

**An International Climate Finance Business Case**

**Scaling natural solutions: building the evidence base to inform policy and practice**

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List of abbreviations

|  |  |
| --- | --- |
| ALB | Arms-Length Body |
| CBD | Convention on Biological Diversity |
| CITIES | The Convention on International Trade in Endangered Species |
| COP26 | UN Climate Change Conference UK |
| Defra | Department for Environment Food and Rural Affairs |
| DFID | Department for International Development |
| DGC | Defra Group Commercial |
| DPR | Delivery Partner Review |
| EME | Early Market Engagement |
| FCDO | Foreign Commonwealth and Development Office |
| FEC | Full Economic Costing |
| FI | Financial Institute |
| FLD | Front Line Delivery |
| FLS | Front Line Service |
| FSC | Forest Stewardship Council |
| FTE | Full-Time Equivalent |
| FY | Financial Year |
| GCBC | Global Centre on Biodiversity for Climate |
| GPS | Global Programme on Sustainability |
| HMG | Her Majesty’s Government |
| ICF | International Climate Finance |
| ICF 3.0 | International Climate Finance for 2021/22-2025/26 |
| IIF | Impact Investment Fund |
| JNCC | Joint Nature Conservation Committee |
| KPI | Key Performance Indicator |
| M&E | Monitoring and Evaluation |
| MCDA | Multi-Criteria Decision Analysis |
| MoU | Memorandum of Understanding |
| MRV | Measuring Reporting and Verification |
| NbS | Nature-Based Solutions |
| NDC | Nationally Determined Contributions |
| ODA | Official Development Assistance |
| OPSS | Office for Product Safety and Standards |
| PDP | Project Delivery Plans |
| PMO | Portfolio Management Office |
| R&D | Research and Development |
| RAG | Red Amber Green |
| SDGs | Sustainable Development Goals |
| SRO | Senior Responsible Owner |
| ToC | Theory of Change |
| ToR | Terms of Reference |
| UNFCCC | United Nations Framework Convention on Climate Change |
| VFM | Value for Money |
| WRI | World Resources Institute |

# Intervention summary

## Summary of programme objectives

This International Climate Finance (ICF) funded programme will deliver an integrated package of projects to strengthen global knowledge and understanding of the interrelationship between the climate and biodiversity challenges. It will seek to inform the work of policy developers and development practitioners globally and help narrow the funding gap between current and required investment in natural solutions to climate change. It recognises that the scaling, and effectiveness, of natural solutions to the triple challenge of climate change, poverty and biodiversity loss (hereafter referred to as ‘natural solutions’) requires an investment in the primary evidence base needed to inform effective decisions, and drive innovation in the future. The proposed package of work is designed to meet both short and longer-term evidence needs, including to deliver a UNFCCC and CBD legacy, focusing on ensuring strategic, policy-relevant results and a global network of knowledge exchange and learning.

The original Business Case, for a £9m programme, was approved by the ODA Board and Investment Committee in spring 2020, and further considered and approved through the ODA Review of all aid spending conducted by the Foreign and Development Secretary in November 2020. The programme is now seeking an uplift to a revised total of £51.6m, subject to Defra’s ODA settlement through SR21.  The main amendments relate to the proposal to establish a research programme (the Global Centre on Biodiversity for Climate) on the conservation and sustainable use of biodiversity to deliver climate solutions and improve livelihoods.  The original proposal has been scaled up in response to feedback from a wide range of stakeholders that it should be more ambitious, and further internal scoping work. Its primary aim will be to use research and development capability to address priority evidence and data gaps, expand knowledge, develop innovative approaches, and facilitate stronger uptake of, and investment in, the conservation and sustainable use of biodiversity to tackle climate change and poverty, including by engaging with developing country research institutes and input from Indigenous People and Local Communities.  It should help to deliver transformational change in protecting biodiversity-rich land and ocean, shifting to sustainable food production and supply, and supporting the livelihoods of the world's poorest. It should also harness the best in UK and international science (helping to tackle the recent publicity around the lack in voices from the global south on climate science) and foster collaboration and knowledge sharing.

