
CV19RR\1004

Reducing Covid-19-related food insecurity through household farming in southeast Madagascar

Responding to Covid-19-related food insecurity, SEED Madagascar will perform a rapid pilot of insect and crop farming at a household level. Selected for their short time to harvest and low maintenance, yields will provide short-term relief to food insecurity and potential for longer-term recovery through alternative livelihoods. This will be complemented by monitoring species that are a key indicator of unsustainable practices and socio-economic analysis of Covid-19's impact. Project evaluation will inform future scale to further catalyse recovery.

Section 1 - Contact Details

PRIMARY APPLICANT DETAILS

Name Zac
Surname Hill
Website [REDACTED]
Tel (Work) [REDACTED]
Email (Work) [REDACTED]
Address [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

GMS ORGANISATION

| Type | Charity/ trusts |
|--------------|--|
| Name | SEED Madagascar |
| Phone (Work) | [REDACTED] |
| Email (Work) | [REDACTED] |
| Website | [REDACTED] |
| Address | [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] |

Section 2 - Project Title & Previous Applications

Q3. Project Title:

Reducing Covid-19-related food insecurity through household farming in southeast Madagascar

Q4. Existing project

Q4a. Does your organisation have an existing (or recently finished) project under either Darwin Initiative, Darwin Plus or Illegal Wildlife Trade Challenge Fund?

Yes

If yes, please list the project reference and title of relevant projects (e.g. 25-001, DPLUS090, IWT099).

Reference of current/recent project:

Title of current/recent project:

25-016

Promoting community-based management for secure fisheries, biodiversity, and livelihoods, Madagascar

Q4b. Is this proposal directly relevant to one of the projects listed above?

Yes

If yes, please list the relevant project reference and title.

25-016: Promoting community-based management for secure fisheries, biodiversity, and livelihoods

Section 3 - Countries, Dates & Budget Summary

Q5. Which Fund's objectives will your project most directly address? (please only select one)

Darwin Initiative

Q6. Country(ies)

Which eligible country(ies) will your project be working in?

| | | | |
|------------------|--------------------|------------------|--------------------|
| Country 1 | Madagascar | Country 2 | <i>No Response</i> |
| Country 3 | <i>No Response</i> | Country 4 | <i>No Response</i> |

Do you require more fields?

No

Q7. Project dates

Start Date:

01 January 2021

End date:

31 March 2021

Q8. Budget summary

Darwin/IWT Funding Request

Total request 2020/21:

20,614.00

Please note all spending must fall between 1st January 2021 - 31st March 2021

Q8a. If any matched funding arrangements are proposed, please detail them here.

N/A

Section 4 - Project Outcome and Summary

Q9. Outcome

What is the expected Outcome of this project?

An increase in diet diversity and food security at a household level, evaluated to inform longer-term recovery.

Q10. Summary of project

Please provide a brief summary of your project, its aims, and the key activities you plan on undertaking. Please note that if you are successful, this wording may be used by Defra in communications e.g. as a short description of the project on GOV.UK.

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Section 5 - Project Partners


Q11. Project partners


Please list all the partners involved (including the Lead Organisation) and provide a summary of their roles. Please upload letters, emails or other confirmation of support from any new partners.

| | |
|---|---|
| Lead Organisation name: | SEED Madagascar |
| Other partners involved: | Dr Cortni Borgerson, Assistant Professor of Anthropology, Montclair State University |
| Summary of roles and responsibilities in project: | <p>SEED will coordinate and be responsible for the delivery of all project activities and outputs, monitoring and evaluation, reporting and financial management.</p> <p>Dr Cortni Borgerson will provide oversight and guidance to the insect farming aspect of the project, acting as project co-leader. This will include the provision of resources for training and engagement as required (adapted to the Anosy dialect by SEED).</p> |
| If you have not provided evidence of support from the Lead Organisation or partners above, please explain why: | N/A |

Please provide a combined PDF of letters of support from the lead organisation and partner(s) as relevant.

