

**Sa\100084**

**Conservation and use of native  
coffee species in Sierra Leone**

**Haggar, Jeremy | University of Greenwich**

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**Funding sought**  
**Project start/end**

**£9,300.00**  
**1 Jul 2018 - 8 Mar 2019**

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## 1. Contact Details

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### Q1. Lead applicant contact details

Please enter the contact details for the lead applicant. The lead applicant is the same as the Flexi-Grant account holder. Please note that the Flexi-Grant account holder will be the only contact point for the application.

Prof Jeremy Haggar

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Head of Department  
University of Greenwich  
Primary Applicant

Natural Resources Institute, Chatham  
Maritime, Kent, ME44TB, United Kingdom

### Q2. Lead organisation contact details

Please enter the applicant organisation details

University of Greenwich

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www.nri.org

Natural Resources Institute, Central Avenue,  
Chatham Maritime , Kent, ME4 4TB, United  
Kingdom

Please add any 'Committee Feedback' to the field below:

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**Please add any 'Specific Ineligibility' feedback to the field below:**

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**Please add any 'Conditions' to the field below:**

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**Please add any 'Positive Feedback' to the field below:**

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## 2. Title & Location

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### Q3. Working title of the proposed Darwin project

Conservation and use of native coffee species in Sierra Leone

### Q4a. Host country (of proposed Scoping trip)

Sierra Leone

### Q4b. Other collaborating country/ies

### Q5. Is this a resubmission of a previous scoping application?

No

### 3. Scoping Principals & Lead Organisation Summary

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#### Q6. Principals in Scoping work i.e. the travellers

Please give the details of the individuals (up to 2) from the lead organisation who would be directly involved in the Scoping work - i.e. making a visit to a host country. One page CVs must be provided.

Details	Main traveller	Second traveller
Surname	Haggar	Aaron
Forename(s)	Jeremy	Davis
Post held	Head of Department	Senior Research Leader
Department	Agriculture and Environment	Royal Botanic Gardens, Kew
Telephone/Skype		
Email		
Country travelling from	UK	UK
Please attach the traveller's CV		

#### Q7a. About the lead applicant organisation

Briefly discuss your expertise in sustainable use or conservation of biodiversity and/or development. Please refer to recent track record you have in this field. You may be asked to provide evidence of this track record.

The Natural Resources Institute of the University of Greenwich is a research institute supporting sustainable development with a majority of work focused on African countries, and a track record of delivering sustainable and economic solutions.

The lead applicant has 25 years experience in sustainable agricultural development particularly the ecological management of and environmental benefits from tree-based cropping systems. He was Tree Crops in Agroforestry Programme leader at the Centre for Tropical Agricultural Research and Higher Education (CATIE), where he worked for a decade across Central America. Research included the validation of native tree species for reforestation in Costa Rica, work with indigenous communities in the development of native tree agroforestry systems, and supporting coffee producer organizations across Central America to develop agroecological and business capacity to produce and sell sustainably certified coffee. More recently he led the Robusta Coffee Development Project in Sierra Leone that supported 10,000 farmers to plant about 1.5 million coffee bushes. He also led a Darwin funded project to support biodiversity conservation on sustainable coffee farms in Guatemala contributing to increased knowledge of the incentives that enable conservation and providing feed-back to national policies on private nature reserves and forestry incentives schemes.

**Q7b. Would you like to include a letter of support from the lead applicant?**

Yes

**The limit for any single file uploaded as supporting materials with your application is 6MB. Please ensure documents are saved in PDF form where possible in order to minimise size.**

## 5. Project Partners

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### Q8. About the partner organisation(s)

Please list all the partners involved and explain their roles and responsibilities in the Scoping work. Briefly discuss your partner's expertise in sustainable use or conservation of biodiversity and/or development. Please refer to recent track record they have in this field. You may be asked to provide evidence of this track record. If there is more than 1 partner organisation, you can enter the details of more partners below. Please specify which of the partners is new to the partnership.

