## Annual Review 3

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| **Title: International Climate Finance (ICF) Research and Development (R&D) Programme Annual Review 3** | | |
| **Programme Value £ (full life):** £51.6m | | **Review date:** August 2022 to July 2023 |
| **Programme Code:** [ICF-PO011 R&D] | **Start date:** April 2020 | **End date:** March 2025 |

Summary of Programme Performance

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| Year | **AR 1** | **AR 2** | **AR 3** | **AR 4** | **AR 5** |
| Overall Output Score | **B** | **B** | **A** |  |  |
| Risk Rating | **Moderate** | **Moderate** | **Low** |  |  |

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| DevTracker Link to Business Case: | **The Business Case is on DevTracker** [**here**](https://devtracker.fcdo.gov.uk/projects/GB-GOV-7-ICF-P0011-RD/documents)**.** |
| DevTracker Link to results framework: | LogFrames for projects can be found on [DevTracker](https://devtracker.fcdo.gov.uk/projects/GB-GOV-7-ICF-P0011-RD/documents) |

**A. SUMMARY AND OVERVIEW**

**Description of programme**

The International Climate Finance Research and Development (ICF R&D) Programme Business Case sets out the delivery of **three main components of the programme**, summarised in Appendix A. Work for Component 1 concluded in FY22/23 and Component 2 will conclude in FY24/25. Component 3, the Global Centre on Biodiversity for Climate (GCBC), will constitute the bulk of future ICF R&D work, running annual research grant competitions until - at least - the end of FY26/27.

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| **Component** | **Project** |
| Component 1: Evidence to inform policy and design of international climate finance: Evidence for policy and programming | * Project 1a: Measuring the impact of aid on nature & identifying ‘best buys’ * Project 1b: Scoping and intervention analysis for future ICF programming |
| Component 2: Evidence to strengthen operational delivery of NbS (Nature Based Solutions) policies and programmes: Driving innovation in forest protection and enforcement monitoring | * Project 2a: Tackling illegal logging and deforestation * Project 2b: Strengthening monitoring, reporting and verification |
| Component 3: Build the long-term evidence base | * Project 3: Establish a Global Centre on Biodiversity for Climate (GCBC) |

The ICF R&D Programme aims to deliver an **integrated package of projects to strengthen global knowledge and understanding of the interrelationship between climate change, biodiversity loss and poverty**. It is intended to generate the evidence needed by policy developers and development practitioners to scale up natural solutions and increase their effectiveness in tackling this triple challenge. The programme is designed to deliver **both short and longer-term evidence needs**, including to support delivery of commitments under the United Nations Framework Convention on Climate Change (UNFCCC) and Convention on Biological Diversity (CBD), including the Kunming-Montreal Global Biodiversity Framework (GBF) Targets, focusing on delivering strategic, policy-relevant results and a **global network of knowledge exchange and learning.**

**Summary progress of performance in the past year and overall score**

**Component 1:** Evidence to inform policy and design of international climate finance: Evidence for policy and programming

This component was completed in financial year 22/23 and reviewed as part of Annual Review 1 (AR1) and 2 (AR2).

**Component 2:** Evidence to strengthen operational delivery of Nature Based Solutions (NbS) policies and programmes: driving innovation in forest protection and enforcement monitoring

* Project 2a: Tackling illegal logging and deforestation: the Kew Timber and Non Timber Forest Risk Commodities (FRC) projects are progressing well against respective logframes.
* Project 2b: Strengthening monitoring, reporting and verification: the 30x30 Protected Areas Evidence Review and Scoping has concluded and provided a range of products to move the project into Business Case development. The findings of the evidence review, country prioritisation and analysis, and funding options assessment identify how Defra can best support high-ambition countries to meet their goals on protecting 30% of their land by 2030.
* Project 2a is expected to conclude in financial year 24/25 and project 2b was completed in financial year 22/23.

**Component 3:** Build the long-term evidence base (Establish a Global Centre on Biodiversity for Climate)

Many key milestones were achieved during this annual review period. Highlights include:

* The delivery of 15 pilot ‘Phase 1’ GCBC projects, delivering research across a range of thematic areas. Seven of these projects identified extension activities and, following Programme Board review, are receiving continued funding into the upcoming year.
* The Memorandum of Understanding (MoU) with Royal Botanic Gardens (RBG) Kew (Kew), formalising their role as Strategic Science Lead (SSL), was agreed and signed. The MoU runs to 2025 with the possibility of a one-year extension.
* Kew prepared an interim Research Strategy (RS) to inform the GCBC’s first grant call. The strategy proposed that the first research call focuses on issues that act as key ‘pressures’ on the climate and livelihoods, notably agriculture and wider natural resource management (NRM).
* DAI Global (DAI) was procured and contracted as the Management Lead on 31 March for a period of two years with the possibility of extension. They are responsible for much of the administration of the GCBC including management of the grant calls.
* The first GCBC research grant call was launched on 25 May and open for applications for eight weeks. Around 3,400 people registered on the e-tendering platform and 155 research applications were received.
* The GCBC's Evidence Advisory Group (EAG) was established and comprises a chair and four co-opted members bringing a range of expertise from the UK and internationally. The EAG provides independent advice and scrutiny on the design, scope, outputs, and overall strategic direction of the GCBC.
* A [GCBC website](https://www.gcbc.org.uk/) was set up and will be used to disseminate programme learning. A GCBC [policy paper](https://www.gov.uk/government/publications/global-centre-on-biodiversity-for-climate) is available on gov.uk and a [news story](https://www.gov.uk/government/news/40-million-biodiversity-research-programme-opens-for-applications) was published. DAI also set up social media channels to share information about the programme.
* The GCBC held its first research symposium in March 2023 which brought together Phase 1 project teams to present their work, connect and discuss the future of the GCBC.

**Actioning recommendations from previous ARs:**

Recommendation 1: Define project objectives more clearly in the early project design stages, agree clear indicators at the outset of each piece of work, and disseminate learning more widely to avoid duplication of work.

* Phase 1 project logframes and indicators were reviewed by our internal evidence team and are now defined more clearly in the early project design stages and at the outset of each piece of work. This is a live process and will take place annually with project teams.
* We held a research symposium to build research connections, disseminate learnings, and identify opportunities for collaboration and partnership.

Recommendation 2: A thorough Defra group Commercial analysis to be conducted when doing direct award due diligence to ensure suppliers’ capability in delivering services and eligibility for funding.

* Weekly meetings with Defra Group Commercial were set up to facilitate commercial input into the establishment of the GCBC including testing proposed delivery of GBCC grant calls against Defra Group Commercial standards.

Recommendation 3: Improve scoping and early market research when designing projects to facilitate faster project initiation.

* We included early market engagement as a requirement in the Invitation to Apply pack for DAI.
* We established governance mechanisms with DAI and Kew that ensure close co-operation around an agreed project plan and risk register.

**Programme scoring**

The overall score for the ICF R&D Programme in this review period is A. This was derived from the output scores shown in the detailed output scoring in Appendix B, with each component being assigned a weighted score based on its total funding, and the overall score representing the weighted average of these scores.

**Annual Review 2 (AR2)**

Please see Annex A for the ICF R&D Programme’s shortened AR2. This annual review was not completed during the planned period due to competing pressures on the programme team, notably setting up the GCBC, including procuring the programme’s Strategic Science Lead and Management Lead and overseeing fifteen Phase 1 projects. Output results from the sub-projects delivering during the AR2 period are outlined within AR2, but due to limitations on the amount of information available and relatively small amount of money spent during this period, some sections of this review are limited.

**Major recommendations for the year ahead**

GCBC Delivery Partners

* Build additional time for staff recruitment at contract initiation stage into the delivery timetables and ensure deliverables are realistic in that context. Timeframe: ongoing
* Establish clear roles and responsibilities within delivery partners at the outset, underpinned by continued regular contract management and monthly performance meetings. Timeframe: monthly

Programme budget and risk management.

* Programme over-programming budget by 20% to mitigate any in-year slippage. Team to consider a range of alternative delivery mechanisms to help mitigate risk. Timeframe: annually.
* To use a RAG rated matrix to plot risks in the next annual review. Timeframe: annually

Monitoring, Evaluation and Learning (MEL)

* Programme team to organise half-day Theory of Change (ToC) workshop with independent experts to review and make improvements to the ICF R&D ToC. This will be scheduled for September 2023 and should include the full GCBC-programme team and will lead to the development of an updated ToC to guide the programme. To be done in consultation with Defra evidence colleagues, GCBC Hub partners (RBG Kew and DAI UK) and the Official Development Assistance (ODA) Hub. Timeframe: ToC revision by 31 December 2023.
* To update logframe indicators and methodologies following the ToC workshop, including changes approved by Hub partners and communicated to projects. The programme level logframe should set out how the programme will deliver on the poverty reduction element of its overall goal to 'strengthen global knowledge and understanding of the interrelationship between climate change, biodiversity loss and poverty'. Timeframe: by May 2024
* New and continuing projects will have introductory sessions with our MEL partners on the indicators and methodologies, including with Kew on the thematic indicators. Timeframe: by June 2024.

Gender Equality and Social Inclusion (GESI)

* Strengthen consideration of gender equality and social inclusion within the programme, starting by DAI completing a GESI analysis by May 2024.
* Programme team to develop a GESI action plan. Timeframe: April 2024.
* Strengthen safeguarding (including SEAH) starting with a SEAH assessment in March 2024.
* DAI to clarify research ethics requirements. Timeframe: April 2024.

## B: THEORY OF CHANGE AND PROGRESS TOWARDS OUTCOMES

No changes to the ICF R&D Programme’s overarching ToC (Appendix C) have been made since the last annual review. Logframes have been developed for each of the three projects that have operated during this annual review period and a GCBC-specific ToC has been developed. Output indicators from the individual project logframes form the score of this annual review.

The ICF R&D Programme ToC posits that by tackling some of the key evidence gaps and learning around the application of nature-based solutions (NbS) we can unlock the potential to deliver more effective policy and programmes with stronger outcomes for people, nature and climate. The activities set out in the ToC are divided into three main component areas with subsequent sub-projects within them where relevant. These are:

* P1: Laying the groundwork for ICF 3.0 (between 2021/22 – 2025/26), building the global evidence base to inform future design of UK ODA programming on nature;
* P2: Driving innovation in forest protection and enforcement monitoring to unlock better quality data on nature to support policy and programme implementation; and
* P3: Establish a global centre of expertise on NbS to address critical evidence gaps in the application of nature-based solutions.

**GCBC Theory of Change**

The GCBC’s ToC (Appendix D) was developed to map out how the project’s desired change - positive impacts for biodiversity, poverty alleviation and improved ecosystem resilience - is expected to come about.

A recommendation of this annual review is to develop this ToC further, adding causal pathways, assumptions, and means of verification to increase its robustness. Recommended improvements to the ToC are embedding GESI principles, catalysing research-to-impact for poverty alleviation through the GCBC, and implementing a systems approach into the GCBC. This work is planned in collaboration with the ODA Hub and our MEL Hub partners for completion by the end of December 2023.

**Describe where the programme is on/off track to contribute to the expected outcomes and impact. What action is planned in the year ahead?**

**Component 1**

Please note, this component has been completed and activity closed.

**Component 2**

All projects under this component are on-track and progressing well towards their respective logframes. The 30x30 Evidence Review and Scoping study project has concluded as of March 2023.

**Component 3**

The programme is currently on track to contribute to the outcomes outlined in the GCBC ToC. Significant progress has been achieved with establishing the GCBC and although project delivery is behind what was originally envisaged in the Business Case, it is keeping track with expectations as set out in the contracts with delivery partners earlier this year.

Information on the first-year projects funded by GCBC for the financial year 2022-2023 can be found in Appendix E and on the [GCBC website](https://www.gcbc.org.uk/projects/). Most Phase 1 projects started in Summer 2022 completed their research at the end of March 2023, with seven projects being extended, creating robust new evidence and knowledge on the sustainable use of biodiversity (Intermediate Outcome A).

The GCBC programme has started to deliver against one of the GCBC logframe indicators, as evidence from an early ICF KPI15 assessment suggests that transformational change is likely to arise from programme activities, indicating that the programme is on track to deliver its desired impact. Further work is required with the programme Management Lead to ensure that reporting is robust going forward.

**Evidence Synthesis Report**

To reflect on the progress and achievements of the GCBC so far, Defra produced an “Evidence Synthesis Report”. The report presents the findings of the 15 projects funded by the GCBC in its first year of operation and exhibits the positive impacts that safeguarding nature can have for climate and people. Highlights from the report include progress towards the Outputs and Outcomes outlined in the GCBC ToC, such as over £550k of public and private finance leveraged to support effective climate resilient development via the conservation and sustainable use of biodiversity; 28 case studies of tools or solutions developed using GCBC funding that demonstrate change; 95 knowledge products that improve operation and implementation of sustainable biodiversity activities on the ground; 128 research partnerships strengthened or formed because of GCBC input; over 3500 people engaged in GCBC-led research activities; and 19 knowledge products that support policy implementation of sustainable biodiversity activities. To influence better programming and share knowledge on best-practice, the report contains case studies that detail the challenges faced, lessons learned, and next steps for six of the projects. The report will be published on the GCBC website and Defra Science Search and key customers notified.

**Actions planned for the year ahead**

* Independent Evaluator
  + An independent evaluation of the programme will be commissioned to determine whether the GCBC is delivering on the ICF R&D ToC. The suggested timeline for independent evaluation is November 2024 and July 2025.
  + The evaluation will: assess the extent to which the GCBC is achieving its objectives and intended benefits; assess the current Value for Money; suggest better implementation of the programme’s activities; and provide learnings and guidance to improve future programme design.
* Gender Equality and Social Inclusion (GESI)
  + In response to recommendations from the recent Social Development Directorate (SDD) Audit (undertaken to describe current gaps and propose actions that will build our GESI capacity and capability), the programme will conduct a thorough GESI analysis in 2024. There will be focused effort in enhancing procedures to protect Indigenous Peoples and local communities and integrate GESI considerations into due diligence processes.
  + Building on the guidance provided by BEIS, the programme aims to clearly define expectations for support staff and delivery partners, with an intention to meet the requirements outlined in the International Development Act (Gender Amendment) 2014.
  + We will enhance the programme’s Monitoring, Evaluation, and Learning (MEL) processes to monitor GESI progress at programme, thematic, and project levels. We will disaggregate data by sex, age, disability, geography, and other relevant characteristics.
* Capacity Strengthening.
  + For the next annual review period, 2023-2024, we plan to further develop the programme’s capacity building approach. The design of GCBC competitions promotes the inclusion of southern-based research institutions as well as a balance in representation across targeted regions (South-East Asia, Latin America and Sub-Saharan Africa) as part of the competition’s selection criteria, specifying the need for one developing-country led institution to be successful per research theme. We also plan to deliver interactive capacity-building webinars and peer-to-peer support workshops to boost the numbers of developing country institutions that are successful in securing funding in GCBC competitions.