 [Borgerson Letter of Support](#)

 02/11/2020

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Section 6 - Project Staff

Q12. Project staff

Please identify the core staff on this project, their role and what % of their time they will be working on the project. Further information on who should be classified as core staff can be found in the guidance. Please provide a 1 page CV for the proposed Project Leader and any co-Project Leader if relevant.

| Name (First name, surname) | Role | % time on project | 1 page CV attached? |
|----------------------------|---------------------------------|-------------------|---------------------|
| Lisa Bass | Project Leader | 5 | Checked |
| Cortni Borgerson | Co Project Leader | 5 | Checked |
| Zac Hill | Project Development Coordinator | 5 | |
| Sylvestre Mbola | Coordinator | 50 | |

Do you require more fields?


Yes


| Name (First name, surname) | Role | % time on project |
|-----------------------------|---------------------------|-------------------|
| Victoire Toto Randrianarson | Community Liaison Officer | 100 |
| Gerard Hausmann | Community Liaison Officer | 100 |
| Eve Englefield | Senior Programme Officer | 67 |
| To be recruited | Data Collectors | 100 |
| <i>No Response</i> | <i>No Response</i> | 0 |
| <i>No Response</i> | <i>No Response</i> | 0 |


| | | |
|-------------|-------------|---|
| No Response | No Response | 0 |
| No Response | No Response | 0 |

Please provide 1 page CVs for the proposed Project Leader and any co-Project Leader listed above as a combined PDF.

Ensure the file is named clearly, consistent with the named individual and role above.

 [Darwin Rapid Response CVs](#)

 02/11/2020

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Section 7 - Problem, Method and Change Expected

Q13. Problem the project is trying to address

Please describe the problem your project is trying to address in terms of Covid-19 and its impact on biodiversity or IWT and sustainable livelihoods. For example, what are the drivers of loss of biodiversity that the project will attempt to address? Why are they relevant, for whom? How did you identify these problems? Please cite the evidence you are using to support your assessment of the problem (references can be listed in an additional attached PDF document).

Sainte Luce and Elodrato are predominantly fishing communities, with up to 83% of households being reliant on lobster fishing as their main source of income and between 30-60% of households deriving part of their income from selling shark products [1].

Since Madagascar first confirmed cases of COVID-19, national restrictions on transport have reduced food and market access, causing increased prices and lack of food diversity. The selling value of lobster has notably decreased in both communities since the start of the pandemic [2]. In addition, key foods such as red kidney beans, white kidney beans, rice, and cassava have increased in price by more than 36.0% overall (ibid.).

Focus groups with community members identified that with reduced income, fishers are preferring to sell lobsters rather than consuming them, reducing diet diversity [2]. January 2021 marks the start of the National Closed Season for lobster fishing, preventing fishers from catching lobsters at all for three months. This food insecurity and reduction in earning potential increases pressure on unsustainable practices as additional sources of food and income.

Shark fins are particularly lucrative, with appeal increasing as a livelihood choice in times of hardship. This additional pressure on elasmobranchs, including the Critically Endangered scalloped hammerhead (*Sphyrna lewini*) [3] and three Vulnerable species of ray (*Rhinoptera javanica*, *Mobula alfredi*, *Aetobatus ocellatus*) [4-6], drives species closer to extinction.

Q14. Methodology

Describe the methods and approach you will use to achieve your intended Outcome. Provide information on:

- How you have analysed historical and existing initiatives and are building on or taking work already done into account in project design. Please cite evidence where appropriate.
- The rationale for carrying out this work and a justification of your proposed methodology.
- If relevant, how this project links to an ongoing Darwin/IWT project.
- How you will undertake the work (materials and methods).
- How you will manage the work (roles and responsibilities, project management tools etc.).

Projects should also consider how best they can address inequality, especially gender inequality, as per the existing guidance for each fund.