<b>1. Partner Name:</b>	Royal Botanical Gardens, Kew
<b>Website address:</b>	www.kew.org
<b>Details of anticipated roles and responsibilities:</b>	Support the identification of Coffea samples found to confirm likely occurrence of C. stenophylla or other Coffea species
<b>Expertise in sustainable use or conservation of biodiversity and/or development:</b>	Dr Aaron Davis is an international expert on the botany of the Coffea genus and has identified numerous new species from Madagascar and Africa. He was leader of recent projects on the climate change impacts and adaptation of coffee production in Ethiopia, including projects funded by DFID and Darwin Initiative. One of his main research aims is the the identification of Coffea species for commercial use and development.
<b>Name of main contact point and post held:</b>	Dr Aaron Davis, Senior Research Leader
<b>Would you like to include a letter of support from this organisation?</b>	<input checked="" type="radio"/> Yes
<b>Letter of Support:</b>	<b>The limit for any single file uploaded as supporting materials with your application is 6MB. Please ensure documents are saved in PDF form where possible in order to minimise size.</b>

**Do you have more than one partner involved in the Scoping work?**

Yes

<b>2. Partner Name:</b>	WelthungerHilfe (WHH
<b>Website address:</b>	www.welthungerhilfe.de
<b>Details of anticipated roles and responsibilities:</b>	Provide contacts and coordination with local institutions and logistical support (vehicles and drivers) to the mission
<b>Expertise in sustainable use or conservation of biodiversity and/or development:</b>	WHH has worked for over a decade on the development of tree crops (coffee and cocoa) in Sierra Leone. They were leaders of the EU funded Cocoa Rehabilitation Project and implementing partners on the NRI led Robusta Coffee Rehabilitation Project. WHH have also led forest conservation initiatives such as the conservation strategy of the forest of the highland of the Western Province of Sierra Leone, and have been partners on Darwin Initiative project for sustainable certification of cocoa from the Gola Forest.
<b>Name of main contact point and post held:</b>	Franz Moestl, Leader Agriculture for Development Projects, Kenema
<b>Would you like to include a letter of support from this organisation?</b>	<input checked="" type="radio"/> Yes
<b>Letter of Support:</b>	

<b>3. Partner Name:</b>	Conservation Society of Sierra Leone
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<b>Website address:</b>	None
<b>Details of anticipated roles and responsibilities:</b>	Support development strategy for in-situ conservation of native coffee
<b>Expertise in sustainable use or conservation of biodiversity and/or development:</b>	Conservation Society of Sierra Leone are the main conservation organization and partners in the management of Gola Forest National Park and REDD programme with RSPB
<b>Name of main contact point and post held:</b>	TBC
<b>Would you like to include a letter of support from this organisation?</b>	<input checked="" type="radio"/> No
<b>Please explain why.</b>	Although WHH have made initial contact with CSSL they were not able to confirm who could support a proposal at present.

<b>4. Partner Name:</b>	
<b>Website address:</b>	
<b>Details of anticipated roles and responsibilities:</b>	
<b>Expertise in sustainable use or conservation of biodiversity and/or development:</b>	
<b>Name of main contact point and post held:</b>	
<b>Would you like to include a letter of support from this organisation?</b>	<input type="radio"/> Yes <input type="radio"/> No

<b>5. Partner Name:</b>	
<b>Website address:</b>	
<b>Details of anticipated roles and responsibilities:</b>	
<b>Expertise in sustainable use or conservation of biodiversity and/or development:</b>	
<b>Name of main contact point and post held:</b>	
<b>Would you like to include a letter of support from this organisation?</b>	<input type="radio"/> Yes <input type="radio"/> No