**Consider future programme direction**

Projects that have been initiated under the ICF R&D Programme are proceeding to plan. Strong demand was demonstrated by the high level of interest in the first grant call with 3,396 people registered on the e-tendering platform. There is also confidence that transformative outcomes will be delivered in the long term, via evidence from an early ICF KPI15 assessment of the GCBC suggesting that transformational change is likely to arise from programme activities. Programme continuation will allow critical research gaps to be addressed, and will capitalise on pilot and inception work, including the Phase 1 projects.

Though we believe the GCBC's value and impact (Positive impacts for biodiversity, poverty alleviation and improved ecosystem resilience to climate change) will increase over time as we develop and synthesise a high-quality evidence base, programme continuation will depend on evidence of impact pegged to periodic review points. Review point timing, options and funding decisions will be agreed by the ICF R&D Programme Board.

We recognise that the GCBC is Defra’s flagship international research programme, and any decision to halt funding could have a reputational impact, and be taken as a sign of the UK slipping in its commitment to international climate finance.

## C. DETAILED OUTPUT SCORING

**Component 2**

**Project 2a - Kew Timber**

*Driving innovation in forest protection and enforcement monitoring. Tackling illegal logging: creating a timber reference library to support enforcement.* *The Royal Botanic Gardens, Kew (Kew), as delivery partner, are analysing and cataloguing timber samples from DAC list countries to facilitate the creation of a timber reference library to allow for future enforcement activities related to timber imports to deter illegal logging and support more sustainable commodity supply chains.*

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| **Output Title** | Reference collection built to required standards, coverage and size to enable expansion and innovation of authentication technologies and reference database construction. | | | |
| Output number: | | 1 | Output Score: | ***A*** |
| Impact weighting (%): | | 30 | Weighting revised since last AR? | No |

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| **Indicator(s)** | **Milestone for 2022/23** | **Achieved July 2023** | **Progress to Milestone** |
| **1.1** – Collection size. | 4800 samples by the end of 2023/24. | 4430 | Outputs on track to meet expectation. |
| **1.2 –** Subsample supply. | 2000 by September 2022 (milestone for AR3). | 2903 | Outputs exceeded expectation. |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

The aim of this project is to build a timber reference database large enough to be used across a wide geographic range. Output 1 tracks this progress via the number of reference collections and subsamples collected per country by project expeditions. A timber reference database of 4,430 samples has been established and 2,903 subsamples were collected. These are on track to meet or exceed the targets, hence the overall output score of A.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

No changes to the output during the past year but some are planned as a result of this review. Following consultations with RBG Kew, numerous changes to logframe indicators have been proposed. For some, this is a change in indicator wording, to improve clarity or separate out data points and for others this has involved changing the focus of the indicator.

We have agreed to change the indicators below output 1 to improve their clarity:

* Output 1.1: Size of the reference collection at Kew
* Output 1.2: Total number of subsamples at Kew

**Progress on recommendations from the previous AR (if completed), lessons learned this year and recommendations for the year ahead**

Previous delays in processing samples can be attributed to a quarantine process of samples in Eastern Europe. Staff have been employed to clear this backlog and moving forward the project roles based in Quarantine and the wood lab, plus the curatorial role associated with the FRC grant and the Collections Manager will be able to manage material flow without short term help.

Over the next reporting period there are seven further sampling expeditions planned across DAC listed countries to work towards the end-of-programme target.

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| **Output Title** | Scientific data acquired using the World Forest ID at Kew collection to drive scientific progress and innovation in authentication, with reduction of sampling costs. | | | |
| Output number: | | 2 | Output Score: | ***A*** |
| Impact weighting (%): | | 30 | Weighting revised since last AR? | No |

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| **Indicator(s)** | **Milestone for 2022/23** | **Achieved July 2023** | **Progress to Milestone** |
| **2.1 –** Technical advances in use of Direct Analysis in Real Time - Time of Flight Mass Spectrometry (DART TOFMS), Stable Isotope Ratio Analysis (SIRA), wood anatomy as techniques for timber authentication by wider WFID consortium, supported by developments in AI and genomics as indicated by academic publications. | 3 publications by the end of 2023/24 (in absence of 22/23 milestone). | 10 manuscripts published and 3 in preparation for next reporting period. | Outputs substantially exceeded expectation. |
| **2.2 –** Development or enhancement of methods for timber species authentication, with a specific focus on the added strength of combination of multiple techniques and datatypes by wider WFID consortium (1 academic publication per year from 2021-22). | 2 publications by the end of 2022/23. | 1 in preparation expected by December 2023. | Output did not meet expectation. |
| **2.3-** Development of a targeted and optimised sampling strategy for SIRA based on the identification, through machine learning modelling of specific focus areas to effectively reduce sampling cost per unit area. | 3 publications by December 2024 (in absence of 22/23 milestone). | 1 publication submitted and in review. | Output on track to meet expectation. |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

This output assesses the extent to which the data gathered during this project drives scientific progress in timber collection, sampling and authentication methods. Three indicators in this output measure the number of academic publications prepared/submitted.

Indicator 2.1 focuses on publications on the use of DART TOFMS and SIRA wood anatomy as techniques for timber authentication, particularly when supported by developments in AI and genomics[[1]](#footnote-2). This allows Kew to model where a specific sample could come from. SIRA Activities (a total of 10 publications published or accepted) have far exceeded the current milestones for this indicator, providing confidence that the end-of-programme target will be met.

Indicator 2.2 looks to measure the number of academic publications for the development or enhancement of methods for timber species authentication, with a specific focus on the added strength of combination of multiple techniques and datatypes by wider WFID consortium. No progress has been made submitting manuscripts against this topic to date, but publications are due in December 2023.

Finally, output indicator 2.3 counts academic publications on the development of a targeted and optimised sampling strategy for SIRA based on the identification, through machine learning modelling of specific focus areas to effectively reduce sampling cost per unit area. The only target for this indicator is for December 2024, so with one publication submitted and in review, good progress is being made towards this target.

Based on the fact that indicator 2.1 substantially exceeded expectations, and indicators 2.2 and 2.3 are on track to meet expectations, overall this output was awarded an A.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

No changes to the output during the past year with some planned as a result of this review.

Following discussions with RBG Kew, they felt that output indicator 2.3 was covered in the two other indicators present at this output level, and that this indicator could be removed for future reporting years. Additionally, Defra proposed that the wording around these indicators was changed to provide a clearer target, resulting in the following proposed indicators:

* Output indicator 2.1: Number of academic publications by WFID at Kew advancing DART TOF MS, SIRA and wood anatomy as techniques for timber authentication.
* Output indicator 2.2: Number of academic publications by WFID at Kew developing or enhancing methods for timber species and origin authentication. Disaggregate by methods developed or enhanced where possible.

**Progress on recommendations from the previous AR (if completed), lessons learned this year and recommendations for the year ahead**

Kew are putting increased focus on machine learning modelling to verify the origin of timber and forest risk commodities. To achieve this, both Kew and WFID are collaborating with Ghent University, University of Gothenburg, and University of Potsdam. Together with WFID, Kew are writing a report on the current state of the scientific techniques, this will be shared broadly across stakeholders.

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| **Output Title** | Generation of collaborations with Office for Product Safety & Standards (OPSS) Environmental Enforcement & Compliance Team resulting in targeted collections and authentication research enabling enhanced UK Timber Regulation (UKTR) enforcement and international timber trade regulatory compliance. | | | |
| Output number: | | 3 | Output Score: | ***B*** |
| Impact weighting (%): | | 20 | Weighting revised since last AR? | No |

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| **Indicator(s)** | **Milestone for 2022/23** | **Achieved July 2023** | **Progress to Milestone** |
| **3.1 –** 2 country-based collaborations with OPSS initiated or continued per year from 2021; 1 training session per year from 2021 held with OPSS in enforcement-based scientific methods. | 3 collaborations recorded by end of 2022/23 and 3 training sessions by March 2025. | Defra have granted proposal of a project on Teak with OPSS. This has amounted to 1 collaboration. | Output did not meet expectation. |
| **3.2-** 3 reports (including presentations, stakeholder meetings, workshops, reports....) based on implementation of DART TOF-MS, SIRA, wood anatomy or other research methods delivered to OPSS and international governmental stakeholders per year via WFID geared to their needs. At least one output similar in scope to Chinese plywood enforcement project report developed during the project. | 3 reports (including presentations, stakeholder meetings, workshops, reports) per year. | Kew presentation at a FACT Dialogue evening hosted at Kew with the UK Ambassador to Brazil. WFID submitted at least five separate reports to OPSS. | Output met expectation. |
| **3.3-** International use of WFID at Kew collection and open access databases arising from it by DAC list country governments to support timber trade legality verification. | Use by DAC list country governments by March 2025 (yes/no). | N/A | N/A |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

Output 3 captures the collaborations with the Office for Product Safety & Standards (OPSS) Environmental Enforcement & Compliance Team and the use of the WFID/Kew database by DAC listed country governments to support timber trade legality verification.

The project is below target for output indicator 3.1 principally due to a shift in the focus of the project to focus on Russian timber rather than timber from DAC listed countries. However, a submission for Kew to work on a short-term proposal from OPSS on teak samples has been granted and work has started on plywood samples.

Output indicator 3.2 met expectations, with at least five separate reports being submitted to OPSS by WFID, supported by datasets. WFID at Kew delivered a presentation at a [FACT Dialogue](https://www.factdialogue.org/) evening hosted at Kew attended by the UK Ambassador to Brazil and gave a presentation to the United Nations Office for Drugs and Crime in Vienna on World Forest ID and the associated scientific techniques.

Output indicator 3.3 is not being measured in this annual review, however progress is good. There are also ongoing discussions with INTERPOL on testing traded products against the Eastern Europe reference data. WFID are developing an Infohub to store all the reference data and provide access to stakeholders to test their data against this using the machine learning model that WFID have developed. They are hoping that this will be functional by June 2024.

Overall this output is on track to meet expectations and is scored B. Kew have informed us that collaboration is expected to increase in the future (see below).

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

No changes to the output during the past year but some have been proposed as part of this review. It has been proposed that output indicator 3.1 is split into 3 sub indicators to cover collaborations both with and independent of OPSS; that output indicator 3.2 reflects specific outputs produced for OPSS and other governmental departments; and that output indicator 3.3 covers the number of uses of the WFID at Kew collection by DAC-list country governments.

Proposed indicators:

* Output indicator 3.1
  + Output indicator 3.1.1: Number of country based collaborations with OPSS (disaggregate by initiated or continued) per year.
  + Output indicator 3.1.2: Number of training events with OPSS per year.
  + Output indicator 3.1.3: Number of international country-based collaborations outside of OPSS.
* Output indicator 3.2: Number of interactions (reports, presentations etc.) based on implementation of DART TOF-MS, SIRA, wood anatomy or other research methods delivered to OPSS and international governmental stakeholders per year via WFID geared to their needs. Interactions can include reports, presentations and meetings.
* Output indicator 3.3: Number of uses of WFID at Kew collection and open access databases arising from it by DAC list country governments to support timber trade legality verification.

**Progress on recommendations from the previous AR (if completed), lessons learned this year and recommendations for the year ahead**

Overall, OPSS collaboration remains below the anticipated level. This is partly explained by the fact that the Ukraine conflict pushed focus of OPSS onto illegal *Russian* timber rather than *tropical* timber from DAC listed countries. There is some indication of a return to tropical timber work later in 2023. Resourcing issues at Kew, with key staff leaving roles and needing to be replaced, have delayed the processing of plywood samples provided by OPSS. This will be mitigated in future, with the project now fully staffed.

As Kew and WFID are developing analytical model packages, collaboration is expected to increase by testing data products against the WFID reference database and analytical model software. WFID has prepared several reports, some of which have already been shared with OPSS.

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| **Output Title** | Leveraging of matched funding via philanthropic and statutory finance during the Defra funded period of WFID at Kew and developing a roadmap towards being self-sustaining at the end of the five year Defra ICF-funded period via development of a business model based on private sector investment and/or fee for service provision. | | | |
| Output number: | | 4 | Output Score: | ***B*** |
| Impact weighting (%): | | 20 | Weighting revised since last AR? | No |

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| **Indicator(s)** | **Milestone for 2022/23 (AR3)** | **Achieved July 2023 (AR3)** | **Progress to Milestone** |
| **4.1-** Statutory or philanthropic funding for WFID at Kew leveraged, at least one application per year. | Target list of statutory bodies and donors created and £1M to be raised by March 2023. | £100k Illegal Wildlife Trade (IWT) Challenge fund grant for DNA work obtained.  Under the Defra ICF FRC grant, a bolt on project (>£400k GBP) was received in which additional analysis on timber samples will take place. | Output did not meet expectation |
| **4.2-** Development of WFID business model. | N/A | Progress has not been made due to a WFID internal restructure | Output not on track to meet expectation |
| **4.3-** Recruitment of additional staff based on approved project proposals. | 2 projects approved by the end of 2022 with at least 1 other person contracted. | Under the recently awarded IWT grant another research assistant started on 15 May 2023 and supports the WFID at Kew project. The Collection Manager will start on 15 May. | Output met expectation |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

This output tracks progress towards the WFID at Kew project developing a self-sustaining financial model by the end of the ICF R&D Programme period. This is vital to ensure that technical advances made during the project’s lifetime are beneficial in timber enforcement in the long-term. It is anticipated that philanthropists and other partners will recognise the wider benefits that the advancement in testing and verification could bring to traceability/transparency and protection of forests and endangered species. WFID are also exploring other funding options including a fee paying private sector model.

The end-of-programme target for indicator 4.1 is £2.5million. Currently this indicator is slightly below the milestone at this point, but two successful grant applications by Kew mean that some progress has been made during this period. Output indicator 4.2 has been put on pause at this stage, due to a restructure at WFID. Successful grant applications by Kew means that output indicator 4.3’s milestone has been met for this period (please see output table for details).

Overall, this output has been awarded a B. Issues at WFID have caused delays in making progress toward this output, which restructuring at the organisation should resolve during the next review period.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

No changes to the output during the past year but changes are planned as a result of this review. The wording in the logframe indicators underneath this output has been altered to improve their clarity:

* Indicator 4.1: Finance leveraged (£) for WFID at Kew through statutory or philanthropic funding.
* Indicator 4.2: % of wider WFID funding from external sources.
* Indicator 4.3: Number of staff members recruited per year (based on approved project proposals).

**Progress on recommendations from the previous AR (if completed), lessons learned this year and recommendations for the year ahead**

While the WFID team are undergoing restructuring, the Kew team will keep focussing on grant applications to further develop the science and generate income supporting the existing work programme.

