfall gauges, in three farms (one each for three co-operatives), in conjunction with spot readings of soil moisture/quality variables, for the duration of the project, to better understand the factors influencing productivity and quality/taste. A climate resilience strategy will be formulated for the five cooperatives, with specific resilience plans for vulnerable farms.

This part of the project will constitute a valuable case study in climate resilience. The lessons learned will be invaluable for scaling-up intervention practices for vulnerable coffee production areas across Ethiopia, working towards a climate resilience coffee economy as part of Ethiopia's *Climate Resilient Green Economy* (CRGE).

4. Manual of Coffee Growing, Harvesting and Processing.

Outputs from 1–3 will be gathered into a practical manual on coffee harvesting and processing, and farming methods to improve quality and resilience, written in Oromia language.

14. Change Expected

Detail what the expected changes this work will deliver. You should identify what will change and who will benefit.

- If you are applying for Defra funding this should specifically focus on the changes expected for biodiversity conservation and its sustainable use.
- If you are applying for DFID funding you should in addition refer to how the project will contribute to reducing poverty. Q19 provides more space for elaboration on this.
-

(Max 250 words)

In this project, poverty alleviation, biodiversity, and resilience, are inextricably linked. Poor coffee quality is a bottleneck to achieving appropriate market value. Coffee either not sold, or sold as unprocessed, has a severe negative influence on farmer income. The project aims to:

(1) Reduce poverty by enabling cooperative members to significantly increase the cash value of their coffee harvest. The main target will be an increase from commodity price ($1.80 lb) to 'speciality' price ($2.30 lb, at $0.70 above commodity price). 950 cooperative members (c. 5,200 household members) of the five Yayu cooperatives will increase their income by 30%. On completion of the project the model for income improvement will be self sustaining.

(2) Reduce poverty of 250 community members (with a focus on women) by providing seasonal work in harvest and processing activities.

(3) Stabilize or significantly reduce forest/biodiversity loss via the maintenance of traditional forest-based coffee production in the reserve buffer zone and transitional areas. The project aims to either stabilize (0 – 1%) or significantly reduce (less than 3%) conversion compared to 2000 – 2012, by 2018.

(3) Provide climate resilience for coffee farmers in Yayu, using on-farm interventions. This will be achieved by: (1) providing Yayu farmers with a better understanding of resilience adaptation methods; and (2) through financial stability, and providing funds for re-investment. The project will also provide a more precise understanding of (locally measured) climate stress variables, allowing evidence-based decision making for resilience, such as optimal shade management and seasonal mulching.

15a. Is this a new initiative or a development of existing work (funded through any source)? Please give details (Max 200 words):

The proposed project is a new initiative. It compliments, and develops, aspects of the innovative SCIP-fund project *Building a Climate Resilient Coffee Economy for Ethiopia* http://www.kew.org/science-conservation/research-data/science-directory/projects/building-climate-resilient-coffee, by providing an on-the-ground case-study of how to build resilience for coffee farmers at the farm-level.

15b. 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:

The nonprofit organization Technoserve "develops business solutions in the coffee sector to reduce poverty, by linking people to information, capital and markets". Their work is "rooted in the idea that hardworking people can generate income, jobs and wealth for their families and communities". Our model for income improvement via coffee quality improvement is similar to that used by Technoserve, who have achieved good success in Ethiopia http://www.technoserve.org/our-work/stories/ethiopian-farmers-find-value-in-high-quality-coffee.

Parenthetically, this is good evidence that the model we are adopting achieves tangible success. Technoserve state that they have elevated coffee values 65% above market value (at $3.68 per pound) for 100 farmers. Our business model and pilot indicates that we can provide and increase of 30% above commodity price, although in our case the number of farmers involved is much higher. Our pilot project (a development of our Darwin Scoping Award; see below), shows that farmers from three cooperatives made an increase of 66% above commodity price.

Our project differs from the Technoserve example in the following ways: (1) The selection of the project area (i.e. Yayu) is focused on biodiversity preservation objectives linked to livelihood improvements. (2) The Yayu cooperative members already have commitments to loans (mico-financing); the project will not add further risk, only opportunity and benefit. (3) The commitment by Project Partners is long-term. (4) 'Access to market' has already been secured (by UHRC) for c. 5% of total cooperative output (18 metric tonnes (MT), out of 575 MT), even before the project starts. (5) A buyer/coffee roaster (UHRC) is directly engaged with coffee quality monitoring. (6) On-farm climate resilience is being researched, as part of the plan to ensure long-term sustainability. (7) We aim to improve coffee prices for 950 cooperative members (farmers).

Darwin Project Ref: 19025 – Conservation of Ethiopia's wild coffee using participatory forest management; Purpose: "Key areas of Amora Gedel and Kontir Berhan 'wild coffee' forests are conserved and providing sustainable livelihood benefits through participatory forest management by the local communities with full government support." This project has a similar purpose to the one proposed in this application, but the mechanisms for achieving this use other types of PFM. In our project we present a solid business case founded on industrial support and participation, with a climate resilience element included. Unlike Amora Gedel and Kontir Berhan, Yayu is a UNESCO registered Coffee Forest Biosphere, and one of Ethiopia's most important sites for wild coffee germplasm conservation.