Natural solutions are referred to by numerous terms in existing literature; the term Nature-based Solutions (NbS) is one. The IUCN defines NbS as actions to protect, sustainably manage, and restore natural or modified ecosystems that address societal challenges effectively and adaptively; simultaneously providing human well-being and biodiversity benefits[[1]](#footnote-2). Globally, NbS could provide up to a third of the necessary cost-effective CO2 mitigation between now and 2030 in order to stabilise warming below 2 degrees where accompanied by unprecedented rates of decarbonisation of the economy and maximised benefits to livelihoods and biodiversity[[2]](#footnote-3),[[3]](#footnote-4) while also delivering adaptation benefits. But there are significant gaps in the primary research on NbS and their respective effectiveness in tackling climate change, biodiversity loss and poverty. The latest literature pinpoints knowledge and data gaps, which are consistently not addressed, in making scientific research applicable to practitioners including understanding benefits and trade-offs; local socio-economic effects of natural solutions; and robust prediction and measurement of effective implementation and outcomes of natural solutions, including long term monitoring. Robust and comprehensive research to fill these complex evidence gaps is vital to ensure an integrated approach to addressing climate change, biodiversity loss and poverty.

The proposed programme comprises three main components, two of which have sub-components, as follows:

1. Evidence to inform policy and design of international climate finance: Evidence for policy and programming (~£900,000) (in progress)
   1. Measuring the impact of aid on nature & identifying ‘best buys’ (~£600,000)
   2. Scoping and intervention analysis for future ICF programming (~£300,000)
2. Evidence to strengthen operational delivery of NbS policies and programmes: Driving innovation in forest protection and enforcement monitoring (£3.5 m) (in progress)
   1. Tackling illegal deforestation (£2,589,434)
   2. Strengthening monitoring, reporting and verification (£1,000,000)
3. Build the long-term evidence base: Establish a Global Centre on Biodiversity for Climate (GCBC) (£4m approved, which we recommend is increased to ~£47m)

Collectively, these components will deliver the programme objectives to ensure that:

* Policy-makers have access to high quality primary data on the potential value and cost-effectiveness of natural solutions in a range of ecosystems, increasing their application in developing countries with a focus on low income countries (LICs) and lower-middle income countries (LMICs);
  + Research outcomes build on the knowledge of, and deliver with relevance to, local contexts by engaging with Indigenous People and Local Communities (IPLCs) and relevant research institutes within developing countries through participatory approaches. As custodians of at least 32% of the land across all regions of the world, IPLCs are key actors in global environmental governance[[4]](#footnote-5);
* Practitioners responsible for the design and delivery of natural solutions in LICs and LMICs have access to better information about ‘what works’ across a range of ecosystems and social contexts, increasing uptake of natural solutions and the cost effectiveness of programming;

Decision-makers have better access to high-quality data and analyses that supports efforts to restore ecosystems, and protect and restore forest cover, by supporting enforcement of commodity regulations and improving global understanding of how forest restoration contributes to biodiversity gains and carbon sequestration.