**Project 2a - Kew Non Timber Forest Risk Commodity**

*Phase 3 World Forest ID Non-Timber Forest Risk Commodity Science-based Traceability*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | Cocoa and soybean reference collections built to required standards, coverage, and size to support reference database development and enable innovation of traceability and authentication technologies and UK regulatory framework. | | | |
| Output number: | | 1 | Output Score: | ***A+*** |
| Impact weighting (%): | | 60 | Weighting revised since last AR? | [If Yes, up or down?] |

|  |  |  |  |
| --- | --- | --- | --- |
| **Indicator(s)** | **Milestone for 2023/2024** | **Achieved March June 2023** | **Progress Evidence**  **Progress to Milestone** |
| **1 –** Collection and subsample size. | 250+ samples collected from 4-6 ODA countries for both cocoa and soy. | 515 soy samples, 4 countries:  Brazil I (75); Brazil II (150); Brazil III (planning for 2024); Bolivia I (25);  Argentina I (40); Paraguay I (225)  423 cocoa samples: 8 countries:  Thailand I (16); Thailand II (16); Ivory Coast I (80); Cameroon I (40); Ecuador I (271); Liberia I (planning)  Nigeria (planning); Colombia I (planned May-June- 375 samples); Thailand III (planning); Peru I (planning)  Oil palm:  Thailand (pilot planning)  Rubber:  Thailand (pilot underway) | Output exceeded expectation. |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

This output assesses whether the soy and cocoa databases built are to the required standards, coverage, and size to support reference database development and enable innovation of traceability and authentication technologies and UK regulatory framework. It does this through one indicator, that tracks the number of soy and cocoa reference collections in each database.

In terms of the number of soy collections, excellent progress has been made with well over the target samples collected from four ODA countries. Excellent progress has also been made on the cocoa reference collections, with well over the target samples collected from four ODA countries. In addition to this, there are plans for significant collections in five further countries in the near future. A further update on this is expected in the next report.

As both output indicators corresponding to this output have been exceeded, a score of A+ has been awarded to this output.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

No changes to the output during the past year but some have been recommended as a result of this review.

We have recommended changing this output indicator to include two sub-indicators, one for the soy reference collection and one for the cocoa reference collection:

* Output 1.1- Number of soy reference collections per country.
* Output 1.2- Number of cocoa reference collections per country.

The purpose of these changes is to separate out the two data points formerly collected by this indicator. These changes have been discussed and agreed upon with RBG Kew, the delivery partner, and have been incorporated into future reporting templates and an updated project logframe.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | Scientific data acquired using the WFID at Kew collection to drive scientific progress and innovation in authentication, with reduction of sampling costs. | | | |
| Output number: | | 2 | Output Score: | ***A*** |
| Impact weighting (%): | | 40 | Weighting revised since last AR? | No |

|  |  |  |  |
| --- | --- | --- | --- |
| **Indicator(s)** | **Milestone for 2023/2024** | **Achieved June 2023** | **Progress Evidence**  **Progress to Milestone** |
| **2.1 –** Begin development of machine learning approaches to enhance the power of sampling protocols for future supply chain sample analyses to determine soybean traceability. | 1-2 article drafts for publication. | Model testing of soy highly significant. Model on cocoa requires trace element and other layers to lend support. Manuscript drafts still underway. New manuscript (timber) under review. | Output met expectation |
| **2.2 –** Development of a targeted and optimised sampling strategy for SIRA based on the identification, through machine learning modelling of specific focus areas to effectively reduce sampling cost per unit area. | New publication for soybean and cocoa traceability methodologies. | Model development for identification of priority sampling locations is underway.  Statistical analyses underway for first FRC traceability manuscript. Pipeline manuscript (WFID 2) draft in progress. | Output met expectation |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

This output details the scientific progress and innovation in authentication of soy and cocoa samples, with reduction of sampling costs driven by this project. It does this through two output indicators that measure the number of knowledge products developed in two key research areas.

Output indicator 2.1 counts the number of publications developed on machine learning approaches to enhance the power of sampling protocols for future supply chain sample analyses to determine soybean traceability. The project hopes to see 1-2 publications submitted per financial year against this indicator. During this period, a manuscript draft submission with a Postdoctoral Research Associate as author has been submitted to a high impact journal, meaning that this milestone was met.

Output indicator 2.2 tracks the number of publications developed to drive scientific progress and innovation in authentication. There has been one manuscript produced during this AR period, meaning that the milestone has been achieved. Two further manuscripts are in development for the next period.

The outputs have met the target and the project is on track to hit end of programme targets overall. Therefore, a score of A has been awarded for this output.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

No changes to the output during the past year but some have been planned as a result of this review.

The wording in the logframe indicators underneath this output has been altered to improve clarity, resulting in the following agreed indicators:

* Number of knowledge products developed on machine learning approaches to enhance the power of sampling protocols for future supply chain sample analyses to determine soybean traceability (e.g., publications, models, etc.).
* Number of knowledge products developed to drive scientific progress and innovation in authentication, with reduction of sampling costs (e.g., publications, models, etc.).

The data collected and reported is the same as the previous reporting period and this change in wording is being agreed with the delivery partner (RBG Kew).

**Progress on recommendations from the previous AR (if completed), lessons learned this year and recommendations for the year ahead**

For output indicator 2.1, FRC analysis is underway for the next manuscript to be published. Major big data sets from a soy bolt-on project will be used to double manuscript targets moving forward, meaning the end-of-programme targets are well on track to be met.

Regarding output indicator 2.2, two manuscripts (FRC traceability and pipeline (WFID2) are underway) (March 23), meaning the next milestones are already within reach.

**Project 2b** - **30x30 Evidence Review and Scoping Study**

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

There is no logframe or indicators available for the 30x30 scoping review project as it was an evidence review and scoping consultancy. Planned outputs have therefore been assessed towards the delivery of evidence reviews and scoping studies in support of area-based conservation (30by30) to inform future programming and international policy development.

Throughout the funding period, the project has delivered the following outputs:

* An evidence review with comprehensive background on area-based conservation and features of successful protected areas.
* A report with recommendations on the countries where Defra should invest; the types of activities; and the design of the programme/the way the funding should be structured.
* Deep dives into shortlisted countries (Peru, Ecuador, Colombia, Mozambique and Gabon), with further detail on types of interventions with most potential impact, other related funds in the area, and specific challenges in each country.
* A ToC, which was reviewed by the 30x30 steering group.

The outputs produced by the 30x30 project meet the expectations outlined before the project started. Therefore, in the absence of output-level logframe indicators, an A has been awarded for this project (output met expectation).

Work on this project has concluded so no recommendations have been made for future years.

**Component 3 - Global Centre on Biodiversity for Climate**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | High quality, new operationally-relevant research evidence (what works, where, why and for whom) around the sustainable use of biodiversity, including application to tools/frameworks. | | | |
| Output number: | | A | Output Score: | ***A*** |
| Impact weighting (%): | | 25 | Weighting revised since last AR? | No |

|  |  |  |  |
| --- | --- | --- | --- |
| **Indicator(s)** | **Milestone for 2022/23** | **Achieved March 2023** | **Progress to Milestone** |
| **GCBC logframe indicator 6-** Number of knowledge products produced to support “operational implementation of sustainable biodiversity activities”. | 87 | 95 | Output met expectation. |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

This output aims to capture new GCBC-funded research evidence that is operationally relevant. Evidence products produced under this output should demonstrate the effectiveness of activities that promote and facilitate the sustainable use of biodiversity for climate and provide guidance for how such activities are implemented and in what settings. Examples of products produced under Output A include journal articles on innovative measurement methods for timber tracking and geohazard maps of a disused mine site in the Philippines.

Progress under output A shows the GCBC has met the milestone set at the beginning of the programme (April 2022). The milestone identified is taken from sum of the ‘planned’ knowledge products from all GCBC Phase 1 projects that promised to deliver such products. Knowledge products can include models, frameworks, research products (including submitted peer-reviewed scientific papers) and workshop reports. Please see the below table for a project-level breakdown of knowledge products planned vs achieved.

|  |  |  |
| --- | --- | --- |
| **Project name** | **Planned knowledge products under output A** | **Achieved knowledge products under output A** |
| Nature Transition Support Programme | 4 | 0 |
| NERC LATAM projects (4) | 12 | 17 |
| OneFood | 8 | 12 |
| Environmental Pollution | 22 | 24 |
| Kew TIPAs | 14 | 17 |
| TerraViva | 12 | 12 |
| Bio+Mine | 5 | 5 |
| DEEPEND | 6 | 1 |
| Innovative Seaweed | 2 | 2 |
| Ukraine Timber | 2 | 5 |

The above table shows that the delivery of ‘achieved’ knowledge products did not always match what a project planned, in some cases falling below the milestone and some above. Projects not delivering knowledge products was most common when a project submitted ‘planned’ knowledge products that were scientific publications. The publishing process of these was underestimated in the reporting stage, something that will be communicated as an issue to the GCBC’s MEL supplier when agreeing targets with future grant recipients. The Nature Transition Support Programme has pushed back the completion of its planned knowledge products to the second year of funding due to delivery partner delays.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

This is the first year that this indicator has been reported on and follows the scoping year of the GCBC. Some edits to indicators are expected as the programme team works with the GCBC’s Hub to refine indicators and identify theme-level indicators for future years. Changes will reflect the outcome of the GCBC ToC update process, to be undertaken through a workshop following this annual review.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | High quality, new or strengthened interdisciplinary research networks and partnerships are formed which can address evidence gaps and/or develop tools/frameworks on the sustainable use of biodiversity. | | | |
| Output number: | | B | Output Score: | ***A*** |
| Impact weighting (%): | | 25 | Weighting revised since last AR? | No. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Indicator(s)** | **Milestone for 2022/23** | **Achieved March 2023** | **Progress to Milestone** |
| **GCBC logframe indicator 7-** Number of research partnerships/collaborations either formed or strengthened because of GCBC input. | ~110 | 128 | Output met expectation. |

The GCBC’s Output B looks to examine the extent to which the GCBC has started to form its ‘Global Centre’, by counting the number of research partnerships/collaborations formed or strengthened due to GCBC input. This is an important aspect of the GCBC and activities under this output feed into the outcome and impact level of the programme’s ToC.

Progress towards output B shows that the GCBC has met the planned milestone for this annual review period. Similarly to output A, fluctuations in the end number of partnerships/collaborations were expected due to the high number of projects reporting on this indicator, all with different factors impacting on delivery.

The below table shows a breakdown of the number of research partnerships/collaborations formed or strengthened in each GCBC Phase 1 project that was able to report against this indicator.

|  |  |  |  |
| --- | --- | --- | --- |
| **Project name** | **Research partnerships formed/strengthened under output B** | **Research partnerships formed/strengthened under output B** | **Disaggregated by country/type (private/public/third)** |
| Nature Transition Support Programme | 2 | 4 | Y |
| NERC LATAM projects (4) | >30 | 51 |  |
| OneFood | 19 | 19 | Y |
| Environmental Pollution | 11 | 9 | Y |
| Kew TIPAs | 13 | 18 | Y |
| Bio+Mine | 13 | 5 | Y |
| DEEPEND | 15 | 15 | Y |
| Innovative Seaweed | 2 | 2 | Y |
| Ukraine Timber | 5 | 5 | Y |

Most projects were able to grow their research networks in the manner that they planned, with the main exception of the Bio+Mine project, who found engaging with some partners to be slower than expected and are hoping to identify further potential partners for Year 2. Because of this, an A was awarded for this output, as expectations were mainly met.

For the remainder of the programme, it is expected that individual partnerships formed or strengthened by GCBC input will evolve into a broader network with greater and wider-reaching impacts. The work of the programme’s Strategic Science Lead will address this. Kew are responsible for developing a global network, through which GCBC-funding recipients will be able to share knowledge and findings on their research.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

This is the first year that this indicator has been reported on and follows the scoping year of the GCBC. Some edits to indicators are expected as the programme team works with the GCBC’s Hub to refine indicators and identify theme-level indicators for future years. Changes will reflect the outcome of the GCBC ToC update process, to be undertaken through a workshop following this annual review.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | Translation, communication, and dissemination of new research to relevant stakeholders via appropriate means. | | | |
| Output number: | | C | Output Score: | ***A*** |
| Impact weighting (%): | | 25 | Weighting revised since last AR? | No. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Indicator(s)** | **Milestone for 2022/23** | **Achieved March 2023** | **Progress to Milestone** |
| **GCBC logframe indicator 8-** Number of people and/or teams participating in GCBC led research activities (workshops, communication events, stakeholder engagements, project meetings and other group events). | >2000 | ~3500 | Output met expectation. |

This output aims to assess the translation/dissemination of GCBC-led research activities to relevant stakeholders, including Indigenous People, local communities, academia and to the wider scientific community. Communication/dissemination activities run during this annual review period include capacity building workshops, training courses, presentations and conferences. This output is measured through GCBC logframe indicator 8, which counts the number of people and/or teams participating in GCBC led research activities across all projects.

This output has scored an A. Translation, communication and dissemination of project research was a strong component of GCBC Phase 1 projects, with a wide range of stakeholders engaged in activities. Engagement of local stakeholders by projects that have worked in-country was impressive, demonstrating a genuine interest in GCBC-led activities from the communities in which they operate.

Please see the below table for a breakdown of the number of people and/or teams participating in GCBC led research activities during this annual review period.

|  |  |  |
| --- | --- | --- |
| **Project name** | **Planned (predicted) number of people and/or teams participating in GCBC led research activities (output C)** | **Achieved number of people and/or teams participating in GCBC led research activities (output C)** |
| Nature Transition Support Programme | 2 gateway workshops (no participant numbers predicted) | 405 |
| NERC LATAM projects (4) | Cross project workshop (no numbers predicted) | 474 |
| OneFood | 150+ | 204+ |
| Environmental Pollution | 50-70 | 28 |
| Kew TIPAs | >597 | ~1400 |
| TerraViva | 65 | 119 |
| Bio+Mine | 60 | 403 |
| DEEPEND | ~300 | 303 |
| Innovative Seaweed | 27 | 28 |
| Ukraine Timber | 12 | 18 |
| T&T | 65 | 119 |

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

As this year of funding acted as a pilot year for many Phase 1 projects and logframes were agreed with projects well into their funding period, ‘planned’ numbers of people participating in GCBC led research activities may not have been accurate, with some projects hugely underestimating their level of engagement, or unable to provide an accurate estimate. Additionally, there was a lack of consistency in projects that were able to disaggregate the information collected under this indicator by the required ODA categories (sex, age, disability and geography). Reasons cited for this were GDPR concerns and a lack of warning that this type of data would need to be collected (e.g. dissemination event had already taken place by the time that this requirement on data granularity was communicated). Edits to this indicator are expected as the programme team works with the GCBC’s Hub to refine indicators and identify theme-level indicators for future years. Changes will reflect the outcome of the GCBC ToC update process, to be undertaken through a workshop following this annual review.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | New, high quality, and policy-relevant research evidence on the sustainable use of biodiversity, including application to tools/frameworks. | | | |
| Output number: | | D | Output Score: | ***A*** |
| Impact weighting (%): | | 25 | Weighting revised since last AR? | [If Yes, up or down?] |

|  |  |  |  |
| --- | --- | --- | --- |
| **Indicator(s)** | **Milestone for 2022/23** | **Achieved March 2023** | **Progress to Milestone** |
| **GCBC logframe indicator 9-** Number of knowledge products produced to support “policy implementation/production supporting and mainstreaming the use of sustainable biodiversity activities”. | 21 | 19 | Output was within reasonable range of expectation (see below) |

This output captures new, policy-relevant GCBC-funded research on the sustainable use of biodiversity for climate. This research can have influence on or be applied by policy makers around the world to encourage practices that promote the sustainable use of biodiversity. For example, a seaweed conservation strategy or an advisory report on a food systems concept.