15c. 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**.**

After the project, or once we have established best-practice, we envisage scaling-up the project approach for other vulnerable communities/ecosystems within Ethiopia and East Africa. Once the project is established, we intend to look for private benefaction for the construction of an indigenous seedling nursery.

16. Value for money

Please describe why you consider your application to be good value for money including justification of why the measures you will adopt will secure value for money?

(Max 250 words)

Yayu Biosphere Reserve is a registered UNESCO reserve. Despite this recognition, there are currently little or no funds to provide income benefits for activities that benefit the reserve and its biodiversity. After more than a decade of involvement in Yayu and Ethiopian Montane Forests, ECFF have concluded that a market-based conservation approach, which involves and benefits the local community, provides the most cost-effective and sustainable solution for the communities living in these areas. Our project aims to improve the livelihoods of more than 5200 Yayu community members, by proving them with the income incentive to maintain traditional agroforestry practices compatible with the objectives of the reserve. In addition, the project will investigate the applicability of on-farm climate resilience measures, thus providing understanding for one of the critical aspects of long-term income sustainability.

Ethiopian coffee has enormous potential on the world market, due the amazing diversity of taste profiles, and competitive production costs. Coffee connoisseurs and baristas often rate Ethiopia as the world's best coffee. Its full potential, however, can only be realized by making critical value-for-money investments within the sector. Foremost amongst these are improving quality and traceability, and by ensuring climatic, community, and market resilience. Through this project we aim to show that by these cost-effective interventions it is possible to realize this potential, and associated environmental benefits. The project proposed here will comprise a unique case-study for the Ethiopian coffee sector, and lessons learned at Yayu would be transferrable across Ethiopia's coffee growing landscape (to include other crops).

17. Ethics

Outline your approach to meeting the Darwin Initiative's key principles for research ethics as outlined in the guidance notes.

(Max 300 words)

Kew has had a Policy on Access to Genetic Resources and Benefit Sharing since 2001 (www.kew.org/conservation/index.html). Overseas fieldwork is vetted by an Overseas Fieldwork Committee that ensures that staff are aware of and fulfil requirements of CITES and the CBD, including all national and local legislation on collecting and exporting genetic resources and associated traditional knowledge. Kew has developed peer reviewed guidance for staff on working with traditional knowledge and local communities.

Transfer of Arabica coffee germplasm across or outside of Ethiopia is strictly forbidden. All genetic resources used for the project will remain either on-farm and within forest. There are absolutely no plans to remove any germplasm from Yayu, or Ethiopia. The project is based on a demand identified by the in-country partner (ECFF) as part of a long-standing plan to mainstream biodiversity preservation, and Yayu coffee cooperative members wishing to see a fair and sustainable price for their coffee crop. The project is directly aimed at the involvement and benefit of the community at Yayu and their environment. Access to farms and study plots will be by prior agreement, using Prior Informed Consent (PIC) principles, and this will be reviewed at a regular basis to ensure that non-residential project partners continue to respect the rights, privacy, and safety of the cooperative members. Stringent safety protocols will be established, and adhered to, for those working on all aspects of the project and particularly where machinery is used for coffee processing. All research outputs will be carefully scrutinized by in-country partners (ECFF), and UK partners (Kew Science) prior to submission for publication and public release. Science output will be via the peer-review process in well respected journals. Project ethics and outcomes will be monitored and evaluate by the project's socio-economist (Pascale Schuit).

18. Legacy

Please describe what you expect will change as a result of this project with regards to biodiversity conservation/sustainable use and poverty alleviation (for DFID funded projects). For example, what will be the long term benefits (particularly for biodiversity and poor people)

of the project in the host country or region and have you identified any potential problems to achieving these benefits?

(Max 300 words)

The project will reduce poverty and provide short- to long-term climate and agro-ecological resilience for coffee farming communities and their environment at the Yayu Reserve. Specifically:

(1) Five coffee cooperatives (950 members, c. 5,200 household members) in the Yayu Reserve, will move to sustainable and resilient livelihoods, whilst conserving local biodiversity. The five cooperatives are: Achebo (214 members; 203 male; 11 female), Geri (124 members; 119 male; 5 female), Getchi (203 members; 182 male; 21 female), Wutete (243 members; 213 male; 30 female), Yayu zuria (166 members; 156 male; 10 female).
(2) The five Yayu coffee cooperatives will have the equipment (and training) required to produce high quality coffee for at least the next decade, providing an excellent opportunity to repay mico-loans and re-invest/maintain farm equipment in the longer term.

(3) Female employment will increase via seasonal work and an improved involvement in coffee production, at Yayu.

(4) The Core zone, and buffer and transition areas, of the Yayu reserve, will be better preserved with stabilization/reductions in forest loss, via self-sustaining mainstreaming activities.

(5) A detailed evaluation of vegetation cover and vegetation land-use change for Yayu Reserve will be produced as an output of the project, providing a monitoring bench-mark, and policy resource, for this key biodiversity area.