Please make sure you read the Guidance Notes, particularly Section 3, before answering this question.

SEED's rapid response focuses on two main areas: the establishment of sustainable food sources (insects and household crops) and monitoring elasmobranchs.

Insect farming builds on Borgerson et al.'s [7] pilot community rearing program in northeastern Madagascar, which saw 20.3% of households moving from low to medium dietary diversity. Early assessments have confirmed that the insects (*Zanna tenebrosa*) and their host plants occur in Sainte Luce, and are eaten opportunistically, particularly by children. Crop farming builds on SEED's Project Mitsinjo, which distributed 6,084 fruit trees to 833 households at an 87% survival rate. Elasmobranch catch monitoring builds on a six-month pilot conducted as part of 25-016.

SEED's rationale for this project's approach is that by targeting the immediate food security risk presented by Covid-19, increased pressure on biodiversity can be alleviated. In the longer-term, household farming of insects and crops can support recovery from the impact of Covid-19 through improved food security and alternative livelihoods.

The methodology has been selected as it provides a rapid feasibility analysis of quick-maturing food items, which both provides target households with immediate improvements in diet diversity, reduces household expenditure, and informs targeted scale-up for longer-term recovery. Insect farming efforts will be focused in Sainte Luce and crop farming in Elodrato given confirmed occurrence of the insect species in the former and existing farming skills at household level in the latter.

The proposed methodology utilises existing community structures to catalyse delivery, increase buy-in, and reduce costs; the project's approach builds upon established methods, making rapid delivery feasible.

The project targets households in the same communities as 25-016 and will utilise the committee structures to enable rapid and informed delivery. The risks of biodiversity loss highlighted in 25-016 are heightened by Covid-19-related food insecurity.

Initial surveys will establish baseline conditions and inform project delivery, including the specific crops to be trialled. SEED will first train a group of Community Ambassadors, who have 50% women representation, in insect and crop farming; they will then assist with training household representatives. Visual learning aids will be distributed to households to enable knowledge retention and top-up training will occur during the project. Seed and plot materials will be distributed with logistical support of the Community Ambassadors. End of project surveys will establish endline conditions and assess motivation for project scaling.

Elasmobranch data collectors will receive intensive training and frequent support reviews, they will collect data throughout the project in Sainte Luce and Elodrato. Focus groups and semi-structured interviews will be conducted to establish the socio-economic factors of Covid-19 impacting the fisheries.

All project activities will be delivery responsibility in regards to Covid-19, with masks and handwashing stations provided.

Responsibility of project delivery will be clearly defined and shared between SEED and Community Ambassadors, with in-kind advisory support being provided by Dr Borgerson. Activity progress is monitored using Gantt Charts and a red-amber-green rating system, which is overseen by management. Budget compliance will be monitored regularly by project staff and the Director of Administration and Finance.

Q15. Change expected

Detail the expected changes this work will deliver. You should identify what will change and who will benefit a) in the short-term (i.e. during the life of the project) and b) in the long-term (after the project has ended). Please describe the changes for biodiversity/environment and for people in developing countries, and how they are linked. If you are proposing building on a current or past project, be clear how additional benefits will be delivered through this project.

When talking about people, please remember to give details of who will benefit and the number of beneficiaries expected. The number of communities is insufficient detail – number of households should be the largest unit used. If possible, indicate the number of women who will be impacted.

The project will aim to increase food security and diet diversity within two rural communities, supporting 90 households. Rather than actively achieving changes for biodiversity, this project aims to reduce the additional pressure on natural resources through unsustainable practices as a result of the Covid-19 pandemic.

By the end of the project, 45 households will have host plants colonised with insects and 45 households will have crop plots with a selection of crops with low days to harvest. All households will have the necessary knowledge to manage these plants and understand the community support available to them.

It is expected that harvestable insect colonies will be in place one to two months after the project ends. While the specific crops used in this project will be defined by the community, harvests are expected to start within three months of project end. If managed effectively, insects and crops could be harvested indefinitely.