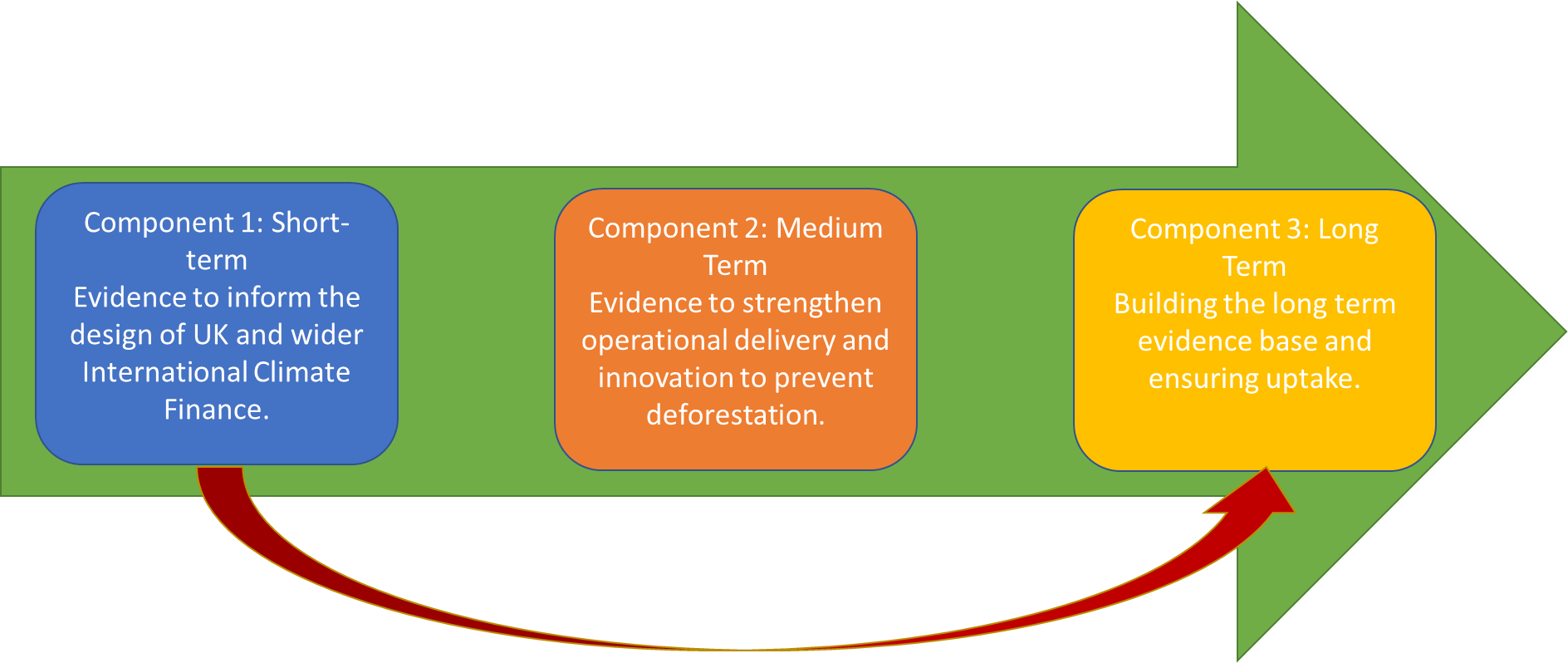
The different elements of the programme have been designed to be complementary; collectively they will contribute to the delivery of the UK’s international nature objectives and in delivering their outcomes will seek to integrate equity considerations including in relation to gender and marginalised communities.

The total cost of the *Scaling natural solutions: building the evidence base to inform policy and practice* programme over five years is up to £51.6m between 20/21 – 24/25, with the GCBC comprising the largest element of that at £47.1m. Defra is bidding through SR21 for £48m of this total, with the balance of funding already received to deliver elements of this programme from 20/21. A summary of the programme components, key deliverables, funding costs and delivery status is set out below:

|  |  |  |
| --- | --- | --- |
| **Description of Component and Key Deliverables** | **Funding costs** | **Delivery Status** |
| 1. Evidence to inform policy and design of international climate finance programmes:    1. Measuring the impact of aid on nature & identifying ‘best buys’. JNCC-led development of an [NbS ‘Triple Win Toolkit’](https://jncc.gov.uk/our-work/nbs-triple-win-toolkit/) – an interactive web-based tool that provides guidance for designing nature-based projects in ODA-eligible countries.    2. Scoping and intervention analysis for future ICF programming. Work underway includes an analysis of the opportunities for future interventions in Brazil, and to improve the impact of our sustainable agriculture programmes. | **~£900,000 approved**  *~£600,000*  *~£300,000* | **In progress**  *Complete*  *Complete* |
| 1. Driving innovation in forest protection and enforcement monitoring:    1. Tackling illegal deforestation. Kew Gardens-led work to create a reference library of isotopic material taken from timber and agricultural commodity samples (botanical ‘fingerprints’) to determine the geographic origin of imports to the UK and to support enforcement of legislation.    2. Strengthening monitoring, reporting and verification for area-based conservation in ODA-eligible countries | **~£3.5m approved**  *~£2.5m*  *~£1m* | **In progress**  *In progress*  *To commence 21/22.* |
| 1. Establish a Global Centre on Biodiversity for Climate: a ‘hub and spoke’ research programme within existing institutions to establish a global network of research institutions and experts focused on biodiversity for climate to maximise global impact, outreach and take up. It will comprise: 2. Secretariat (‘hub’): to commission and co-ordinate, research and development activity. The Secretariat will ensure strategic coherence of research, procurement, research quality, and uptake. 3. 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 expect to facilitate a range of new partnerships while ensuring stronger developing country ownership of research outcomes. | **Up to £47m in total**  ~£5-7m total running costs (10-15% of budget)  ~£5-8m per ‘spoke’ assuming 5-8 thematic spokes | **In progress**  *To commence 21/22.*  *To commence 22/23.* |