<b>6. Partner Name:</b>	
<b>Website address:</b>	
<b>Details of anticipated roles and responsibilities:</b>	
<b>Expertise in sustainable use or conservation of biodiversity and/or development:</b>	
<b>Name of main contact point and post held:</b>	
<b>Would you like to include a letter of support from this organisation?</b>	<input type="radio"/> Yes <input type="radio"/> No

**Q9. Can you confirm that none of the partners (excluding the lead applicant) have led a Darwin Initiative Main Project before?**

| No

## **Please provide further details**

Both Prof Jeremy Haggar and Dr Aaron Davis have previously led Darwin funded main projects, but not together and not in Sierra Leone. Prof Haggar has previously worked with WHH, but for development of the proposal requires identification and discussions with a national conservation organization as a national partner.

## 6. Justification & Concept Notes

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### Q10. Justification of need for a Scoping Award

**Please provide written details of why alternative funding is not available from within your own organisation or from other sources. Will matched funding be provided?**

WHH have conducted a search for the native *Coffea stenophylla* but it has become apparent that the partners in Sierra Leone do not have the botanical expertise to efficiently review and confirm or reject potential materials. A successful outcome is dependent upon resources for UK Botanical experts to travel to Sierra Leone to review potential materials in the field, funds for which are not available from their own institutions. The time of UK experts will be covered by their institutions, and WHH will provide logistical support in-country.

Therefore, we request these funds to confirm the presence of *C. stenophylla* sites in Masaia and Kasewe (sites where species was found previously) and potentially other forest reserves that have the same ecological conditions. The support of Aaron Davis from Royal Botanic Gardens Kew, will enable this search to be both more efficient and effective. WHH will conduct prior contacts with the local communities and forest reserve managers to see whether there is local knowledge of presence of native coffee.

Similarly, while WHH have contacts with local conservation organizations and Sierra Leone Agricultural Research Institute (SLARI) they are not experts in conservation and use of biodiversity. Agreements for a future project to conserve and commercially develop native coffee requires joint workshops between UK experts in these areas with national partners.

### Q11. Concept note for the Scoping Award

**This question concentrates on the scoping study work and should demonstrate the objectives of the Award including:**

- objectives of the visit
- what work (including research, remote communications or other collaborations) has been carried out prior to applying for this Award
- what work will be carried out under the Award – please see the guidance for advice on what type of activity can be funded
- evidence of the proposed partners' intentions to collaborate in your Scoping work

Sierra Leone has three native coffee species with potential for commercial use *Coffea liberica*, *C. affinis* and of the greatest interest, *Coffea stenophylla* – Sierra Leone Highland Coffee. One source, *Journal d'Agriculture tropicale* 1902, says "From 1894, *C. stenophylla* ... is not widespread in mass cultivation, due to its low yields. Following [the views] of many tasters, it is an exquisite coffee". Another Cheney 1925 states "It is an interesting economic species since it is the only indigenous West Africa species

excepting *C. liberica* Bull. which may rival *C. arabica* commercially. The beans are said, by both natives and the French merchants, to be superior to those of all other species.” In Sierra Leone it appears production was taken over by the more productive but introduced robusta Coffee (*Coffea canephora*). However, with the current demand for niche-market, coffees there is potential to develop *C. stenophylla*, and indeed several specialty coffee roasters have sort it without success. As regards the other two species, *C. liberica* is generally of very poor quality, but Upper Guinea materials have been little studied, and even less is known about *C. affinis*; both warrant further study to determine their potential.

Between 2014 and 2016 NRI and WHH, with collaboration Ministry of Agriculture searched for material of native coffee in Eastern Province where they were conducting the Robusta Rehabilitation project. Three plants were found at the SLARI station in Pendembu; which genetic tests by Kew found to be hybrids between *C. stenophylla* and *C. liberica*. These three plants are old and need to be propagated to ensure their survival. There are a few *C. stenophylla* plants in international coffee collections, but the only publicly registered accession is at CATIE in Costa Rica of only one old plant. Overall, we must consider the status of the species as uncertain.