Once the insects and crops are harvestable, the households will experience greater levels of food security than could otherwise be achieved in the context of Covid-19 without this intervention. In turn, this will reduce rates of malnutrition and increased pressure on limited forest and marine resources, and unsustainable practices.


In the longer term, both insects and crops present the opportunity for alternative livelihoods, further improving household resilience and promoting longer-term recovery from Covid-19. As part of the exit strategy, SEED will explore market opportunities.

Elasmobranch research will, in the short-term, establish target catch species and frequency of catch during the national closed season. Socioeconomic focus groups will improve SEED's understanding of Covid-19's impacts on the fisheries within 90 households. Two people will have been trained in data collection,


improving future employability.

This project builds on 25-016 by providing dietary diversity and potential for alternative livelihoods.

If necessary, please provide supporting documentation e.g. maps, diagrams, references etc., as a PDF using the File Upload below:

 [Darwin Rapid Response References](#)

 02/11/2020

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Section 8 - Aims, Objectives and Exit Strategy

Q16. Aims and objectives

Clearly outline the aim and objectives of the project and how the achievement will be measured. Use SMART objectives if possible.

The overall aim of the project is to mitigate increased biodiversity pressures resulting from Covid-19-related food insecurity. The project's objectives and measurement are outlined below.

Objective one: establish insect colonies for 45 households in Sainte Luce by project end

plants germinated by project end

plants colonised by insects

bugs per plant by project end

Objective two: install plots and establish crops for 45 households in Elodrato by project end

crop plots established by project end

germinated crops by project end

Changes in crop cultivation at the household level by project end

For both objectives one and two:

Baseline % of households in each Coping Strategy Index score category [8]

Baseline average number of different food groups consumed by women of reproductive age (15 - 49 years) the previous day or night via Women's Dietary Diversity Scale [9]

Analysis of common problems faced by households growing food by week seven

Understanding of community motivations for scaling project by project end

Attendance of training sessions by project end

Knowledge levels of farming techniques at project end

Level of motivation to continue cultivating of insects and crops independently at project end

Objective three: understand elasmobranch catch and socioeconomic factors relating the fishery in Sainte Luce and Elodrato by project end

of data collection days completed and analysis performed by project end

of focus groups and interviews completed and analysed by project end

Comprehensive list of elasmobranch species created by project end

Definition of conservation priorities by project end

Q17. Exit strategy

State how the project will reach a stable and sustainable end point, and explain how the outcomes will be sustained, either through a continuation of activities, funding and support from other sources or because the activities will be mainstreamed in to “business as usual”.

This project aims to deliver outputs that can be sustained past the project period and built upon with future interventions. The provision of insect host plants and crop plots combined with knowledge and community support structures aims to achieve an indefinite source of food at the household level.

However, assuming the success of the project, SEED will seek funding to continue to support the communities and to expand the work to additional communities. As part of the extended project, SEED would carry out market research to establish access and interest in selling insects and crops as a livelihood. This research will be targeted at both the local community and tourist markets. Dr Borgerson and her research team will continue to provide support and guidance for any additional work relating to insects.

Research on Elasmobranchs will be used to inform future conservation efforts. This research will be sustained by its inclusion in the next full project phase of 25-016.

Section 9 - Budget

Q18. Budget

Provide a detailed breakdown of costs to be funded by the Darwin Initiative/Darwin Plus/IWT Challenge Fund in GBP.

See [Finance for Darwin/IWT](#) for which costs sit under which budget line.

| Budget Line | Cost in £ (GBP) |
|--|-----------------|
| Staff costs | ████ |
| Consultancy costs | ██ |
| Overhead costs | ████ |
| Travel and subsistence | ████ |
| Operating costs | ██████ |
| Capital equipment* | ██ |
| Other costs | ██ |
| Total (Must be less than or equal to £60,000) | 20,614.00 |

***If you are proposing to purchase any capital items over £1,000 please detail these here and provide justification below** N/A

Q19. Financial Risk Management

This question considers the financial risks to the project. Explain how you have considered the risks and threats that may be relevant to the successful financial delivery of this project. This includes risks such as fraud or bribery, but may also include the risk of fluctuating foreign exchange and internal financial processes such as storage of financial data.