Similarly to Output A, Output D is measured by an indicator that counts the number of knowledge products produced on the above topic. Knowledge products can include models, frameworks, research products (including submitted papers) and workshop reports.

Please see the table for a breakdown of the number of knowledge product planned vs achieved for each GCBC Phase 1 project that reported against this indicator.

|  |  |  |
| --- | --- | --- |
| **Project name** | **Planned knowledge products (output D)** | **Achieved knowledge products (output D)** |
| NERC LATAM projects (4) | ~4 | 2 |
| OneFood | 2 | 2 |
| Kew TIPAs | 3 | 3 |
| TerraViva | 1 | 1 |
| Bio+Mine | 2 | 2 |
| DEEPEND | 3 | 3 |
| Innovative Seaweed | 3 | 3 |
| 3ie | 2 | 2 |
| T&T | 1 | 1 |

Good progress has been made under this output, which has been scored an A. Similarly to other GCBC outputs, small differences in the final number of planned vs achieved outputs are expected due to the large number of projects reporting meaning there is a high chance of issues being encountered or a project over or under delivering. In the case of this output, some projects did not provide a suitably accurate number of ‘planned’ outputs at the start of the reporting period, so a slight underachievement was expected. Therefore, despite the final amount of knowledge products falling slightly below the number expected at the start of the reporting period, this output has scored an A for this annual review.

The figures for knowledge products under this output are significantly lower than the operational knowledge products counted under Output A. This is expected as many of the GCBC Phase 1 projects have been undergoing a scoping year or are otherwise early in their development. Further knowledge products with policy applications will be expected from GCBC projects continuing into their second and third years of funding and from projects that receive future GCBC-funding. Of the five projects that have concluded this year, examples of knowledge products that support policy implementation include a Common Territorial Agenda for a sustainable agriculture landscape in Colombia and a land-use change Evidence Gap Map (EGM) at a global scale. Further details on these can be found [online](https://www.gcbc.org.uk/evidence/).

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

This is the first year that this indicator has been reported on and follows the scoping year of the GCBC. Some edits to indicators are expected as the programme team works with the GCBC’s Hub to refine indicators and identify theme-level indicators for future years. Changes will reflect the outcome of the GCBC ToC update process, to be undertaken through a workshop following this annual review.

**D: RISK**

**Overview of risk management**

The overall programme risk rating has been reduced from ‘moderate’ to ‘low’ to reflect the team successfully addressing some significant delivery challenges. The programme has now successfully procured its Management Lead and Strategic Science Lead to establish the GCBC Hub. The team has also launched its first research grant competition and received completed knowledge products from its Phase 1 ‘fast-track’ projects. The programme’s most significant ‘open’ risks are largely reputational, relating to challenge to the first research grant competition awards. Nonetheless, all residual risk ratings are within overall appetites. As an R&D programme, we are more tolerant of strategic, delivery and operational related risks, but remain alert to safeguarding, fiduciary and reputational risks to reflect our responsibilities as a public sector body.

The table below summarises some of the key risks experienced during the year under review, and the mitigating actions:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Risk Description | Probability | Impact | Rating | Mitigation | Residual rating |
| Delay in finalising the direct award contract. | Medium - 3 | High - 4 | High - 12 | Grant Agreement extended to November to avoid a financing gap, and close working with Commercial colleagues to finalise contract. | Low - 2 |
| Poor programme management partner performance slows prog delivery. | Medium - 3 | Medium - 3 | Medium - 9 | Prog team holding monthly performance meetings. | Low - 2 |
| Kew procurement processes delay engagement of external experts, as a result forecast expenditure might need to move to next FY, when we will have a smaller budget. | Medium - 3 | Medium - 3 | Medium - 9 | Kew completed early engagement with procurement division and will submit procurement plan with clear requirements in August – following this will work through any resulting issues.  Kew updated programme financial forecast in August/September. | Low - 2 |
| Challenge to the grant award process such as commercial action. This could result in having to pause the grant competition leading to less time for the projects to deliver research. This would also be a reputational risk | Very Low - 1 | Low - 2 | Medium - 6 | Support from Defra Commercial to ensure Management Lead follows Cabinet Office rules. | Low - 2 |

The ICF R&D Programme uses a programme risk register to monitor risks, and this is reviewed and updated on a fortnightly basis. GCBC projects regularly update the programme team on their key risks through monthly reporting. Component 2 projects provide an update on their key risks and issues in their quarterly written reports and 6-weekly management calls. The Director/DG-chaired ICF R&D Programme Board reviews progress including on risks and issues on a quarterly basis.

The key risk the programme identified and addressed was delays to onboarding of Kew and DAI Global, and their slower-than-expected internal mobilisation of resources, with consequential impacts for the delivery of the Research Strategy and first grant call release. A mitigation strategy was discussed with Kew and DAI Global and agreed with the ICF Programme Board as the risk owner; this proposed the delivery of an interim Research Strategy to support the first grant call and additional short-term staffing within both Defra and Kew to support delivery of key products during the inception phase (c. January – June 2023). A periodic (approximately 6-weekly) catch up at DG/Director level was set up between Defra and Kew to provide a ready avenue to oversee progress and for escalation as necessary.

The current risk management process works well. Risks such as insufficient capacity, or delivery partner supply chain issues, have been anticipated, recorded, and mitigated in good time: no substantial issues have materialised. The process was changed in Q4 22/23 when the previous programme manager left the role. The new process shares risk management tasks between more team members, which improves visibility and business continuity, and mitigates potential loss of institutional memory.

DAI, the GCBC Management Lead, will manage and mitigate risks for each thematic research area and geographic spoke. They will maintain risk registers and submit monthly and quarterly reports that cover risk to the programme team.

Due diligence

Defra group Commercial conducted commercial due diligence on the GCBC Management Lead, DAI, before the contract was issued. The Department for Energy Security and Net Zero have commissioned a Full Delivery Partner Review of DAI and the programme team will review this once it is shared. DAI is responsible for conducting due diligence on all potential grant recipients from the GCBC’s research calls and for presenting their findings to the programme team before grant agreements are signed. We will review the due diligence approaches to ensure they continue to meet our needs during the programme life cycle.

Safeguarding

Delivery partners and subcontracted parties are obliged to provide a safe and trusted physical environment; an open and supportive culture (with assurance that concerns are handled sensitively and properly); accessible and clear policies, procedures and measures; and clear escalation paths. ICF R&D team members attended ODA Hub’s general and SRO specific safeguarding training in July 2023. The GCBC’s Management Lead, DAI Global, assessed GCBC research grant applicants against safeguarding criteria in its first sift of entries and due diligence on grant winners. DAI is contracted to report on safeguarding risks monthly.

Following the recommendations from an internal audit, the programme plans to strengthen safeguarding (including Sexual Exploitation, Abuse and Harassment) and (separately) clarify research ethics requirements. In order to engage Indigenous People and local communities effectively, we plan on exploring opportunities to partner with local networks and organisations experienced in creating safe ways for women, girls and other excluded groups to participate and express their ideas.

**E: PROGRAMME MANAGEMENT:** **DELIVERY, COMMERCIAL & FINANCIAL PERFORMANCE**

**Summarise performance, notably on commercial and financial issues, and including consideration of VfM measures of economy and efficiency.**

Across the programme, project-level reporting has been timely and of good quality. Reporting requirements are tailored for each project based on previous performance, project size, and complexity of delivery and reporting. Financial reporting has been accurate, with most ‘unexpected’ project variance coming in the last two months of the financial year (this is largely attributable to a lag in the reporting of projects’ resourcing costs). The main sources of programme-level spend variance are delays and changes to, or cancellations of, workstreams. Two examples are the reduction of grant competition frequency for Component 3 and the late cancellation of Phase 1 project AmazonFACE.

For ICF R&D Component 2, the team receives written reports quarterly, including a summary of project progress with RAG rating, a prose update on progress towards deliverables, and a table of risks and issues with RAG ratings and mitigating actions. The programme team provides feedback on these reports in 6-weekly technical calls and 6-weekly management calls. Separately, the programme team receives monthly financial statements that show actuals and a FY forecast by month. Any variance is explained in the written reporting and discussed in the 6-weekly calls.

For GCBC Phase 1 projects, the team receives monthly written reports, including a summary of project progress with RAG rating, a prose update on progress towards deliverables, and a table of risks and issues with RAG ratings and mitigating actions. These reports are accompanied by financial statements that show monthly actuals and a FY forecast by month. Any variance is explained in the narrative reporting.

For some of the seven Phase 1 projects that were offered further funding into FY23/24, the programme team has reduced the financial reporting requirements from monthly to quarterly to reduce the burden for projects with complex delivery chains involving many research institutions. This reduction in reporting is dependent on project spend not deviating +/- 5% from the forecast run rate, and was deemed low risk.

Monitoring of the GCBC’s Hub partners varies. For Strategic Science Lead, Kew, during inception phase, the Defra programme team had weekly update calls to collaborate on and manage deliverables. Reporting after inception phase (c. July 2023 onwards) will comprise monthly written reports with financial reports. Funds are transferred to Kew by Risk and Opportunities so Defra Finance Business Partners have previously had quarterly updates on Kew spend. The programme team has requested quarterly finance reports from July 2023. For the Management Lead, DAI Global: in inception phase (April 23 – June 2023) the Defra programme team had weekly update calls to collaborate on and manage deliverables and performance. DAI’s delivery is assessed quarterly through a dashboard of finances, KPIs, risks & issues (first date August 2023 WC31/7).

The Defra programme team continuously assesses how it can build more effective relationships with the delivery partners. For example, as above, the team has reduced friction in reporting for Phase 1 projects with complex delivery chains. For Component 2, the team has planned to better delineate the roles of ICF R&D Programme team and of the Forest Risk Commodities team project officers, and to devolve management of WFID to Kew, who subcontracted WFID. For the GCBC Hub, the programme team has introduced monthly timetabling calls to check in on deliverables more frequently than stipulated in the management lead’s contract, aiding collaboration and delivery.

The programme team has had regular support from Commercial colleagues, with regular check-in calls. The significant commercial challenge of procuring the GCBC Management Lead and producing the requisite ‘Invitation to Tender’ pack, has cemented a proactive collaborative relationship between the teams.

Table comparing business case allocation with actual programme costs/forecasts

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2020/21** | | **2021/22** | | **2022/23** | | **2023/24** | |
| **Component costs** | | **BC** | **Actual** | **BC** | **Actual** | **BC** | **Actual** | **BC** | **Forecast** |
| **1a. Measuring the impact of aid on nature & identifying ‘best buys’** | | £343,696 | 339,469 | £198,532 | 198,310 | £0 | - | £0 | - |
| **1b. Scoping and intervention analysis for future ICF programming** | | £230,694 | 122,164 | £140,000 | 145,210 | £0 | - | £0 | - |
| **2a. Tackling illegal deforestation** | | £443,128 | 198,035 | £840,000 | 974,766 | £420,000 | 1,518,177 | £400,000 | 1,176,521 |
| **2b. Strengthening monitoring, reporting and verification:** | | £0 | - | £430,000 | 560,695 | £200,000 | 298,578 | £190,000 | - |
| **3. Establish a Global Centre on Biodiversity for Climate** | **of which fast-track projects** | £0 | - | £900,000 | - | £15,380,000 | 9,690,316 | £19,410,000 | 8,284,438 |
| **of which Hub costs** | - | - | 75,626 | 1,377,040 |
| **of which research grants** | - | - | - | 1,924,069 |
| **Evaluation** | |  | - | £85,000 | - |  | - |  | - |
| **Programme total** | | **£1,017,518** | **659,668** | **£2,593,532** | **1,878,981** | **£16,000,000** | **11,582,697** | **£20,000,000** | **12,762,068** |

**Value for Money**

As identified in the programme’s business case, quantitative evaluation of research and development programmes can be challenging. Pathways from funded research through to development impact are generally complex and indirect. High-level principles assert that research and development can achieve Value for Money (VfM) through ensuring: research areas that address evidence gaps and stakeholder/audience needs are selected; they are delivered by strong partnerships; there is a high standard of research; tight programme management; effective commercial approach and shared learning – which we seek to achieve through our management of the programme.

VfM evaluations are partly based on information such as that in the above table, which compares the business case’s forecast with actuals and updated forecasts. A simple summary including future years is included below. Though this anticipates an underspend, this is primarily due to agreed structural changes affecting delivery timelines. While we judge it is too soon to make a definitive judgement of programme VfM (see summary below), we are confident the programme is on track to meet economy, efficiency, effectiveness and equity criteria.

**Economy**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| £m | 20/21 | 21/22 | 22/23 | 23/24 | 24/25 | Total |
| BC programme allocation | 1.02 | 2.59 | 16.0 | 20.0 | 12.0 | 51.6 |
| Actual costs & current forecasts | 0.660 | 1.88 | 11.6 | 14.0 | 12.0 | 40.1 |

As set out in the business case, the programme team follows processes to ensure that it spends economically. Monthly risk reporting requires delivery partners to monitor fraud risks. Fast-track projects under Component 3 and Component 2b, are paid in arrears based on pre-agreed outputs. For project 2a, delivery partner RBG Kew is paid through the Risk & Opportunities process: any deviation in agreed spend is flagged to Defra Finance Business Partners quarterly and any money not spent as agreed is returned to Defra at the end of the financial year. While the first round of GCBC research competition projects have not begun, the management lead procured to administer the disbursements, DAI Global, has been contracted to ensure that: no payments are made in advance on need; claims for payment must include evidence of spend and evidence of agreed outputs; any money clawed back from a project is returned to Defra in 10 working days; and all GCBC work is managed in line with HMG’s Managing Public Money guidelines. DAI Global is paid quarterly in arrears based on fixed core deliverables set out in the specification, and on agreed variable costs that reflect the size and complexity of each grant competition. The inclusion of variable costs ensures that DAI only bills for resource used and that the programme team has leverage in the monthly performance management meetings.