The scoping trip has three objectives:

- i. Confirmation of sites where native coffee can be found.
- ii. Produce a strategy for native coffee conservation and use developed, with national government and conservation organizations
- iii. In the absence of finding *C. stenophylla*, develop a plan for reintroduction from outside Sierra Leone.

*Coffea stenophylla* will be sort at the two known botanical collections sites Masaia in Koinadugu, and Kasewe Forest Reserve, Moyamba, and as time permits the forest reserve areas between these sites. WHH will make preliminary contacts with local communities and forest reserve managers.

Development of a strategy and proposal for the conservation and use of native coffees will be conducted with representatives of SLARI/Ministry of Agriculture and a national conservation organization – Conservation Society of Sierra Leone, and with local community of organizations in any sites where native coffee is found.

If no sites for *C. stenophylla* are found, the UK partners will use their connections to research institutes in Costa Rica and Guatemala to establish the possibility of reintroduction to Sierra Leone, as well as a strategy to propagate and conserve the few hybrid plants of *C. stenophylla* x *liberica* at Pendembu.

## **Q12. Concept note for the resultant project**

**This question concentrates on the full Darwin application you intend to submit after the Scoping Award and should discuss:**

- the expected outcome and outputs of the resultant Darwin project
- how the resultant Darwin project would meet a need in the host country (and the wider region if applicable e.g. if the proposed project would be based in a UMIC)
- how the project would contribute to any or all of the following Conventions: the

Convention on Biological Diversity (CBD); the Nagoya Protocol on Access and Benefit-sharing (ABS); the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA); the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

- how the project will contribute to sustainable development in the country concerned
- briefly what the proposed partner's/s' expected role in the resultant Darwin project will be
- briefly the expected role of the Scoping travellers in the resultant Darwin project.

Expected outcome: Native coffee species with commercial potential are in production, and their genetic diversity conserved in situ and in collections

Outputs are:

- i. Sites where native coffee species are found identified and with a plan for their conservation in-situ and on research stations.
- ii. Commercial potential of native coffee species has been evaluated through testing of samples with specialty coffee buyers.
- iii. Propagation of commercial native coffee species has been initiated to establish commercial production in communities with limited options for other commercial tree crops.

Sierra Leone has a strategic aim to increase the production and sales of tree crops. It was an important producer of robusta coffee, but production is only 10% of 20 years ago (c. 2000 tonnes are exported). It is difficult for the country to compete with the high-input coffee production of Brazil and Vietnam. Production of native coffee adapted to low-input production under native shade trees could obtain a higher market price and improve income to resource poor farmers and the country. Alternative coffee species with high quality beans can fetch very high prices, the native Nandi coffee in Kenya's Nandi Hills sells for over ten times the price of Arabica coffee, and demand is much higher than production. There is interest on the specialty coffee blogs from buyers looking to obtain "stenophylla coffee".

The conservation of the native coffee species would contribute to Sierra Leone's ability to conserve its biodiversity (at wild forest coffee sites) and agrobiodiversity (on-farm) and contribute to the equitable and sustainable use of biodiversity as foreseen under the CBD. Strategies to enable communities to conserve but also utilize their native coffee would contribute to the objectives of the Nagoya Protocol, but also to empower Sierra Leone nationally to conserve and develop a genetic resource that has been dispersed across the world, but which it is limited in its current capacity to benefit from.

It is expected that the partners would participate in the development of the strategy to conserve the wild native coffees in collaboration with local communities and with the support of national conservation organizations. Conservation of coffee germplasm and evaluation of the hybrids would be conducted the research stations of SLARI, with technical support from NRI. While propagation and distribution to farmers could be through the second phase of the coffee and cocoa development projects managed by the Ministry of Agriculture with funding from EU (the second phase of the programme is currently being designed). The UK partners have the knowledge and contacts with specialty coffee buyers to engage them in assessing the commercial potential of the

native coffees found, and ultimately provide a market for them if of commercial interest.