## What are the main programme activities?

The programme is designed to drive the scaling of natural solutions for biodiversity loss, climate change and poverty by providing evidence and data to meet the needs of local people, policy-makers and practitioners in the short, medium and longer term.



Components 1 and 2 are designed to fill known evidence gaps. Component 1 has been designed to answer very immediate questions facing Defra, other UK Government departments and other actors globally who are working to scale natural solutions to climate change, biodiversity loss and poverty. In the case of Component 2, more time is needed to find solutions to, and build evidence for, some defined operational questions. Component 3 is somewhat different. In contrast to Components 1 and 2, where policy-makers and practitioners are driving demand for evidence and commissioning research to provide very specific answers, Component 3, the GCBC, will be science-driven (including social science) and data focused. It will focus on providing the primary research necessary to underpin future innovation in policy and practice. The outputs from Component 1, in particular the review of best buys, will be used to sense-check science-based proposals for Component 3, the GCBC, helping to identify those areas where further research is likely to add best value. The GCBC will also contribute to building research capacity and data sources in the UK and internationally, again helping to strengthen a key foundation for scaling natural solutions globally: access to more expertise and understanding what works for local people in local contexts.

Building the evidence and data base in these areas is vital but not sufficient to translate into increased uptake of natural solutions. Effectively translating research outcomes to accessible evidence products that policy-makers, practitioners and the private sector can access and adopt, is key if the research is to influence real world outcomes. In order to maximise uptake it is essential that research is informed by the gathering of experience and expertise through participatory approaches, to ensure it takes account of local circumstances and takes into consideration and directly involves those who will be most impacted by research outcomes, particularly IPLCs. For this reason, careful consideration has been given to research uptake in the design of the different Components, and this will be a focus of attention at the delivery stage. For example, expertise in research uptake, as well as demonstrable expertise and successful experience in participatory approaches, and engagement with IPLCs, will be a key criterion for the assessment of work that is procured through competitive tender, and we suggest that a proportion (c.10%) of each Component’s budget will be invested in uptake. All outputs, with the exception of those that might be commercially sensitive, will be made available publicly, including through Open Access peer reviewed journals.

These Components will be delivered through leading research organisations, bringing together expertise from around the world to produce robust evidence through varied methodologies including experimental work, case studies, big data, literature reviews, and primary data gathering to enable decision-makers to deliver high-quality, cost-effective interventions and investments. This includes the Joint Nature Conservation Committee (JNCC) and Royal Botanic Gardens, Kew (Kew Gardens), capitalising on their world-class expertise, and strengthening our partnerships with governments around the world and research institutes in the global south.

Component 1: Evidence to inform policy and design of international climate finance (~£900,000 over 5 years) (in progress)

This Component directly informs the design of the UK’s ICF programmes which are focused on scaling natural solutions to tackle climate change, biodiversity loss and poverty, as well as supporting the transition to low carbon, sustainable agriculture. The outputs of this work will be made publicly available (with the exception of commercially sensitive material), so helping to shape policy and practice globally and outreach is ongoing.

There are two sub-components in this work:

*1a. Measuring the impact of aid on nature & identifying ‘best buys’ (~£600,000)***.**

This work will produce research products that help to maximise the impact of the UK’s growing investment in natural solutions to climate change. This sub-component also provides a starting point for the necessary evidence base and robust assessment of knowledge gaps to inform Component 3, the GCBC.