(6) Coffee farmers will have the know-how and economic flexibility for building climatic resilience.

(7) The project will provide a detailed and real-life case-study for coffee and environment related investment in Ethiopia.

(8) The coffee processing manual to be produced in Year 3 will provide a permanent reference resource for maintaining coffee quality.

19. Pathway to poverty alleviation

Please describe how your project will benefit poor people living in low-income countries. All projects funded through DFID in Round 21 must be compliant with the OECD Overseas Development Assistance criteria. Projects are therefore required to indicate how they will have a positive impact on poverty alleviation in low-income countries.

(Max 300 words)

It has been consistently demonstrated that adequate investments in coffee processing will lead to significant increases in quality, bringing higher prices, improved producer-supplier relationship and better access to market. This project will lead to poverty alleviation in the following two ways:

(1) Reduce poverty by enabling cooperative members to significantly increase the cash value of their coffee harvest. The main target will be an increase from commodity price to 'speciality' price. 950 cooperative members (c. 5,200 individuals) over the five Yayu cooperatives will increase their income by 30%. For many cooperative members there will be an even more substantial benefit: instead of selling unprocessed coffee (cherry) for c. $0.25 (5 Ethiopia Birr) per Ib (equivalent to $1.25 per lb; at a 20% conversion), there will be the possibility to process the coffee and receive $1.80 (commodity price) or $2.30+ ('speciality' price). Within cooperative processing vs. sale of cherry, reduces substantial risk: (1) harvested cherry has to be processed very quickly; (2) cherry collection is inconsistent and in some years the harvest is not sold (especially if commodity prices are low). Both eventualities result in a devastating loss of income for famers, as witnessed in Yayu prior to 2012. There is a further benefit for within-cooperative processing, in that it provides an increase in seasonal employment, and particularly the involvement of woman, in coffee dried coffee processing.

(2) Reduce poverty by providing seasonal employment in harvesting and processing for 250 community individuals (targeting women). Training and supervision, in conjunction with best-practice management of equipment, in coffee harvesting and processing, including pulping, drying bed installation and management, will provide seasonal employment (c. 4 months) for up 250 individuals. There will be a focus on women, and female-led management of crop sorting, dry mill management, and coffee evaluation.

19a. Impact to beneficiaries

If applying to DFID funding, please indicate the number of beneficiaries who are expected to be impacted by your project. If possible, indicate the number of women who will be impacted.

Reduction in poverty via increased income: c. 5,225 individuals (= 950 cooperative members (households) with an average of 5.5 members per household); c. 2,600 women.

Reduction in poverty via employment: 250 seasonal workers; c. 200 women.

20. Exit strategy

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)

An improved and sustainable income, due to access-to-market through improved quality and traceability, is achievable within three years. A business model constructed for this project during five independent site visits (led by HiU Coffee and UHRC), for the five coffee cooperatives in the Yayu Reserve area, demonstrates that this goal in achievable and self sustaining. In the longer term, the extra income generated for farmers will enable them to maintain and invest in their business, including the potential for the replacement of essential equipment, and on-farm adaptation for climatic resilience.

The direct-trade model of coffee sourcing, as undertaken by UHRC and other speciality coffee buyers, represents an active and long-term relationship. Problems with coffee quality and other supplier-buyer issues are resolved as part of an ongoing supplier-buyer relationship.

ECFF have a long-term commitment to the Yayu Reserve and its community. There will be good succession planning, as training will be provided across the five cooperatives, and to multiple individuals within each cooperative. Moreover, the communities at Yayu are long-term and close-knit, with few individuals moving away from their family homes.

The coffee processing manual to be produced in Year 3 will provide a permanent reference resource for maintaining coffee quality.

21. Raising awareness of the potential worth of biodiversity

If your project contains an element of communications, knowledge sharing and/or dissemination please provide a description of your intended audience, how you intend to engage them, what the expected products/materials there will be and what you expect to achieve as a result. For example, are you expecting to directly influence policy in your host country or is your project a community advocacy project to support better management of biodiversity?

(Max 300 words)

There is excellent potential for raising the awareness of the value of biodiversity, via this project.

At the community level we plan to directly engage the Yayu coffee-farming cooperatives on the value of biodiversity for ecosystem functioning, and particularly its value for coffee and smallholder agriculture, including the value of shade and shelter trees, pollination services (which has a direct bearing on crop productivity), mico-climate improvement, soil fertility and soil moisture preservation. This part of awareness raising will be included in the agronomy

and climate resilience training, with a dedicated section in the project's coffee growing and processing handbook.

At the other end of the value-chain we intend to inform the coffee buying public about the value of biodiversity via differentiating the Yayu cooperative coffee as 'forest coffee'. The 'project coffee' will become a vehicle for informing the customer not only about the positive influence of their buying choice but also about what it means for the farmers, Ethiopian biodiversity, and also for European biodiversity (e.g. migratory birds that use Ethiopian coffee forests as part of their migratory route). Thus will be achieved by narrative on coffee packaging, with supporting information on-line, and 'in-store'.