The detailed table above shows that during the AR period, the allocation and spend for Component 2 were greater than anticipated in the business case; this was due to early or additional work. For Component 2a, this additional work was an expansion of RBG Kew research beyond timber to include forest risk commodities. Over the review period, this additional work has delivered in line with expectations (outputs rated A+ and A). For Component 2b, the increase in FY22/23 spend—and lack of allocation in FY23/24—reflect that work was brought forward. Under the revised terms, the work was delivered in line with expectations before this review period (see AR2). For Component 3, though spend on the Hub in FYs22/24 is within the bounds of the 10-15% total budget cost set out in the business case, the ‘hub and spoke’ model did not start in FY22/23 as anticipated. The FY22/23 spend on fast-track projects is comparable to the anticipated £5-8m spend per research ‘spoke’ set out in the business case.

Although the programme spend is not on track against the figures in the business case (since structural changes were made that affected timing of programme activities) it can be concluded that the quality and economy of what has been delivered under component 3 (GCBC) is commensurate with that planned in the business case.

The above tables compare the FY allocations approved in the business case with actual spend and revised FY forecasts. Between 2020-2025, the programme team anticipates spending c.£11.5m less than the business case allocation of £51.6m. This is due to two factors. Firstly, the programme team successfully requested a ‘reapportioned’ extension to the business case, extending the programme’s £51.6m allocation until 31 March 2027. This change was made to offer longer (36 month) research grants to winners of the GCBC’s grant competitions, which makes the programme competitive with comparable R&D programmes and gives researchers enough time to carry out more complex research. As a result, not all the initial business case allocation will be spent before 31 March 2025. The second factor is underspend in FY22/23 during the review period. Procuring and establishing the GCBC Hub took longer than anticipated, which delayed the start of spend on research grant competitions. The programme team mitigated the delays to research and spend by commissioning direct award ‘fast-track’ research projects. There were respective delays to mobilisation of some fast-track projects, particularly where there was need for buy-in from partner governments and local institutions. Delays to research while incurring programme team resource costs could suggest worse economy than that set out in the business case.

**Efficiency**

Considering the variations in activity and timelines outlined above, the cost of producing programme outputs is on par with that anticipated in the business case. The A+ and A scoring of Component 2a’s FRC project demonstrates that the programme delivered high quality outputs proportionate to the expenditure. In Component 3, though the research grant competition didn’t take place, the team ensured that c.10 research projects delivered four outputs at ‘A’ grade. In terms of outputs expected in the business case, Component 2b delivered reviews and studies as anticipated (see AR2); RBG Kew is on track to deliver its reference libraries; and the GCBC has started to deliver its range of evidence products. In summary, adaptive changes over the review period are evidence that programme outputs have been delivered to a high quality within the budget, and therefore efficiency of the programme is strong.

**Effectiveness**

On a programme level, with the exception of the NbS data previously delivered by Component 2b, it is too early to assess whether outputs have led to envisaged outcomes. However, Component 2a’s work is on track to deliver data and analyses to protect and restore forest cover; and the GCBC is on track to deliver data, policies, practices, and investment strategies that deliver inclusive climate resilient poverty reduction through conservation and sustainable use of biodiversity. ￼ Component 2a has created a reference collection of over 4000 samples (Output Indicator 1.1) and published 10 scientific papers (Output Indicator 2). GCBC funded projects delivered 95 knowledge products that improve operation and implementation of sustainable biodiversity activities (Indicator 6), and 19 knowledge products that support policy implementation of sustainable biodiversity activities (Indicator 9).

**Equity**

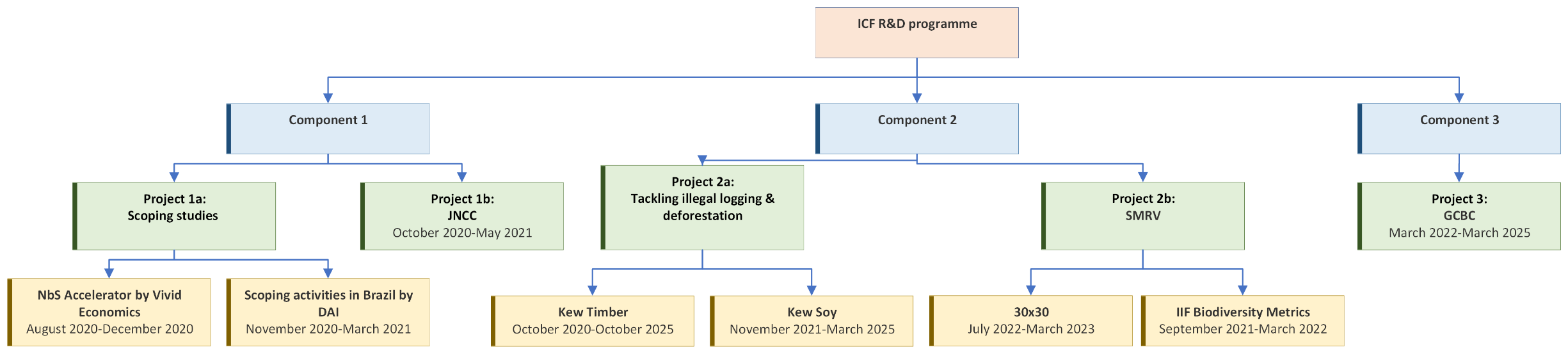
As in the original business case, equity monitoring is integrated into GCBC projects’ reporting. Projects are required to disaggregate information against output indicator C (the number of people participating in GCBC-led research activities) by the four main ICF categories: sex, age, disability, and geography. As much of the reporting for the review period took place once fast-track projects had conducted activities, we cannot assess this information across the whole programme.

For Component 3, DAI will work with GCBC grant recipients to track Gender Equality and Social Inclusion (GESI) data more effectively in future years, with prospective principal investigators required to outline how they will collect data against output indicator C, and their organisation’s commitment to GESI principles. DAI itself is committed to GESI principles as evidenced in its Diversity, Equity, Engagement, and Inclusion plan. GESI is a high priority for the programme. We will use such data to draw conclusions on the GCBC’s equity at a project and programme level and prioritise addressing inequalities where they are present. Presently there is not enough information to assess the equity of the ICF R&D Programme and its delivery partners.

**Summary**

It is too soon to assess VfM at programme level (but this will be increasingly feasible as we receive project outputs). Acknowledging changes to planned work, economy is commensurate with that envisaged in the original Business Case. Despite delays to some components, overall effectiveness has been maintained. Fast-track changes—made to mitigate delays and to pursue additionality—are evidence that efficiency of the programme has slightly increased. The equity assessment is inconclusive but there is a clear plan to uphold GESI principles and to collect data to assess the team’s performance.

**Appendix A: Overall ICF R&D Programme structure**



**Appendix B: Annual Review 3 Detailed Output Scoring**

The overall programme score, A, was calculated through the method shown below (weighted scores were calculated using C=1, B=2, A=3, A+=4, A++=5, with weightings being calculated from total funding per component and with final scores being the weighted score rounded to the nearest whole score).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Project** | **Output no.** | **Output weighting** | **Score** | **Score description** | **Project weighted score** |
| 30x30 scoping | N/A | 100% | A | Output met expectation | A (3) |
| Kew Timber | 1- Reference collection | 30% | A | Output moderately exceeded expectation | A (2.6) |
| 2- Scientific data acquired | 30% | A | Output met expectation |
| 3- Collaborations with OPSS | 20% | B | Output moderately did not meet expectation |
| 4- Leveraging of matched funding | 20% | B | Output moderately did not meet expectation |
| Kew FRC | 1- Soybean and cocoa reference collections | 60% | A+ | Output moderately exceeded expectation | A+ (3.6) |
| 2- Scientific data acquired | 40% | A | Output met expectation |
| GCBC | 1- Operationally-relevant research evidence | 25% | A | Output met expectation | A (3) |
| 2- Interdisciplinary research networks and partnerships | 25% | A | Output met expectation |
| 3- Dissemination of new research | 25% | A | Output met expectation |
| 4- Policy-relevant research evidence | 25% | A | Output met expectation |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project** | **Funding FY 21/22-22/23 period (£)** | **Weighting** | **Score** | **Overall programme weighted score** |
| 30x30 scoping | 298,578 | 2.59% | A (3) | A (3.041) |
| Kew Timber | 437,345 | 3.79% | A (2.6) |
| Kew FRC | 1,080,832 | 9.36% | A+ (3.6) |  |
| GCBC | 9,729,942 | 84.26% | A (3) |  |

**Appendix C: ICF R&D Programme Theory of Change**

A diagram of a company's flowchart

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**Appendix D: GCBC Theory of Change and Assumptions**

**A close-up of a document

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**A screenshot of a phone

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**Appendix E: Project Overview**

The table below provides information on the first-year projects funded by GCBC for the financial year 2022-2023, including their operating countries, lead delivery partners and thematic areas of focus.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project** | **Overview** | **Countries** | **Lead Delivery Partner(s)** | **Themes** |
| Environmental Pollution | Aims to reduce biodiversity loss, climate change and human health impacts by tackling pollution and its effects in low- and middle-income countries. | South Africa, Vietnam | Environmental Pollution (Defra); JNCC (The Joint Nature Conservation Committee); GAHP (The Global Alliance on Health and Pollution) | Pollution |
| One-Food | To develop a risk analysis tool that systematically maps data to calculate the impact of complex hazards interacting with the whole food system to demonstrate how hazard control creates benefits in terms of yield, profit, trade, and biodiversity protection in environments where food production occurs to enable more climate-efficient food sectors. | South Africa | One Food (Defra); APHA (Animal and Plant Health Agency); CEFAS (Centre for Environment, Fisheries and Aquaculture) | Food Systems |
| Ukraine Timber | In light of the Russian invasion of Ukraine, and the opportunity for Russia to finance the war or subsequent occupation through sales of illegally harvested Ukrainian timber, this project seeks to build on existing voluntary measures, punitive tariffs, and sanctions on the direct trade of timber with Russia to make it harder for Russia to circumvent these measures. At present the reference library lacks samples of timber from Ukraine and neighbouring countries, so this project will address this gap.  This will build on existing due diligence work already underway between Defra, Kew and WFID which is currently building a reference library to be used to identify the origin of timber and timber products. | Main timber sample collection areas: Ukraine and Belarus  Additional timber samples also taken from: Finland, Estonia, Latvia, Lithuania, Poland, Slovakia, Hungary, Romania, Croatia and Moldova | WFID (World Forest ID); Kew | Restoration/ Conservation Solutions |
| Transparency and Traceability of Forest Risk Commodities | This research will form a UK contribution towards the FACT dialogue (COP26 commitment) which aims to raise awareness for and propose improvement to promote good traceability and transparency systems for Forest Risk Commodities (FRCs). | Desk-based | WRI (World Resources Institute) | Governance for Nature Positive Transitions |
| Nature Transition Support Programme | To help identify priorities to change countries’ development path, from the dominant model of unsustainable development which neglects its ecological foundations, to a model which recognises that the economy is embedded within nature, and therefore reflects that nature is a critical component of the nation’s wealth. | Columbia, Ecuador | UNEP WCMC (United Nations Environment Programme World Conservation Monitoring Centre) | Governance for Nature Positive Transitions |
| Sustainable Agriculture – Living Laboratory | TerraViva Colombia is a living laboratory project being piloted by the Sustainable Agriculture Network. It is a collective impact initiative that aims to restore biodiversity, improve carbon-efficiency, and build sustainable coffee landscapes in Colombia. | Columbia | Sustainable Agricultural Network | Food Systems; Pollution; Nature Finance; Governance for Nature Positive Transitions; Restoration/Conservation Solutions |
| Biodiversity positive mining for the net zero challenge (Bio+Mine) | Bio+Mine focuses on the Sto. Niño copper mine (Philippines) where a negative legacy exists from the current mine. This programme will assess the current legacy issues, and with the local community, co-devise a programme of intervention that mitigates the problems, recovers valuable metals for renewables whilst neutralising problematic components. | The Philippines | NHM (Natural History Museum) | Food Systems; Infrastructure/Urbanisation; Pollution; Governance for Nature Positive Transitions; Restoration/Conservation Solutions |
| DEEPEND: Deep Ocean resources and biodiscovery – enabling a sustainable and healthy low-carbon future | To develop a long-term project to understand the true value (societal and economic) of biodiversity in deep-sea regions at risk from mining and climate change. | Pacific Small Island States (Kiribati) | NHM (Natural History Museum) | Governance for Nature Positive Transitions; Restoration/Conservation Solutions; SIDS |
| Innovative seaweed aquaculture: a nature-based solution for biodiversity restoration and poverty alleviation in a time of accelerating global climate change | To develop an evidence-based programme of introducing temperature-resilient seaweed cultivars, in collaboration with indigenous seaweed farming communities in Malaysia, to enhance the climate resilience of cultured stocks. | Malaysia | NHM (Natural History Museum) | Food Systems; Nature Finance; Governance for Nature Positive Transitions; Restoration/Conservation Solutions |
| Realising the potential of plant bioresources as nature-based solutions in African biodiversity hotspots: Supporting climate resilient sustainable development | This project enables transformational change by accelerating Kew’s efforts to identify and characterise high-value plant biodiversity hotspots, and pathways to develop bioresources within them. | Ethiopia, Guinea, Sierra Leone | RBG Kew (The Royal Botanic Gardens, Kew) | Food Systems; Infrastructure/Urbanisation; Nature Finance; Restoration/Conservation Solutions |
| Trialling an incentive mechanism for agrobiodiversity conservation | To pioneer a novel, cost-effective conservation incentive mechanism that rewards farmers for maintaining agrobiodiversity and specifically targets the recovery of declining crop species and landraces (e.g., yams, enset). In turn, by enhancing livelihoods we hope to strengthen local farmers’ roles as custodians of indigenous forest and reduce rates of destructive exploitation of wild plants. This approach will deliver co-benefits for poverty reduction, agricultural resilience and avoided deforestation. | Ethiopia | RBG Kew (The Royal Botanic Gardens, Kew) | Food Systems; Infrastructure/Urbanisation; Nature Finance; Restoration/Conservation Solutions |
| ARBOLES - A trait-based Understanding of LATAM (Latin American Biodiversity Programme) Forest Biodiversity and Resilience | To advance understanding of the biodiversity of South American forests and their sensitivity to climate change and direct anthropogenic degradation. | Argentina | NERC UKRI | Food Systems; Restoration/Conservation Solutions |
| CONTAIN - Optimising the long-term management of invasive species affecting biodiversity and the rural economy using adaptive management | To develop and apply dynamic ecological-economic models to predict the efficiency of Invasive Alien Species (IAS) management interventions in relation to biodiversity conservation, climate change, and sustainable livelihoods. | Argentina, Brazil | NERC UKRI | Food Systems; Restoration/Conservation Solutions |
| SURPASS2 - Safeguarding Pollination Services in a Changing World: theory into practice | To establish biodiversity status and trends at the interface of intensive agriculture (e.g., soybean, maize) and the Pampa plain and Northwestern Chaco forest, to inform nature-based solutions for sustainable multifunctional and climate resilient production systems.  To assess impact of land conversion and deforestation on biodiversity and the climate (emission and carbon sequestration) in one of the fastest advancing deforestation frontiers (rate of 300K ha per year), working with local communities and across sectors to halt ongoing deforestation and conversion to agriculture. | Argentina | NERC UKRI | Food Systems; Restoration/Conservation Solutions |
| KELPER2 – Impacts of kelp harvesting for marine biodiversity and ecosystem services | To explore drivers reducing the resilience of kelp forests (and their blue carbon potential) to different harvesting regimes to improve livelihoods, protect biodiversity and promote climate change resilience. | Peru | NERC UKRI | Food Systems; Restoration/Conservation Solutions |
| 3ie- Investing in Impact Evaluation | Understanding what works in conservation, climate and development interventions, why, for whom, under what circumstances and at what cost is critical to ensuring effective evidence-based decision making. | Global south (desk-based) | International Initiative for Impact Evaluation, Inc | Restoration/Conservation Solutions |