SEED's Risk Management Framework includes an internal audit function led by Trustees from the Risk and Audit sub-committee, providing ongoing indication and mitigation of risk reported quarterly to the wider Trustee body. SEED's financial procedures were extensively externally audited in April 2016 by Alexanna Ltd on behalf Mannion Daniels and in August 2020 by Ernest and Young in both the UK and Madagascar and found to be fit for purpose. Key financial staff each have more than a decade's experience with multiple safeguards in place to assure good practice. SEED's robust adherence to its Bribery and Corruption policy along with Financial and Procurement procedures strictly regulates internal and external practice.

Additional risks and mitigations for this project include:

- COVID-19 limits transportation routes: Mitigation: source materials locally.
- Loss of community support requiring activities to regain support: Mitigation: regular pre-project liaison, community-wide training and involvement, utilise community ambassadors.
- Exchange rates fluctuation. Mitigation: conservative rate selected.

Q20. Capital items

If you plan to purchase capital items with Darwin/IWT funding, please indicate what you anticipate will happen to the items following project end. If you are requesting more than 10% capital costs, please provide your justification here.

Ownership of capital items other than ODK data collection phones will be transferred to the community. ODK phones will be used by SEED's implementation staff working on projects under SEED's Environment, Conservation and Sustainable Livelihoods programme, including continued marine management, sustainable livelihoods, and conservation work. If successful, this will include Oratsimba Phase IV, for which a Stage 1 application is currently under review.

Q21. 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.

SEED maintains a commitment to cost-effective projects, with minimal overhead spending. The majority of the SEED team is based in-country at our office in Fort Dauphin, with just 2 full-time staff members located in SEED's London office. All project expenditure is overseen by SEED's in-country Director of Programmes and Operations (Project Lead) and Head of Finance in line with SEED's Procurement Procedures which are underpinned by a commitment to value for money and prioritises local procurement.

The project budget has been developed based on both the considerable past experience of SEED's projects in southeast Madagascar, and in consultation with project co-leader Dr Borgerson based on her research in the northeast of the country. The work plan and budget have been developed and rigorously analysed with economy, efficiency, and cost-effectiveness considered at every stage. We are confident that the budget accurately reflects the essential costs of achieving the project outcome and represents excellent value for money.

Remuneration for staff and partners has been set to maximise economy while ensuring the project team has the necessary skills to deliver results. National staff are employed by the project wherever possible, with all international staff playing an active capacity-building role.

The high focus on training throughout the project maximises long-term economy and cost efficiency as a result of one-off set up costs while ensuring improved knowledge and skills remain within target communities.

In-kind support has been secured through the time, expertise and guidance of project co-leader Dr Borgerson.

Section 10 - Ethics and Safeguarding

Q22. Ethics

Outline your approach to meeting Darwin/IWT's key principles for ethics as outlined in the guidance note. Additionally, are there any human rights and/or international humanitarian law risks in relation to your project? If there are, have you carried out an assessment of the impact of those risks, and of measures that may be taken in order to mitigate them?

SEED Madagascar adheres to all legal and ethical obligations in the UK and Madagascar. SEED has over 20 years' experience working in Anosy region and tailoring international best practice to local contexts. All research adheres to SEED's Conservation and Human Research Codes of Ethics, as applicable. Research methodologies follow best practice and are evaluated for negative impacts. Enumerators are thoroughly trained in research methodology and ethics. There are no specific human rights or law risks for this project that are not addressed through SEED's standard policies and procedures, which include the safeguarding of children and vulnerable adults.