We also aim to inform policy-makers by demonstrating, via measurable science outputs, that preserving biodiversity within, and adjacent to, agro-forestry systems has economic and resilience benefits. Reports and scientific papers will be sent to policy-makers in Ethiopia, and disseminated via other means. The work of Kew and ECFF on coffee in Ethiopia, combined and independently (for ECFF), has already influenced policy in-country, concerning coffee and biodiversity preservation.

The work of Kew and ECFF has already raised significant awareness for coffee and climate change, via an award-winning short film (The Forgotten Home of Coffee http://vimeo.com/67890000 [>100,000 views, >2,500 likes]), and numerous media articles (TV, radio, magazines).

22. Access to project information

Please describe the project's open access plan and detail any specific costs you are seeking from Darwin to fund this.

(Max 250 words)

Kew and its project partners recognise the importance of open access to publicly-funded research, datasets and technical reports. We will make all findings widely and freely available to maximise social and economic benefits, and value-for-money. Following the "Finch Report" on "Accessibility, sustainability, excellence: how to expand the access to research publications", and the government's response, Kew complies with open access recommendations.

Scientific papers, and development and conservation-orientated findings, resulting from the project will be published in academic journals. Coffee trade journals and websites, popular magazines, and other media platforms, will also be used to publicise and disseminate information about the work.

The project budget provides funds to enable these resources to be made freely accessible, including).

Production of coffee processing handbook (£1592).

Posters (£159).

Open-access publication (£859.87).

23. Importance of subject focus for this project

If your project is working on an area of biodiversity or biodiversity-development linkages that has had limited attention (both in the Darwin Initiative portfolio and in conservation in general) please give details.

(Max 250 words)

There are many coffee projects and certification schemes linking coffee production to environmental protection, including Rainforest Alliance, Fair Trade, and Bird-Friendly (US only). However, none of these initiatives link poverty alleviation, biodiversity preservation, and resilience, to a sustainable business model. In fact, some certification schemes either do not benefit farmers, or, in the worst cases, provide a negative outcome. Certification has not worked for coffee farmers at Yayu. This project would represent a viable business plan for an investor: the difference here is that the profits will go directly to the 950 cooperative members, rather than to an individual or shareholder(s). A real value will be placed on the forest and forested buffer zones, which would otherwise be converted to non-forest crop or pastoral

landscapes (e.g. khat or maize, cattle grazing), which is what is starting to happen in some parts at Yayu. In our pilot study we show that high quality coffee can even compete with Ethiopia's most valuable cash crop (khat). Scientific studies (Hylander et al., 2013), and feedback from conservation professionals, show that deforestation rates are far lower, or neutral, in areas that practice coffee production in forest or semi-forest environments.

To our knowledge, there are no other studies like this for coffee: linking poverty reduction, biodiversity preservation and climate resilience. More broadly we would like to adapt the methodologies and lesson learnt in this project, for other perennial, rain-fed crops.

24. Leverage

a) Secured

Provide details of all funding successfully levered (and identified in the Budget) towards the costs of the project, including any income from other public bodies, private sponsorship, donations, trusts, fees or trading activity.

Organisation	2015/16	2016/17	2017/18	Total
Kew Overheads ECFF Staff time - matched funding UHRC Staff - contribution in kind Travel and Subsistence Raised coffee (drying) beds Consultancy GPSs	£	£	£	
	£ 82,548	£ 85,273	£ 65,825	£ 233,647

Trading activity.

Half a container (17,880kg; 18 Metric Tonnes) of coffee has already been purchased from Yayu (from the Wutate and Achibo Cooperatives), as a pilot project. Total value: £74,000 (USD$118,254); = USD$6.613/kg. =USD$3.00/lb (66 % increase on commodity price (CP), at a CP of $1.80). Paid for by UHRC. The shipment has arrived at UHRC and tasting samples show that the coffee is excellent. This purchase demonstrates the commitment to the project by UHRC, and represents a pre-project lesson learning exercise for trading activity logistics.

b) Unsecured

Provide details of any matched funding where an application has been submitted, or that you intend applying for during the course of the project. This could include matched funding from the private sector, charitable organisations or other public sector schemes.

Date applied for	**Donor organisation**	**Amount**	**Comments**
27 November 2014	RBG Kew (Foundation)	£10,000	Raised (coffee) drying beds.
To be applied for:	Unknown	£20,000	Science support costs for further on-farm resilience research.
To be applied for:	Private benefactor	£15,000	For an indigenous tree nursery.

PROJECT MONITORING AND EVALUATION

MEASURING IMPACT

25. 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.

The information provided here will be transposed into a logframe should your project be successful in gaining funding from the Darwin Initiative. The use of the logframe is sometimes described in terms of the Logical Framework Approach, which is about applying clear, logical thought when seeking to tackle the complex and ever-changing challenges of poverty and need. In other words, it is about sensible planning.

Impact

The Impact is not intended to be achieved solely by the project. This is a higher-level situation that the project will contribute towards achieving. All Darwin projects are expected to contribute to poverty alleviation and sustainable use of biodiversity and its products.