## Annex A:

## Annual Review 2

|  |  |  |
| --- | --- | --- |
| **Title: International Climate Finance (ICF) Research and Development Programme Annual Review 2** | | |
| **Programme Value £ (full life):** £51.6m | | **Review date:** August 2021 to July 2022 |
| **Programme Code:** [ICF-PO011 R&D] | **Start date:** April 2020 | **End date:** March 2025 |

Summary of Programme Performance

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | **AR 1** | **AR 2** | **AR 3** | **AR 4** | **AR 5** |
| Overall Output Score | **B** | **B** |  |  |  |
| Risk Rating | **Moderate** | **Moderate** |  |  |  |

|  |  |
| --- | --- |
| DevTracker Link to Business Case: | **The Business Case is on DevTracker** [**here**](https://statics.teams.cdn.office.net/evergreen-assets/safelinks/1/atp-safelinks.html)**.** |
| DevTracker Link to results framework: | LogFrames for projects can be found on [DevTracker](https://devtracker.fcdo.gov.uk/projects/GB-GOV-7-ICF-P0011-RD/documents) |

**A. SUMMARY AND OVERVIEW**

**Programme description**

The International Climate Finance Research and Development (ICF R&D) Programme Business Case sets out the delivery of **three main components of the programme** and several associated **projects**, which are summarised below:

Table 1: Summary of projects by component. Those in blue are reviewed in AR2

|  |  |  |
| --- | --- | --- |
| **Component** | **Project** | **Sub Project Name** |
| Component 1: Evidence to inform policy and design of international climate finance: Evidence for policy and programming | * Project 1a: Measuring the impact of aid on nature & identifying ‘best buys’ | * ICF evidence project |
| * Project 1b: Scoping and intervention analysis for future ICF (‘ICF3’) programming | * Scoping Study for Nature-based Solutions Accelerator programme * Scoping Activities for future Defra (ICF) programming in Brazil (completed) |
| Component 2: Evidence to strengthen operational delivery of Nature Based Solutions (NbS) policies and programmes: Driving innovation in forest protection and enforcement monitoring | * Project 2a: Tackling illegal logging and deforestation | * “Kew Timber” – developing a reference library of timber samples to deter illegal deforestation * Kew Forest Risk Commodities – developing a reference library of commodity samples to deter illegal deforestation |
| * Project 2b: Strengthening monitoring, reporting and verification | * 30x30 Protected Areas Evidence Review and Scoping Project * Sustainable Agriculture Biodiversity Metrics project * Nature Positive Transition Support Programme - Phase 1 |
| Component 3: Build the long-term evidence base | * Project 3: Establish a Global Centre on Biodiversity for Climate (GCBC) | * Various (see Appendix B below) |

The ICF R&D Programme aims to deliver an integrated package of projects to strengthen global knowledge and understanding of the interrelationship between climate change, biodiversity loss and poverty. It is intended to generate the evidence needed by policy developers and development practitioners to scale up natural solutions and increase their effectiveness in tackling this triple challenge. The programme is designed to deliver both short and longer-term evidence needs, including to support delivery of commitments under the United Nations Framework Convention on Climate Change (UNFCCC) and Convention on Biological Diversity (CBD) including the Kunming-Montreal Global Biodiversity Framework (GBF) Targets, focusing on delivering strategic, policy-relevant results and a global network of knowledge exchange and learning.

**Overview of Key Developments**

Since the last Annual Review (‘AR1’), key elements of Components 1 and 2 have been developed and there has been a revision of plans for Component 3 following early market engagement and initial scoping work. This has led to adjustments in the scale and scope of Component 3, previously referred to as the Global Centre of Excellence (GCoE) and now renamed the Global Centre on Biodiversity for Climate (GCBC). These adjustments were set out in the amended Business Case, resulted in the programme gaining Treasury approval for an uplift in funding to a total of £51.6m (increased from £9m) up to the end of FY 24/25. To support this work, a GCBC-specific Theory of Change (ToC) was developed in order to guide that project towards its desired impact and outcomes.

**Summary of progress and performance in the past year**

Project progress towards outcomes and output indicators was generally positive. The GCBC presented ongoing mobilisation challenges which resulted in delays to the original timeframe as set out in the amended Business Case. However, significant progress has been made during the Annual Review 2 (‘AR2’) timeframe in the face of complex, ongoing risk and issue management.

Following recommendations from AR1:

* In November 2021, a governance structure was initiated in order to facilitate senior decision making and risk escalation for the ICF R&D programme. The Programme board met six-weekly to oversee GCBC mobilisation with a view to falling back to quarterly meetings in due course. The board is chaired at DG/Director level with senior colleagues across Defra and FCDO, including commercial representation.
* A financial tracker has been created to accurately track budget, forecast and actuals for each project, underspend and real-time tracking against business case allocation.

The elements of the Business Case that will be reviewed as part of this AR are shown in column 3 of Table 1. There were five main projects that took place alongside the scoping and mobilisation of the GCBC and its associated ‘first-year’ projects. There was one other project that was commissioned under the ICF R&D Programme during the timespan covered by this AR. This was the Nature Positive Transition Support Programme Phase 1: Country Assessments (delivery partner: UNEP-WCMC).

While activities under Component 2b’s 30x30 project and Component 3 (GCBC) did take place during the AR2 period (August 2021-July 2022), no outputs were delivered during this period. Therefore, while an update on progress has been provided at the start of this annual review, these projects will not undergo output scoring. This will take place within Annual Review 3 (‘AR3’).

**Programme scoring**

The overall score for the ICF R&D Programme in this review period is B. Component 3, the Global Centre on Biodiversity for Climate (GCBC) which constitutes the bulk of the programme’s funding was not able to be scored and is stated to be “off track” overall. Therefore, although the output scores detailed in Appendix A scored an “A”, this is based on the minority of the overall programme (Component 1 and 2) and is not a fair representation of the overall programme for 2021-22.

**Major lessons and recommendations for the year ahead**

|  |  |
| --- | --- |
| **Lessons Learnt** | **Recommendations** |
| Differing processes and authorisation structures in RBG Kew and Defra occasionally delayed project delivery, particularly early on as regards agreeing MoUs, contract implementation, fund transfers, payments, and resource hires. | Build extra time into programme and specific project planning (e.g. Gantt charts) when onboarding delivery partners. |
| This annual review was completed in retrospect due to competing pressures on the under-resourced programme team at the time. As a result, some sections of this review are limited due to limitations on the amount of information available. | To develop an annual review workstream and allocate sufficient resource on the team to split tasks. To prevent gaps in knowledge, make sure team members leave detailed handover notes and audit trails. |

## B: THEORY OF CHANGE AND PROGRESS TOWARDS OUTCOMES

## Please see Appendix C in Annual Review 3 (page 27) for the ICF R&D Programme’s Theory of Change.

The ICF R&D Programme Theory of Change (ToC) posits that by tackling some of the key evidence gaps and learning around the application of NbS, for which there is a lesser body of evidence than in some other areas of international climate finance, we can unlock the potential to deliver more effective policy and programmes with stronger outcomes for people, nature and climate.  The activities set out in the ToC are divided into three main component areas with subsequent sub-projects within them where relevant. These are “P1: Laying the groundwork for ICF 3.0 – helping to scope the £3bn for nature”, which is focused on building the global evidence base to inform future design of UK ODA programming on nature between 2021/22 and 2025/26; P2: Driving innovation in forest protection and enforcement monitoring to unlock better quality data on nature to support policy and programme implementation; and P3: Establish a Global Centre of Expertise on NbS to address critical evidence gaps in the application of nature-based solutions.

The programme level ToC was developed on the basis of a number of assumptions:

1. Data is available for systematic reviews.
2. Where data is not currently available, methodology exists to collect reliable primary data.
3. Decision-makers in low- and middle-income countries, including international partners, will be willing and able to use evidence to guide decision-making.
4. Countries will maintain and continue to use the data/valuations in their national planning after the programme has finished.
5. The evidence products produced are replicable and applicable to specific geographies and policies.
6. Momentum for NbS continues beyond 2020.

These assumptions will be revised with the delivery partners for each component and used to shape the logframe. The logframe and ToC will be revised and updated annually to reflect any changes to the programme and to test whether assumptions or pathways to impact are still valid.

Within the programme a separate ToC has been developed for the GCBC, which is included at Appendix D of Annual Review 3 (on page 28). This GCBC ToC was developed to map out how the project’s desired change, positive impacts for climate change, poverty alleviation and improved ecosystem resilience is expected to come about. The key long-term outcome identified to achieve this is an increase in investment (both public and private) in climate resilient development via the sustainable use of biodiversity. The intermediate programme outcomes that will be delivered during the GCBC’s period of operation are twofold: to have created a robust new evidence and knowledge base on the sustainable use of biodiversity that leads to positive impacts on climate change and poverty, and to have facilitated an increase in interdisciplinary work and knowledge sharing that continues after the programme’s lifetime, through the creation of a ‘Global Centre’. The outputs required to lead to these outcomes are evidence products that are either operationally relevant or policy relevant around the sustainable use of biodiversity for climate. The formation of individual research partnerships and creation of effective dissemination tools will seek to build the GCBC’s network.

The activities undertaken by the GCBC to bring about the change mapped out above include the development of a Research Strategy that will identify key evidence needs that will be addressed through a series of research grant calls. This is one of the tasks envisaged by the ‘Hub’ the entity/ies responsible for managing the GCBC. Synthesis and dissemination of data and learning and the facilitation of network formation are further responsibilities of the Hub partners.

**Describe where the programme is on/off track to contribute to the expected outcomes and impact. What action is planned in the year ahead?**

Project 1a) ‘Measuring the impact of aid on nature and identifying “best-buys’’: closed. No further activity has been undertaken as the project concluded in 2021.

Project 1b) ‘Scoping and intervention analysis for future ICF programming’: on track. The scoping project to look at the strategic opportunities for engaging on nature in Brazil has been completed. The project achieved its objectives and generated valuable research. Next steps for the project will be to make sure that the learnings from this research are being applied to guide programme planning for nature and ICF in Brazil.

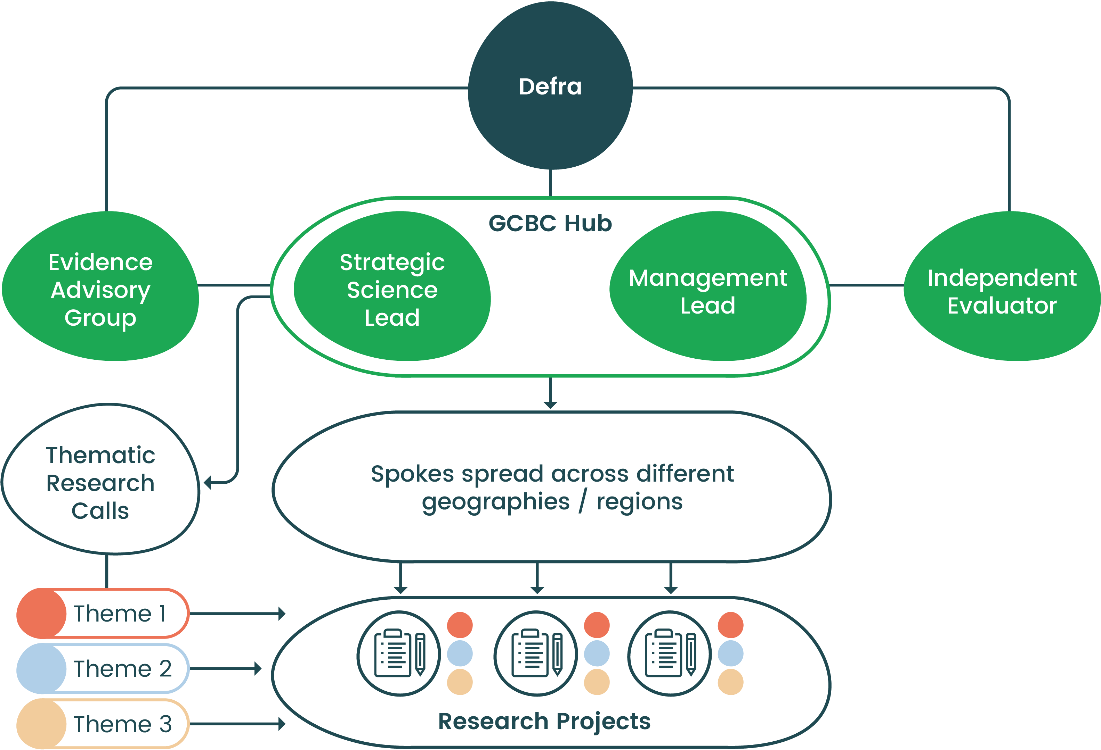
Project 2a) Tackling illegal logging and deforestation: on track.

*Driving innovation in forest protection and enforcement monitoring. Tackling illegal logging: creating a timber reference library to support enforcement.* The Royal Botanic Gardens, Kew (Kew), as delivery partner, are analysing and cataloguing timber samples from DAC list countries to facilitate the creation of a timber reference library to allow for future enforcement activities related to timber imports to deter illegal logging and support more sustainable commodity supply chains. The project is on track to reach 2000 subsamples by September 2022.

*World Forest ID Non-Timber Forest Risk Commodity Science-based Traceability:* RBG Kew have developed sampling methodologies for soy and cocoa and sampling missions have commenced.

Project 2b) Strengthening monitoring, reporting and verification: on track. Through this component, two projects have been commissioned: i) 30x30 Protected Areas Evidence Review and Scoping Project and ii) Sustainable Agriculture Biodiversity Metrics project. The 30x30 delivery is on-track as per milestones, but as the majority of this project will deliver during the next annual review period, it will be covered in more detail in AR3. The Impact Investment Funds (IIF) Biodiversity Metrics project has also delivered on its outputs, a briefing session has been held with managers of Defra’s impact investments and with the ClimateShot Investor Coalition (CLIC) established by the UK at COP26, and we are exploring further opportunities to use the evidence to support the adoption of stronger biodiversity metrics in agriculture.