Q23. Safeguarding

Projects funded through the Darwin Initiative/IWT Challenge Fund must fully protect vulnerable people all of the time, wherever they work. In order to provide assurance of this, projects are required to have appropriate safeguarding policies in place. The award Terms and Conditions set out clear requirements on safeguarding. Please confirm you have read and understand these and that you comply with them all.

Checked

Section 11 - Key Milestones

Q24. Provide an overview of your proposed project, outlining key

milestones.

N.B. This should cover the period of your requested project only and the start/end dates should match with those provided in Question 7.

| Date | Key Milestone |
|------------------------|---|
| 04 January 2021 | START |
| 08 January 2021 | Recruitment of data collectors Project materials designed Equipment purchased |
| 11 January 2021 | Community meeting/introduction to the project |
| 13 January 2021 | Baseline survey completed in Sainte Luce Baseline survey completed in Elodrato; identification of crops |
| 15 January 2021 | Intensive training of data collectors completed Identification of Community Ambassadors |
| 18 January 2021 | Elasmobranch data collection starts |
| 19 January 2021 | Initial training of Community Ambassadors and Chef Seed procurement |
| 22 January 2021 | Initial seed distribution for insects with equipment and VLAs in Sainte Luce Plot development and planting in Elodrato Distribution of larger tools through village leaders |
| 15 February 2021 | Midline survey in Elodrato and Sainte Luce to assess germination, problems etc. |
| 26 February 2021 | Elasmobranch focus groups/interviews completed and transcribed |
| 05 March 2021 | A second distribution of seeds in Sainte Luce |

31 Endlines completed in both communities and findings disseminated to local
March communities
2021

31 FINISH
March
2021

Section 12 - Certification

Q25. FCDO notifications

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

Checked

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.

No

Q26. Certification

On behalf of the

Company

of

SEED Madagascar

I apply for a grant of





£20,614.00

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 have enclosed a CV for the Project Leader/co-PL and letters or confirmation of support (uploaded at appropriate points in application)

Checked

| | |
|--|--|
| Name | Zac Hill |
| Position in the organisation | Project Development Coordinator |
| Signature (please upload e-signature) |  Zac's Signature  02/11/2020  22:24:35  png 187.27 KB |
| Date | 02 November 2020 |

Section 13 - Submission Checklist

Checklist for submission

| | Check |
|--|--------------|
| I have read the Guidance, including the "Guidance Notes for Applicants" and "Finance for Darwin and IWT Challenge Fund". | Checked |
| I have read, and can meet, the current Terms and Conditions for the relevant fund. | Checked |
| I have provided actual start and end dates for my project. | Checked |
| I have provided my budget in GBP. | Checked |
| The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable). | Checked |
| (If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form. | Checked |
| I have included a 1 page CV for the Project Leader (and co-Project Leader if relevant). | Checked |
| I have included a letter or electronic confirmation of support from the lead organisation and main partner organisation(s) identified at Question 11, or an explanation of why not. | Checked |
| I have checked the website on GOV.UK immediately prior to submission to ensure there are no late updates. | Checked |
| I have read and understood the Privacy Notice on GOV.UK. | Checked |

Data protection and use of personal data

Information supplied in this application form, including personal data, will be used by Defra as set out in the latest copy of the Privacy Notice for Darwin, Darwin Plus and the Illegal Wildlife Trade Challenge Fund available [here](#). This Privacy Notice must be provided to all individuals whose personal data is supplied in the application form. Some information may be used when publicising the Darwin Initiative including

project details (usually title, lead organisation, location, and total grant value) on the GOV.UK and other websites.

Information relating to the project or its results may also be released on request, including under the 2004 Environmental Information Regulations and the Freedom of Information Act 2000. However, Defra will not permit any unwarranted breach of confidentiality nor will we act in contravention of our obligations under the General Data Protection Regulation (Regulation (EU) 2016/679).