(Max 30 words) Reduce poverty and provide short- to long-term resilience for coffee farming communities and their environment at the UNESCO registered Coffee Forest Biosphere Reserve, through self-sustaining financial mechanisms.

Outcome

There can only be one Outcome for the project. The Outcome should identify what will change, and who will benefit. The Outcome should refer to how the project will contribute to reducing poverty and contribute to the sustainable use/conservation of biodiversity and its products. This should be a summary statement derived from the answer given to question 14.

(Max 30 words) Five coffee cooperatives in the UNESCO registered Yayu Coffee Forest Biosphere Reserve, move to sustainable and resilient livelihoods, whilst conserving local biodiversity.

Measuring outcomes - indicators

Provide detail of what you will measure to assess your progress towards achieving this outcome. You should also be able to state what the change you expect to achieve as a result of this project i.e. the difference between the existing state and the expected end state. You may require multiple indicators to measure the outcome – if you have more than 3 indicators please just insert a row(s).

Indicator 1	A 30% increase in cash income for the 950 Yayu coffee cooperative members (5 cooperatives), by Year 3.
Indicator 2	A 25% increase in seasonal employment for household members of the Yayu cooperatives, by Year 2.
Indicator 3	A 100% increase in the number of forest-cover surveys for Yayu Reserve, by Year 3. [Note: We cannot compare historic forest loss against that stabilized/lost during the duration of the project, but the aim is a reduction of forest loss to at least 3% (a 7% lost at Yayu, 1980 to 2009) up to stabilization <1% forest loss].
Indicator 4	20% of the 950 Yayu coffee cooperative members provided with a clear

	understanding of climate resilience/adaptation methodologies, by Year 3.

Verifying outcomes

Identify the source material the Darwin Initiative (and you) can use to verify the indicators provided. These are generally recorded details such as publications, surveys, project notes, reports, tapes, videos etc.

Indicator 1	Invoices and accounts detailing the volume and value of exported coffee for each of the 950 cooperative members.
Indicator 2	Accounts showing the number of extra coffee sector workers
Indicator 3	Land-use change maps. A land-use change survey.
Indicator 4	A mutually constructed climate resilience report for Yayu.

Outcome risks and important assumptions

You will need to define the important assumptions, which are critical to the realisation of the *outcome and impact* of the project. It is important at this stage to ensure that these assumptions can be monitored since if these assumptions change, it may prevent you from achieving your expected outcome. If there are more than 3 assumptions please insert a row(s).

Assumption 1	That an improvement in coffee quality will lead to a significant increase in market value, and that there is a strong, growing and sustainable market for improved (high quality/speciality coffee). In order to achieve this essential equipment, training and information resources (e.g. handbooks and posters) are required.
Assumption 2	That there will be a requirement for extra coffee workers as the price and demand for Yayu coffee grows, especially due to the conversion of unprocessed coffee fruits (transported out of the reserve area) to coffee processed at Yayu.
Assumption 3	That by making forest-based coffee production systems more financially successful, there will be a strong incentive to maintain these forest-based cultivation systems, reducing conversion to non-forested systems. Preserving semi-wild and forested agricultural systems will retain forest cover and preserve valuable biodiversity and ecosystem services, and that this can be measured by a detailed GIS land-use survey and on-the-ground survey.
Assumption 4	Yayu is within a climate vulnerable coffee growing area: interventions will be required now and over the coming century. Ethiopian coffee farmers are ill-equipped to deal with climate resilience. Increases in income will incentivize farmers, and provide the financial resources, to adapt their farms for improved climatic resilience. Development of land within and/or adjacent to the Yayu reserve, could be an issue within the next few years and in decades to come, however, the land identified for development is not within the coffee farm or processing areas.

Outputs

Outputs are the specific, direct deliverables of the project. These will provide the conditions necessary to achieve the Outcome. The logic of the chain from Output to Outcome therefore needs to be clear. If you have more than 3 outputs insert a row(s). It is advised to have less than 6 outputs since this level of detail can be provided at the activity level.

Output 1	Five Yayu coffee cooperatives are provided with the equipment, training, supervision, and information resources, needed to improve (and sustain) coffee quality.
Output 2	Yayu household members (particularly women) are provided with access to training, and then employment within the local coffee sector.
Output 3	An area (land-use) analysis of forest and forest-based household income areas for the Yayu UNESCO MAB Reserve.
Output 4	Yayu coffee cooperative members are provided with the training and information resources required for on-farm climatic resilience.

Measuring outputs

Provide detail of what you will measure to assess your progress towards achieving these outputs. You should also be able to state what the change you expect to achieve as a result of this project i.e. the difference between the existing state and the expected end state. You may require multiple indicators to measure each output – if you have more than 3 indicators please just insert a row(s).