Project 3) Establish a Global Centre on Biodiversity for Climate (GCBC): off-track. During the early months of this reporting period, the focus of activity was on establishing the governance arrangements for the GCBC including the ‘hub and spoke’ structure and roles and responsibilities of various entities required to successfully deliver the outcomes envisaged (see Figure 1). As identified in the Business Case, the preferred option for delivery of the ‘hub’ was Kew. As the hub role was scoped in more detail with Kew, it became clear that additional expertise would be required and the decision to split the hub role into a Strategic Science Lead (undertaken by Kew), and Management Lead (to be procured) was taken. The timeline for establishing the hub has therefore extended. Alongside this activity, scoping work was commissioned from the Joint Nature Conservation Committee (JNCC) on potential areas of thematic focus for the GCBC (see Appendix C). The Programme Board agreed to test these themes and the GCBC concept through a number of pilot ‘Phase 1’ projects started during Q1 and Q2 of FY 22/23.



*Figure 1:* Hub & Spoke model of delivery for the GCBC

The Hub & Spoke model comprises:

* **The ‘Hub’**: to commission and co-ordinate research and development activity. The Hub will ensure strategic coherence of research, procurement, research quality, and uptake. As outlined above, it will comprise a Strategic Science Lead to provide science advice to guide the delivery of the GCBC, and a Management Lead to oversee the grant competitions and manage the relationship with delivery partners. We are currently looking to appoint Kew to the role of Strategic Science Lead, for which Defra Group Commercial (DgC) has been leading the initiation of an MoU, and to undertake a procurement exercise for the Management Lead.
* **Research Consortia (‘spokes’)**: world-leading developing and developed country experts delivering high impact research, data and evidence in thematic areas such as agri-food systems, forests, ecosystem restoration, pollution, urban environments, and cross-cutting areas such as finance, trade, monitoring systems and impact evaluation. We have commissioned the JNCC to undertake initial work to identify potential themes to test during the pilot phase of the GCBC, with themes to be further developed by the Strategic Science Lead in due course.
* **Evidence Advisory Group (EAG):** The EAG is a senior-level evidence advisory group who will provide strategic evidence, scientific and analysis input and guidance to the programme, reporting into Defra on its strategic direction and outputs and acting as a filter for quality assurance. The EAG will be set up by the end of the 22/23 FY and will be made up of external evidence experts.

**Pilot ‘Phase 1’ projects (GCBC)**

A suite of pilot projects was identified in order to test the concept of the GCBC and potential themes identified by JNCC with a view to informing the wider rollout of the GCBC and first grant competition. Most of these commenced in Q1 and Q2 of FY 22/23 and therefore will largely be reviewed in AR3. Annex B provides an overview of the projects which started within this annual review period of August 2021 to July 2022.

## C. DETAILED OUTPUT SCORING

Within this annual review period, only the Kew Timber and Kew Non Timber Forest Risk Commodities projects have reported against logframes. These have been developed since the ICF R&D Programme’s first annual review. For other, smaller, projects reported on during this period that are without a logframe, we have assessed the planned outputs agreed at the start of the project. The GCBC project is not assessed during this annual review, as little project work has started at the output level; however, the programme has required all GCBC pilot ‘Phase 1’ projects to develop logframes and ToCs as part of the enhanced governance and reporting to underpin future GCBC reviews of progress. The GCBC project will be scored at the output level in AR3.

**Project 1b) Brazil Scoping Study, DAI**

There is no logframe or indicators available for the ‘Brazil Scoping Study’ project run under the ICF R&D Programme. The outputs against which this project was reporting are:

1. Inception Phase and Report (10 pages)
2. Mid-term review / Initial Findings Summary Report
3. Political Economy Analysis (PEA) Report with executive summary
4. Paying for Nature Report with executive summary
5. Donor activities and Partnership Opportunities report (10 pages)
6. Revised Reports and Final presentation to Defra

The outputs produced by the Brazil Scoping Study met the expectations outlined before the project started. Therefore, in the absence of output-level logframe indicators an A has been awarded for this project (output met expectation).

Work on this project has concluded so no recommendations have been made for future years.

**Project 2a) Tackling illegal logging and deforestation - Kew Timber Project**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | Reference collection built to required standards, coverage and size to enable expansion and innovation of authentication technologies and reference database construction. | | | |
| Output number: | | 1 | Output Score: | ***B*** |
| Impact weighting (%): | | 30 | Weighting revised since last AR? | No |

|  |  |  |
| --- | --- | --- |
| **Indicator(s)** | **Milestone(s) for this review** | **Progress** |
| **1.1 -**Collection size. | 2400 samples by March 2022 | 1678 to date |
| **1.2 -**Subsample supply. | 2000 by September 2022 | 1459 to date |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

Kew did not reach 2400 samples by March 2022, but expect to reach the next milestone of 4800 subsamples by end of project year 2023/24. Additionally, Kew are not on track to reach 2000 subsamples by September 2022. This is due to high staff turnover during the reporting period leading to a prioritisation of Kew Forest Risk Commodity samples over Timber samples. As Kew have not met the set milestone for output indicator 1.1 and 1.2, a score of B has been awarded for this output.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

There are no changes foreseen to this output.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | Scientific data acquired using the WFID at Kew collection to drive scientific progress and innovation in authentication, with reduction of sampling costs. | | | |
| Output number: | | 2 | Output Score: | ***A*** |
| Impact weighting (%): | | 30 | Weighting revised since last AR? | No |

|  |  |  |
| --- | --- | --- |
| **Indicator(s)** | **Milestone(s) for this review** | **Progress** |
| **2.1-** Technical advances in use of DART TOF MS, SIRA, wood anatomy as techniques for timber authentication by wider WFID consortium, supported by developments in AI and genomics as indicated by academic publications. | 2 publications by end 2021/22 | Six manuscripts have been published (see Da Silva et al. (2022) in Plant Methods; Deklerck et al. (2021) in Plant Methods; Price et al. (2021, 2022) in IAWA Journal and FSI; and Watkinson et al. (2022, 2022) in Frontiers), one has been accepted (Lowe et al., 2022), one other manuscript is submitted and four manuscripts are being prepared. |
| **2.2-** Development or enhancement of methods for timber species authentication, with a specific focus on the added strength of combination of multiple techniques and datatypes by wider WFID consortium (1 academic publication per year from 2021-22) | 2 publications by end 2022/23 | Kew is working closely with John Hermanson (University of Washington / WFID) to explore the combination of Xylotron and DART-TOFMS data. Kew has a Masters thesis student starting in the summer on this topic together with the machine learning unit of Ghent University (Belgium) and University of Washington. The first publication submission for this output is expected in 2023. |
| **2.3-** Development of a targeted and optimised sampling strategy for SIRA based on the identification, through machine learning modelling of specific focus areas to effectively reduce sampling cost per unit area | 3 publications by December 2024 | This activity is currently being undertaken in collaboration with Virginia Tech University (VTech) and John Simeone (Simeone Consulting). Kew will also start actively exploring this outside of the VTech collaboration. Kew and Agroisolab will discuss which research topics and projects to prioritise for publishing. The machine learning postdoc under the FRC Grant will also contribute to this work. The first publication submission for this output is expected in 2023. |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

Kew is performing strongly against this output. In addition, with the Machine Learning Postdoc starting at Kew under the WFID FRC Grant soon, they expect an additional publication output relating to timber data as well via inter-project synergy. As the required number of publications has been achieved under output indicator 2.1 and is expected to be achieved under output indicators 2.2 and 2.3, this output has been scored an A overall.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

No changes to this output.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | Generation of collaborations with BEIS-Office for Product Safety & Standards (OPSS) Environmental Enforcement & Compliance Team resulting in targeted collections and authentication research enabling enhanced UK Timber Regulation enforcement and international timber trade regulatory compliance. | | | |
| Output number: | | 3 | Output Score: | ***B*** |
| Impact weighting (%): | | 20 | Weighting revised since last AR? | No. |
|  |  |  |  |  |
| **Indicator(s)** | | | **Milestone(s) for this review** | **Progress** |
| **3.1-** 2 country-based collaborations with BEIS-OPSS initiated or continued per year from 2021; 1 training session per year from 2021 held with BEIS-OPSS in enforcement-based scientific methods. | | | 1 collaboration per year recorded by end 2021/22 | Kew is currently drafting a proposal that deals with topics proposed by OPSS, namely Teak and Plywood |
| **3.2-** 3 reports (including presentation, stakeholder meetings, workshops, reports....) based on implementation of Direct analysis in real time (DART) time-of-flight mass spectrometry (TOF-MS), Stable Isotope Ratio Analysis (SIRA), wood anatomy or other research methods delivered (for example Trace Elements) to BEIS-OPSS and international governmental stakeholders per year via WFID geared to their needs. At least one output similar in scope to Chinese plywood enforcement project report developed during project. | | | No Milestone.  Target: 7 reports and 1 output like Chinese plywood enforcement project report by March 2025 | Two SIRA reports are being written by the team at Kew and Agroisolab (Latvian Ash, Peru). These will be distributed soon. Additional shotgun reports (shorter versions of the detailed reports) are being prepared as well. |
| **3.3-** International use of WFID at Kew collection and open access databases arising from it by DAC list country governments to support timber trade legality verification. | | | No Milestone.  Target: Used by DAC list country governments by March 2025. | Indicator will have relevance later in project. |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

Progress has been slow on BEIS-OPSS collaboration years and reports due to complications at BEIS. Modest progress against output indicator 3.2 means that this output has been scored a B.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

No changes to this output.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | Leveraging of matched funding via philanthropic and statutory finance during the Defra funded period of WFID at Kew and developing a roadmap towards being self-sustaining at the end of the five-year Defra ICF-funded period via development of a business model based on private sector investment and/or fee for service provision | | | |
| Output number: | | 4 | Output Score: | ***B*** |
| Impact weighting (%): | | 20 | Weighting revised since last AR? | No. |

|  |  |  |
| --- | --- | --- |
| **Indicator(s)** | **Milestone(s) for this review** | **Progress** |
| **4.1-** Statutory or philanthropic funding for WFID at Kew leveraged, at least one application per year. | 1. Target list of statutory bodies and donors created and £1M to be raised by March 2023 collaboration years recorded by end 2022/23. 2. £2M to be raised by March 2024. | Kew secured funding for the Forest Risk Commodity work which also falls under the WFID Programme and are writing an IWT Challenge fund grant for DNA work. This grant has to be submitted by 22 August. The WFID slide digitisation project has been put on the Kew Foundation Project Bank. |
| **4.2-** Development of WFID business model. | 1. Not for profit organisation established in USA by December 2021. 2. Key private sector investment and (e.g.) fee for service clients identified by December 2024. | The WFID not for profit is starting to develop an operating system that will keep it in existence for the long term. There have been several conversations with companies that would be interested to support WFID. Kew is considering commercial opportunities for a potential forensic centre. More conversations will follow. |
| **4.3-** Recruitment of additional staff based on approved project proposals. | 2 projects approved by the end of 2022 with at least 1 other person contracted. | The FRC Grant has been accepted. Two other people will be contracted. The conflict timber grant will go directly through WFID. |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

World Forest ID (WFID) is set up as a not-for-profit in the USA and can now also receive direct funding from Defra. Therefore, this output is on target to reach the given milestones. This output also depends on how WFID will function, especially in relation to Kew. In September there is a meeting between the Directors of WFID and the Commercial Unit at Kew to discuss the future relationship. This output has been scored as a B for this annual review because the progress detailed in indicator 4.1 is not confirmed and leveraged funding amount secured is not stated.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

No changes to this output.

**Kew Non Timber Forest Risk Commodity**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | Cocoa and soybean reference collections built to required standards, coverage, and size to support reference database development and enable innovation of traceability and authentication technologies and UK regulatory framework. | | | |
| Output number: | | 1 | Output Score: | ***A*** |
| Impact weighting (%): | | 60 | Weighting revised since last AR? | No. |

|  |  |  |
| --- | --- | --- |
| **Indicator(s)** | **Milestone(s) for this review** | **Progress** |
| **1-** Collection and subsample size | Planned 250 + samples per year from 4-6 ODA countries for both soy and cocoa.    Cocoa and soy obtained from each of the partner countries (4-6). | To date, inclusive of samples collected in phase 2:    Cocoa: 112 samples  Thailand I (16)  Thailand II (16)  Ivory Coast (80)    Soy: 290 samples  Brazil I (75)  Brazil II (150)  Bolivia (25)  Argentina (40) |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

The two main output activities moving from Phase 2 into Phase 3 have been the second soy expedition to Brazil, which collected an additional 150 soy samples, and the first Argentina expedition that resulted in 40 soy samples obtained from major soy growing areas. There has been very promising Bolivian isoscape analyses obtained from the Bolivian soy samples obtained in Phase 2; these suggest very strong North-South and East-West isotope ratio differences across the soy growing regions of the country. Further analyses and sampling will verify these preliminary results and their power to determine provenance. A cocoa expedition for Ghana and for Cameroon is planned, as is a cocoa expedition for Ecuador, awaiting finalised sample collection locations to be mapped prior to start dates. Although the cocoa samples are below target, this output has been scored an A overall due to an anticipated increase resulting from planned expeditions.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

As a result of the confirmation of Phase 3 funding, Kew have built a multi-season, multi-year sample expedition plan into the project which will strengthen the power of the reference collections and datasets obtained. These will help identify spatio-temporal and climate variables that are needed in order to produce a working traceability tool for supply chain compliance in changing real-world contexts.

**Progress on recommendations from the previous AR (if completed), lessons learned this year and recommendations for the year ahead**

The main lessons learned from the previous expeditions and sample accessioning to date are the realistic lag phases and lead times between collection, shipping, Kew processing, and Sheffield/Agroisolab sample analysis and reporting. Each expedition represents a lot of steps and on top of the timber workload, provides bottleneck issues at times, especially during stable isotope pipelines and analysis. Kew hopes that Phase 3 will give them the opportunity to streamline and delegate several steps in these processes with other labs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Output Title** | Scientific data acquired using the WFID at Kew collection to drive scientific progress and innovation in authentication, with reduction of sampling costs. | | | |
| Output number: | | 2 | Output Score: | ***B*** |
| Impact weighting (%): | | 40 | Weighting revised since last AR? | [If Yes, up or down?] |

|  |  |  |
| --- | --- | --- |
| **Indicator(s)** | **Milestone(s) for this review** | **Progress** |
| **2.1-** Consolidate machine learning approaches by Kew and collaborator partnerships to enhance the power of sampling protocols for future supply chain sample analyses to determine soybean, cocoa, and other FRC traceability. | Model development for soybean, cocoa, and integration with timber datasets.    Article drafts for publication (1-2 per year). | Using the Phase 2 VTech project and preliminary models as a basis, we have hired a full-time postdoctoral research associate to build on both timber and non-timber datasets, as well as to be lead author on the scientific articles related to this area of the project. |
| **2.2-** Development of a targeted and optimised sampling strategy for SIRA based on the identification, through machine learning modelling of specific focus areas to effectively reduce sampling cost per unit area. | New publication for soybean and cocoa traceability methodologies (1-2 article drafts by 2023).    Model can learn to identify priority sampling locations. | Vtech and Kew manuscript draft and initial VTech results to be picked up by new machine learning postdoctoral researcher. This will steer future sampling and analyses strategy as well as provide momentum for further publications. |

**Briefly describe the output’s activities, and provide supporting narrative for the score.**

This activity is on track, although the slower than expected return of isotopic data analysis reports from Agroisolab and the delayed / later hiring of the machine learning postdoctoral researcher have presented some challenges in terms of defining sample collection granularity and resolution requirements, particularly for follow-up expedition planning. Kew hope to resolve this smoothly with the latest reports from Agroisolab and the first mapping and models this autumn. As this output is slightly later than expected, it has been scored a B for this annual review.