Development of native coffee would provide an additional income source for rural communities, generating income through a quality environmentally produced niche commodity. It is also believed the *C. stenophylla* may have drought resistance (reported to grow on rocky hill-tops), and possibly greater resilience to climate change, a threat to Sierra Leone and all coffee growing regions.

## 7. Costs

### Q13. Costs

Provide a detailed breakdown of costs to be funded by the Darwin Initiative in GBP.

	Main traveller	Second traveller	Total
Airfare including travel to airport			2,400.00
Visas and other travel documents			300.00
Total daily subsistence claimed (please provide details below)			4,000.00
Workshop costs (please provide details below)			£600.00
Other costs (please provide details below)			£2,000.00
		<b>Total request from Darwin (must not exceed £10,000)</b>	9,300.00

### Additional details to support the figures above

	Main traveller	Second traveller
Daily subsistence rate per day	£100.00	£100.00
Number of days subsistence claimed (max 30 days per traveller)	20	20

### Workshop costs

Please provide further details on your workshops costs.

2 day workshop with national partners covering their costs



£60 per person for hotel and meals, for estimated 10 people

### **Other costs**

**Please provide further details on your other costs.**

Driver and interpreter for 20 days

20 days \* 2 people \* £40 per day food and accommodation = £1600

Fuel £400

## 8. Timetable & Activities

### Q14. Activities and timings

Please complete the Scoping Award Timetable to include your anticipated dates of travel (start and finish) and activities to be undertaken on your trip. **N.B.:** this question is specifically about your travel plans – your dates and specific milestones during travel – NOT your timetable to Stage 1 application. Your application will be considered ineligible if this section does not specifically cover your planned scoping trip.

Date	Milestone
01/07/2018	<b>START</b>
31/12/2018	Partners investigate areas for collection of native coffee
07/01/2019	Meet with partners, MAFFS & SLARI in Freetown
08/01/2019	Travel to Kasewe Forest Reserve
11/01/2019	Onward to Kenema / Pendembu for revision coffee collection
14/01/2019	Travel to Kangari Hills Forest Reserve and sites en route
20/01/2019	Onward to Masaia, Koinadugu
24/01/2019	Meet with partners to discuss results and plan proposal development
01/03/2019	Full proposal for presentation to Darwin

08/03/2019	<b>FINISH</b>

**Q15. In what year would you expect to submit the full Darwin project application?**

Round 25

## 9. Certification

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### Q16. Certification

On behalf of the

trustees

of

University of Greenwich

I apply for a grant of

£9,300.00

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 scoping 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 have uploaded CVs for project principals
- I have uploaded letters of support from the lead application organisation and the partner(s)



<b>Name</b>	Andrew Westby
<b>Position in the organisation</b>	Director of Natural Resources Institute

<b>Signature (please upload e-signature)</b>	
<b>Date</b>	02/02/2018

**If this section is incomplete the entire application will be rejected.**

## 10. Submission Checklist

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### Checklist for submission

	Check
Have you provided anticipated start and end dates for your Scoping trip?	<input checked="" type="checkbox"/>
Has your application been signed by a suitably authorised individual?	<input checked="" type="checkbox"/>
Have you read the Guidance documents for both <u>Main projects</u> and <u>Scoping awards</u> , and are you satisfied that your concept would be eligible for a main project application?	<input checked="" type="checkbox"/>
Have you read the current <u>Terms and Conditions</u> for this fund and can you confirm you are willing to be bound by these if your application is successful?	<input checked="" type="checkbox"/>
Have you uploaded 1 page CVs and letters of support as required?	<input checked="" type="checkbox"/>
Have you checked the <u>Darwin website</u> immediately prior to submission to ensure there are no late updates?	<input checked="" type="checkbox"/>