Output 1: Five Yayu coffee cooperative members are provided with the equipment, training, supervision, and information resources, needed to improve (and sustain) coffee quality	
Indicator 1.1	5 Yayu cooperatives are provided with the equipment required to correctly process and evaluate their coffee, in order to attain (and sustain) high quality, by Year 1.
Indicator 1.2	950 cooperative members (for the 5 cooperatives) provided with the training, supervision, and information resources (including coffee processing handbook), needed to improve (and sustain) coffee quality. Training by project consultant, in the following modules: (1) Harvesting Techniques, (2) Processing Techniques, (3) Honey Coffee, (4) Processing Techniques, (5) Natural Coffee, (6) Drying Beds Management and Quality Control, (7) Storage and Packaging Techniques, (8) Drying, (9) Mill Selection and Grading Standards, (10) Quality Control, (11) Laboratory Management, (12) Coffee Cupping Training. By Year 2 and 3.
Indicator 1.3	950 cooperative members (households), c. 5220 individuals, with an annual increase in income of 30% (collectively £700,000; each household with an average increase of c. £735 p.a.), by Year 3.

Output 2: Yayu household members (particularly women) are provided with access to training, and then employment within the local coffee sector	
Indicator 2.1	12,000 square meters of drying bed equipment (Africans Beds) installed for five cooperatives, by Year 1.
Indicator 2.2	250 (extra) household members trained in coffee harvesting and processing techniques, by Year 2.
Indicator 2.3	250 (extra) household members seasonally employed within the Yayu coffee sector, by Year 2.

Output 3: Area (land-use) analysis of forest and forest-based household income areas for the Yayu UNESCO MAB Reserve	
Indicator 3.1	1 Ethiopian GIS technician trained/supported in advanced land-use change technology and methodologies, by Year 1.

Indicator 3.2	3 land-use change maps produced for Yayu UNESCO MAB Reserve, by Year 2.
Indicator 3.3	1 new forest-cover survey produced for Yayu UNESCO MAB Reserve, for bench-marking and assessing forest-cover (vegetation) change, by Year 3.

Output 4: Yayu coffee cooperative members are provided with the training and information resources required for on-farm climatic resilience	
Indicator 4.1	3 Yayu farm plots (1 ha) provided with, and participating in, on-farm climate adaptation trials, by Year 1.
Indicator 4.2	On-farm adaptation evaluation provided for 3 Yayu farm plots, and this broadened to provide and overview of climate resilience at Yayu. Results incorporated into a peer-reviewed publication, by Year 3.
Indicator 4.3	5 Yayu cooperatives provided with training in, and information resources for, on-farm adaptation, by Year 3.

Verifying outputs

Identify the source material the Darwin Initiative (and you) can use to verify the indicators provided. These are generally recorded details such as publications, surveys, project notes, reports, tapes, videos etc.

Output1	Indicator 1.1: A signed receipt from each cooperative showing that they have received the coffee processing and evaluation equipment. Indicator 1.2: A signed list of the producers/cooperative members that have received the benefits of training. Evaluation of coffee quality by UHRC at Yayu and in UK; quality report produced. Indicator 1.3: Invoices detailing the volume, type (processed vs. unprocessed; type of processing) and price of exported coffee for each cooperative, showing the cash value increase against commodity prices and pre-project prices. Audit report/evaluation by socio-economist (Pascale Schuit), Part 1. Indicator 4: Audit report/evaluation by Socio-Economist (Pascale Schuit), Part 2.
Output 2	Indicator 2.1: Invoices for purchase of materials and construction (labour hours) of drying beds. Indicator 2.2: Signed receipts for wages received by seasonal workers. Report and account for householders (disaggregated by gender) seasonally employed within the five Yayu cooperatives, during the course of the project (2015–2018) compared to pre-project (2010–2014).
Output 3	Indicators 3.1, 3.2: Maps showing forest change over a six year period (2012–2018) at 5m resolution, and 18 year period (2000–2018) at 30 m resolution. Indicator 3: Accompanying land-use change survey.
Output 4	Indicators 4.1, 4.2: A signed list of the producers/cooperative members that have received the benefits of resilience training and field trials. Indicator 4.3: On-farm, climate adaptation report/survey for Yayu, plus one open access, peer-reviewed scientific paper in draft.

Output risks and important assumptions

You will need to define the important assumptions, which are critical to the realisation of the achievement of your outputs. It is important at this stage to ensure that these assumptions can

be monitored since if these assumptions change, it may prevent you from achieving your expected outcome. If there are more than 3 assumptions please insert a row(s).

Assumption 1	Coffee quality improvements can only be achieved by having suitable resources: (1) essential equipment; (2) properly trained and dedicated staff. Farmers require an easy source of reference in order to maintain coffee quality standards, and that a hard-copy resource in the local language is the medium most suited to this situation.
Assumption 2	It will be necessary to train 250 extra seasonal workers, due to the increase in human resources required for extra processing. This is because: (1) The demand for better quality coffee requires more labour; (2) an increase in processing at Yayu (as opposed to selling unprocessed cherry) will require more labour.
Assumption 3	High resolution vegetation mapping, with ground-survey, is the best means of measuring and monitoring of land-use change. Our evaluation of vegetation cover and vegetation land-use change will provide a bench-marking and monitoring resource for decision-makers.
Assumption 4	Both farmers and scientists are aware that adaptation is required to improve resilience and coffee plant health, but are unsure of the best approaches and exact benefits (and disadvantages) of different on-farm adaptation methodologies.