**Describe any changes to this output during the past year, and any planned changes as a result of this review.**

No major changes to be made.

**Progress on recommendations from the previous AR (if completed), lessons learned this year and recommendations for the year ahead**

The key recommendation for the year ahead is to obtain more concrete timescales for data analysis turnaround, but as we are competing with timber samples as well as private clients for Agroisolab time, we hope that we can outsource more future analyses to other labs, particularly in-country traceability labs within the timeframe of Phase 3.

**Project 2b) Strengthening monitoring, reporting and verification**

**Nature Transition Support Programme Phase 1: Country Assessments (November 2021- March 2022)**

There is no logframe or indicators available for this project run under the ICF R&D Programme. Planned outputs from this work below include:

* To carry out pilot studies in three countries to assess potential options for accelerating the economic transformations articulated in the Dasgupta Review.
* To highlight potential measures that can be taken by the international community to help accelerate transformational change at the national level. This report will be targeted to support discussion at the Stockholm+50 Conference.

The outputs produced by the project met the expectations outlined before the project started. Therefore, in the absence of output-level logframe indicators an A has been awarded for this project (output met expectation). Work on this project has concluded so no recommendations have been made for future years.

The analysis produced showed strong connections between society, economy, and the state of the natural environment within all three countries – and clear potential economic and societal risks associated with continuation of the existing economic model.

It outlined a process that could help implement and identify priorities in response to the options for change highlighted in The Dasgupta Review. As well as possible next steps in terms of specific actions for implementation of the Dasgupta Review, that could form a phase two of this work. It has been agreed that Phase two will be funded by the GCBC and will build upon the work caried out in Phase 1.

**Sustainable Agriculture Biodiversity Metrics**

There is no logframe or indicators available for the ‘IIF Biodiversity Metrics’ project run under the ICF R&D Programme. Planned outputs from this work below:

* Inception report outlining the scope, objectives, governance arrangements, methodology, work plan and output for this project.
* Mid-term update providing an overview of the current available evidence, to include a methodological analysis of biodiversity impact measures specific to the context of Impact Investment Funds (IIFs) working in sustainable agriculture. This would also include an overview of recent evidence on the gaps and challenges of measuring biodiversity impact using existing metrics and methodologies and how to overcome them. This would focus in on how the way IIFs operate impacts which methodology is used.
* Final report which presents the evidence (including case studies from interviews with IIFs (including Eco business Fund and Land Degradation Neutrality Fund), their partners and leading expert organisations) and a shortlist of the best (gold standard) indicators applicable to IIFs along with a detailed justification and explanation of the methodology (which addresses the aforementioned gaps and challenges to the greatest extent possible).

The outputs produced by the IIF Biodiversity Metrics project met the expectations outlined before the project started. Therefore, in the absence of output-level logframe indicators an A has been awarded for this project (output met expectation).

Work on this project has concluded so no recommendations have been made for future years.

**D: RISK**

**Overview of risk management**

This annual review was not completed during the planned period due to competing pressures on the programme team (notably setting up the GCBC, including procuring the programme’s Strategic Science Lead and Management Lead, and overseeing fifteen Phase 1 projects). A number of risks were recorded and discussed at Programme Board level in March 2022 – see below. However, due to limited available information and a relatively small amount of money spent during this period, no risk assessment was conducted. An annual review workstream and information management process has been created, and resource allocated, to avoid this situation arising in future.

Recorded risks as of March 2022:

* Component 2 (Kew Non Timber Forest Risk Commodities): risks to the sample quality of Soy and Cocoa dependent on climate and Covid-19 delays to sampling.​
* Component 2 (30x30 Protected Areas Evidence Review and Scoping Project): underspend risk.
* Component 3 (GCBC): delays in establishing the hub will require the programme team to manage some elements of hub activity or find alternative short-term commercial solution.
* Component 3 (GCBC): ongoing financial risk in FY 21/22 and 22/23
* Surfacing risk as to the mitigating action being taken above for 21/22 via ODA re-allocation to other ODA programmes as Darwin is yet to confirm they can absorb the underspend

**E: PROGRAMME MANAGEMENT: DELIVERY, COMMERCIAL & FINANCIAL PERFORMANCE**

**Summarise performance, notably on commercial and financial issues, and including consideration of VfM measures of economy and efficiency.**

In November 2021, a governance structure was initiated in order to facilitate senior decision-making and risk escalation for the ICF R&D programme. A Programme Board met six-weekly to oversee GCBC mobilisation, later reducing to quarterly meetings. The Board is chaired at DG/Director level with senior colleagues across Defra and FCDO, including commercial representation. A Programme Board Terms of Reference has been produced.

Following recommendation from Annual Review 1, a financial tracker was created to accurately track budget, forecast and actuals for each project, underspend and real-time tracking against business case allocation.

This annual review was not completed during the planned period due to competing pressures on the programme team (as outlined above). Due to limited available information and a relatively small amount of money spent during this period, no Value for Money assessment was conducted. An annual review workstream and information management process has been created, and resource allocated, to avoid this situation arising in future.

**Appendix A- Annual Review 2 Weighted Scoring for Component 1 and 2**

The overall score for Component 1 and 2 of the ICF R&D Programme in this review period is A. This was derived from the output scores shown below (weighted scores were calculated using C=1, B=2, A=3, A+=4, A++=5, with weightings being calculated from total funding per component and with final scores being the weighted score rounded to the nearest whole score).

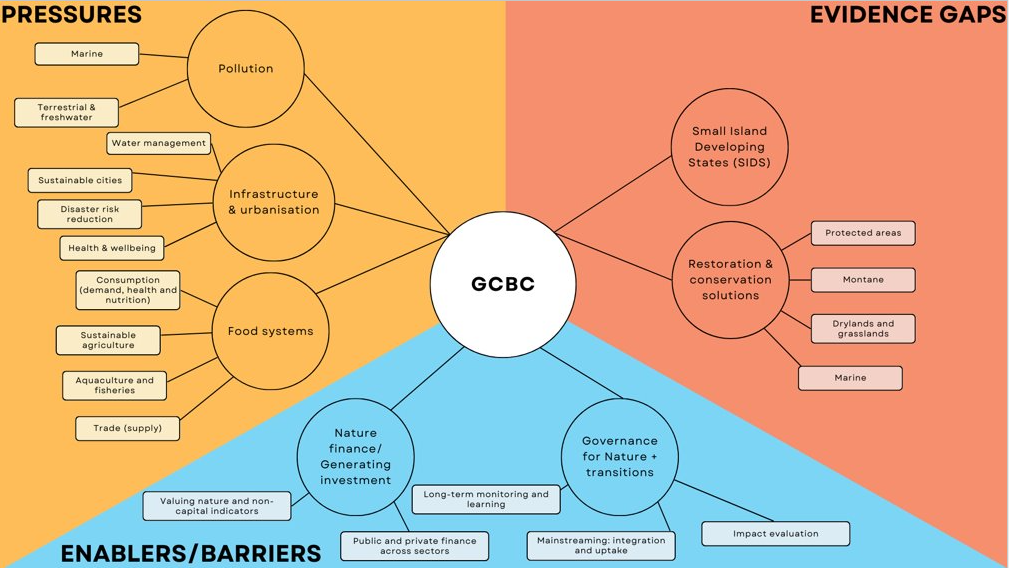
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Project** | **Output no.** | **Output weighting** | **Score** | **Score description** | **Project weighted score** |
| Brazil scoping study | N/A | 100% | A | Output met expectation | A (3) |
| Kew Timber | 1- Reference collection | 30% | B | Output met expectation | A (2.8) |
| 2- Scientific data acquired | 30% | A+ | Output met expectation |
| 3- Collaborations with OPSS | 20% | B | Output met expectation |
| 4- Leveraging of matched funding | 20% | A | Output met expectation |
| Kew FRC | 1- Soybean and cocoa reference collections | 60% | A | Output met expectation | A (2.6) |
| 2- Scientific data acquired | 40% | B | Output moderately did not meet expectation |
| Nature Positive Economy: Country Assessments | N/A | 100% | A | Output met expectation | A (3) |
| IIF Biodiversity Metrics | N/A | 100% | A | Output met expectation | A (3) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project** | **Funding FY 21/22-22/23 period (£)** | **Weighting** | **Score** | **Overall programme weighted score** |
| Brazil scoping study | 145,210 | 9.64% | A (3) | A (2.91) |
| Kew Timber | 714,766 | 47.44% | A (2.8) |
| Kew FRC | 260,000 | 17.26% | A (3) |
| Nature Positive Economy: Country Assessments | 275,755 | 18.3% | A (3) |
| IIF Biodiversity Metrics | 111,010 | 7.36% | A (3) |

**Appendix B – Summary of Phase 1 projects funded in Annual Review 2 period**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project** | **Overview** | **Countries** | **Lead Delivery Partner(s)** | **Themes** |
| Environmental Pollution | The Environmental Pollution programme aims to reduce biodiversity loss, climate change and human health impacts by tackling pollution and its effects in low- and middle-income countries. | South Africa, Vietnam | Environmental Pollution (Defra); JNCC (The Joint Nature Conservation Committee); GAHP (The Global Alliance on Health and Pollution) | Pollution |
| One-Food | To develop a risk analysis tool that systematically maps data to calculate the impact of complex hazards interacting with the whole food system to demonstrate how hazard control creates benefits in terms of yield, profit, trade, and biodiversity protection in environments where food production occurs to enable more climate-efficient food sectors. | South Africa, Vietnam | One Food (Defra); APHA (Animal and Plant Health Agency); CEFAS (Centre for Environment, Fisheries and Aquaculture) | Food Systems |
| Ukraine Timber | In light of the Russian invasion of Ukraine, and the opportunity for Russia to finance the war or subsequent occupation through sales of illegally harvested Ukrainian timber, this project seeks to build on existing voluntary measures, punitive tariffs, and sanctions on the direct trade of timber with Russia to make it harder for Russia to circumvent these measures. At present the reference library lacks samples of timber from Ukraine and neighbouring countries, so this project will address this gap.  This will build on existing due diligence work already underway between Defra, Kew and WFID which is currently building a reference library to be used to identify the origin of timber and timber products. | Main timber sample collection areas: Ukraine and Belarus | WFID (World Forest ID); Kew | Restoration/Conservation Solutions |
| Nature Transition Support Programme Phase 1 | To help identify priorities to change countries development path, from the dominant model of unsustainable development which neglects its ecological foundations, to a model which recognises that the economy is embedded within nature, and therefore reflects that nature is a critical component of the nation’s wealth. | Columbia, Ecuador | UNEP WCMC (United Nations Environment Programme World Conservation Monitoring Centre) | Governance for Nature Positive Transitions |
| Sustainable Agriculture – Living Laboratory | TerraViva Colombia is a living laboratory project being piloted by the Sustainable Agriculture Network. It is a collective impact initiative that aims to restore biodiversity, improve carbon-efficiency, and build sustainable coffee landscapes in Colombia. | Columbia | Sustainable Agricultural Network | Governance for Nature Positive Transitions; Restoration/Conservation Solutions |
| African biodiversity hotspots: | This project enables transformational change by accelerating Kew’s efforts to identify and characterise high-value plant biodiversity hotspots, and pathways to develop bioresources within them. | Ethiopia, Guinea, Sierra Leone | RBG Kew (The Royal Botanic Gardens, Kew) | Food Systems; Infrastructure/Urbanisation; Nature Finance; Restoration/Conservation Solutions |
| Trialling an incentive mechanism for agrobiodiversity conservation | To pioneer a novel, cost-effective conservation incentive mechanism that rewards farmers for maintaining agrobiodiversity and specifically targets the recovery of declining crop species and landraces (e.g., yams, enset). In turn, by enhancing livelihoods we hope to strengthen local farmers’ roles as custodians of indigenous forest and reduce rates of destructive exploitation of wild plants. This approach will deliver co-benefits for poverty reduction, agricultural resilience and avoided deforestation. | Ethiopia | RBG Kew (The Royal Botanic Gardens, Kew) | Food Systems; Infrastructure/Urbanisation; Nature Finance; Restoration/Conservation Solutions |
| ARBOLES | To advance understanding of the biodiversity of South American forests and their sensitivity to climate change and direct anthropogenic degradation. | Argentina | NERC UKRI | Food Systems; Restoration/Conservation Solutions |
| CONTAIN - | To develop and apply dynamic ecological-economic models to predict the efficiency of Invasive Alien Species (IAS) management interventions in relation to biodiversity conservation, climate change, and sustainable livelihoods. | Argentina, Brazil | NERC UKRI | Food Systems; Restoration/Conservation Solutions |
| SURPASS2 - | To establish biodiversity status and trends at the interface of intensive agriculture (e.g., soybean, maize) and the Pampa plain and Northwestern Chaco forest, to inform nature-based solutions for sustainable multifunctional and climate resilient production systems.  To assess impact of land conversion and deforestation on biodiversity and the climate (emission and carbon sequestration) in one of the fastest advancing deforestation frontiers (rate of 300K ha per year), working with local communities and across sectors to halt ongoing deforestation and conversion to agriculture. | Argentina | NERC UKRI | Food Systems; Restoration/Conservation Solutions |
| KELPER2 | To explore drivers reducing the resilience of kelp forests (and their blue carbon potential) to different harvesting regimes to improve livelihoods, protect biodiversity and promote climate change resilience. | Peru | NERC UKRI | Food Systems; Restoration/Conservation Solutions |

**Appendix C: JNCC Scoping Work on potential areas of thematic focus for the GCBC**



1. The DART-TOFMS technique allows for the taxonomic identity of a wood sample to be found based on the presence of metabolites in the sample, which is a process that can be performed at Kew utilising a specialised mass spectrometer. SIRA is also a mass spectrometry based technique, but rather than species identity, this can give us an indication of the origin of a sample. The incorporation of stable isotopes in a tree is related to the environment in which that tree grows. [↑](#footnote-ref-2)