Activities

Define the tasks to be undertaken by the research team to produce the outputs. Activities should be designed in a way that their completion should be sufficient and indicators should not be necessary. Risks and assumptions should also be taken into account during project design.

Output 1: Five Yayu coffee cooperatives are provided with the equipment, training, supervision, and information resources, needed to improve (and sustain) coffee quality	
Activity 1.1	Installation of coffee processing and evaluation (tasting and grading) equipment, for 5 cooperatives, by Yr 1.
Activity 1.2	Training of 950 cooperative members (for the 5 cooperatives) in coffee harvest, post harvest, and evaluation (tasting and grading) techniques, by Yr 2.
Activity 1.3	Training of 950 cooperative members (for the 5 cooperatives) on post harvesting techniques (washing and drying) and its evaluation (tasting and grading), by Yr 2.
Activity 1.4	Production of draft (laser-printed) reference and training manual for harvest and post harvest coffee farming techniques. Given to 20 representatives of each of the 5 cooperatives, by Yr 1
Activity 1.5	Each cooperative member (950 in total) in possession of the Coffee Farming and Processing Manual, including a chapter on on-farm adaptation methodologies, by Yr 3.
Activity 1.6	Evaluation of coffee processing and coffee quality improvements, Yrs 2, 3.
Activity 1.7	Socio-economic and livelihood monitoring and evaluation.

Output 2: Yayu household members (particularly women) are provided with access to training, and then employment within the local coffee sector	
Activity 2.1	Training of 250 seasonal workers in coffee processing (90% female; 10% male) by Yr 1.

Activity 2.2	Re-fresher training for 250 seasonal workers in coffee processing (90% female; 10% male), by Yr 2.

Output 3: Area (land-use) analysis of forest and forest-based household income areas for the Yayu Reserve	
Activity 3.1	Construction of land-use vegetation map for the Yayu area using RapidEye data (5 m resolution), by Yr 1.
Activity 3.2	Construction of land-use vegetation map for the Yayu area using Landsat and Modis data (30 m resolution), by Yr 2.
Activity 3.3	Construction of narrative report to accompany map, and production of final report disseminated to stakeholders, by Yr 3.

Output 4: Yayu coffee cooperative members are provided with the training and information resources required for on-farm climatic resilience	
Activity 4.1	Set-up of study plots on 3 Yayu farms (each 1 ha) to measure the influence of different shade and mulching regimes, and other feasible on-farm adaptation methods, using environmental monitoring equipment, by Yr 1.
Activity 4.2	Evaluation of study plot data using statistical and other analytical methods, to assess the precise outcomes for individual and combined adaptation methods, by Yr 3
Activity 4.3	Demonstration workshops to each of the 5 Yayu cooperatives for on-farm adaptation methodologies, by Yr 3
Activity 4.4	Construction of first draft (laser-printed) of on-farm climate adaptation chapter, by Yr 3.
Activity 4.5	Construction of first draft of scientific paper, concerning on-farm adaptation, by Yr 3.

26. 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. To do.

	Activity	No of Months	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1	Five Yayu coffee cooperatives provided with the equipment, training, supervision, and information resources, needed to improve (and sustain) coffee quality.													
1.1	Installation of coffee processing and evaluation (tasting and grading) equipment, for 5 cooperatives.	12												
1.2	Training of 950 cooperative members (5 cooperatives) in coffee harvest, post harvest, and evaluation techniques.	24												
1.3	Training of 950 cooperative members (5 cooperatives) on post harvesting techniques (washing and drying) and its evaluation.	24												
1.4	Production of draft reference and training manual for harvest and post harvest coffee farming techniques.	12												
1.5	Each cooperative member (950 in total) in possession of the Coffee Farming and Processing Manual.	3												
1.6	Evaluation of coffee processing and coffee quality improvements.	2												
1.7	Socio-economic and livelihood monitoring and evaluation.	6												
Output 2	Yayu household members (particularly women) are provided with access to training, and then employment within the local coffee sector.													
2.1	Training for 250 seasonal workers in coffee processing (90% female; 10% male).	8												
2.2	Re-fresher training for 250 seasonal workers in coffee processing (90% female; 10% male).	6												
Output 3	An area (land-use) analysis of forest and forest-based household income areas for the Yayu UNESCO MAB Reserve.													
3.1	Construction of land-use vegetation map for the Yayu area using RapidEye data (5 m resolution).	12												
3.2	Construction of land-use vegetation map for the Yayu area using Landsat and Modis data (30 m resolution).	12												

3.3	Construction of narrative report to accompany map, and production of final report disseminated to stakeholders.	8												
Output 4	Yayu coffee cooperative members are provided with the training and information resources required for on-farm climatic resilience**.**													
4.1	Set-up of study plots on 3 Yayu farms to measure the influence of different shade and mulching regimes, and other feasible on-farm adaptation methods, using environmental monitoring equipment.	5												
4.2	Evaluation of study plot data using statistical and other analytical methods, to assess the precise outcomes for individual and combined adaptation methods.	6												
4.3	Demonstration workshops to each of the 5 Yayu cooperatives on on-farm adaptation methodologies.	1												
4.4	Construction of first draft (laser-printed) of on-farm climate adaptation chapter.	2												
4.5	Construction of first draft of scientific paper, concerning on-farm adaptation.	1												

27. 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 projects 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)

The project log frame will be used to monitor project progress and the completion of milestones, via the scrutiny and agreement of the Project Management Team (i.e. the Project Leaders: RBG Kew; and Project Partners: ECFF, HiU Coffee, UHRC). RBG Kew will take the responsibility for overall management of M&E. An 'adaptive management' approach will be taken: the assumptions and activities that have been identified during the planning and development of the project will be regularly revisited to steer the project, where necessary, so that it achieves its Impact and Outcome. Systematic testing of the project's assumptions and outcomes, via the activities and outputs, will enable the project team to learn, adapt and make informed decisions throughout the life of the project.

Responsibilities for M&E of Indicators

Output 1. Indicators 1 & 2. The Project Management Team, lead by UHRC (Steven Macatonia). In Year 2 and Year 3, S. Macatonia and one other UHRC staff member will visit Yayu to independently monitor and evaluate coffee processing improvements and evaluate coffee quality *in situ*. Further coffee evaluation will occur in the UK, throughout the life of the project, and afterwards.

Output 1. Indicator 3. The Project Management Team, lead by ECFF (Tadesse Woldemariam Gole) and UHRC (Pascale Schuit). In Years 1–3, T.W Gole and P. Schuit will monitor and evaluate the financial improvements (or otherwise) made by the project.

Output 2. Indicator 1. As for Output 1, Indicators 1 & 2.

Output 2. Indicator 1. The Project Management Team, lead by UHRC (Pascale Schuit) and ECFF (Tadesse Woldemariam Gole). In Year 2, P. Schuit and T.W. Gole will assess the employment gains (or otherwise) for Yayu household members, and undertake an analysis of gender disaggregation for this and other activities.

Output 3. Indicators 1–3. The Project Management Team, lead by RBG Kew (Justin Moat). During Years 1–3, J. Moat will monitor and assess all GIS and remote sensing activities and outputs.

Output 4. Indicators 1–3. The Project Management Team, lead by RBG Kew (Aaron Davis) and ECFF (Tadesse Woldemariam Gole). During Years 1–3, A. Davis and T.W. Gole will monitor and assess all resilience work, and seek independent review and advice from participating beneficiaries and external sources.

The Yayu cooperative members will be involved in monitoring and evaluation throughput the project, via direct feedback (to the members of the Project Management Team, and other project participants) during project activities, workshops, training programmes, evaluations and meetings.

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.

NB: Please state all costs by financial year (1 April to 31 March) and in GBP. **Budgets submitted in other currencies will not be accepted.** 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.

28. Cost Effectiveness

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)

Budget construction. The budget was put together based on information gathered during a Darwin Scoping Award (Round 19: EIDPR150), five independent site visits by the UHRC-HiU Coffee team, and from significant time spent in Ethiopia in (six visits between 2012–2004 by the Project Leader (A. Davis). All project activities were carefully planned, refined and costed. For the coffee quality improvement part of the project, which forms a large part of the project's activities, a separate business case, project proposal and budget was submitted to UHRC and RBG Kew, by HiU Coffee. The budget submitted by HiU Coffee went through minor changes, in order to represent best possible value without compromising effectiveness.

Value for money. Substantial pre-project ground-work has already been undertaken during five pre-project site visits (for a commercial pilot/feasibility study). Total cost: £14,236.00 (funded by UHRC). This demonstrates that UHRC has made a commitment to supporting Yayu farmers through purchasing agreements and nonprofit ethical investment.

The rapid-eye imagery for Yayu (two images, cost = £3,735) has already been purchased (RBG Kew) and the GIS/remote Sensing capacity is in place at both Kew and ECFF, including hardware and software (>£20,000).

Through the DFID/Denmark/Norway funded SCIP-fund (Strategic Climate Institutions Programme) project, a GIS/remote sensing facility has been set up at ECFF, and appropriate high-level training has been provided for one member of staff (cost = >£20,000).

Governance systems for the Yayu Reserve have been established and are managed by ECFF.

An initial study on coffee shade management and ecosystems services at Yayu has been conducted by Oxford PhD student (Zia Merhabi): Total value: c. £7,000.

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/~~company*~~ of **The Royal Botanic Gardens, Kew**

(*delete as appropriate)

I apply for a grant of **£315,790** 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 project principals and letters of support.
- Our most recent signed audited/independently verified accounts and annual report are also enclosed/can be found at: http://www.kew.org/about/our-work/reports-accounts-plans

Name (block capitals)	Professor Katherine Willis
Position in the organisation	Director of Science

Signed		**Date:**	1 December 2014

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 in the email)	√
Have you included a **1 page CV for all the Principals** identified at Question 7?	√
Have you included a **letter of support from the main partner(s) organisations** identified at Question 10?	√
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? An electronic link to a website is acceptable.	√
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 midnight GMT on Monday 1 December 2014 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.