This Component will deliver:

* A robust review of “best-buys”, analysing the economic potential of different natural solutions and produce a series of worked through case studies detailing the benefits of investment in natural solutions.
* The outputs of this work will directly inform the design of ICF3.0[[5]](#footnote-6) programming. From a policy perspective, it provides a strong foundation to inform the UK Presidency’s nature pillar as part of COP26, and in particular help to underpin the nature pledge and the campaign to scale the investment in natural solutions
* It will collate a robust and quality assured set of indicators to measure the direct impact of ODA programming on biodiversity.

While Defra and other Government departments spending ICF are the primary consumers of this research, the products of this research will be publicly available.

1b*. Scoping and intervention analysis for future ICF programming (~£300,000)*

In order to deliver effective interventions to tackle the interrelated challenges of climate change, biodiversity loss and poverty, comprehensive and detailed scoping will be required prior to programming. This scoping can also inform relevant policy design. These funds are being allocated to support the costs of building the evidence base and the stakeholder engagement required to support the development of new ICF programmes and inform relevant policy. Evidence will inform and steer the direction and focus of these programmes, aligned with the priority areas for Defra's ICF that have been agreed with FCDO to ensure a coherent approach to ICF programming on natural solutions. Evidence will be used to steer and refine programming by deepening understanding of specific contexts and/or sectors. The indicative examples below outline potential studies. The precise scope of specific studies will only be approved once sufficient demand is identified. These studies could include the following:

1. An appraisal of approaches taken by Impact Investment Funds (IIFs) in delivering climate and biodiversity outcomes in the agriculture/land use sectors with a view to assessing the environmental integrity of current approaches and identifying best practice in relation to monitoring and evaluating impacts.
2. A study into the role of public finance (from Defra) within public-private partnerships, reviewing the best interventions to leverage additional private finance support for environmentally sustainable agricultural and land-use businesses; and how Defra’s existing and future programming can embed green lending practices within financial institutions (FIs), such as banks and wider finance sector.
3. A scoping exercise of developing countries to partner with, based on an exhaustive review including cost-effectiveness of interventions, biodiversity benefits, equity considerations and political ambition.

Component 2: Evidence to strengthen operational delivery of NbS policies and programmes: Driving innovation in forest protection and enforcement monitoring (~£3.5 m over 5 years)

Forests offer two thirds of the natural mitigation potential (66% from forest protection and restoration)[[6]](#footnote-7), and so these proposals seek to help efforts to protect and restore the world’s tropical forests, providing a natural climate mitigation solution. The sub-components here will produce evidence to alleviate evidence gaps around the applications and measurement of natural solutions, responding to defined operational questions in the medium-term.

2a. *Tackling deforestation*: *creating a timber reference library and testing wider application of the approach to support enforcement (~£2.5m)*. Medium-term support to an international collaboration led by Kew Gardens, providing evidence and information in order to improve the enforcement of international legislation to tackle deforestation including illegal logging. This sub-component will establish a reference collection of timber samples and sample of other agricultural commodities, enabling officials to verify the species and source of the imported product, placing international and UK authorities in a strong position to enforce and regulate trade, and to address deforestation and illegal logging and the environmental (deforestation and climate change), economic and social problems that it causes. Based on performance in the first year, this programme will fund initiatives for up to 5 years (to end of FY 2025/2026).

Kew Gardens currently work closely with enforcement agencies including: the Office for Product Safety and Standards (OPSS)[[7]](#footnote-8); the Convention on International Trade in Endangered Species (CITIES) officials; and other international bodies to raise awareness of their work and expertise. As part of this funding, Kew Gardens will dedicate resources to further promote their work on a global scale.

2b. *Strengthening monitoring, reporting and verification (SMRV) (~£1m):* The SMRV work will fund an evidence review and scoping work to support area-based conservation (the 30by30 target) in ODA-eligible countries.

30by30 is a call to action to protect the world’s vital ecosystems and bend the curve on biodiversity loss by protecting or conserving at least 30% of global land and at least 30% of global ocean by 2030. The 30by30 target is one of the proposed targets for the post-2020 Global Biodiversity Framework of the Convention on Biological Diversity (CBD) currently being negotiated by the parties to the CBD. The evidence review and scoping work will assist Defra in understanding the priority countries/areas, potential demand, opportunities and key challenges for ODA-eligible countries to deliver 30x30, and how Defra could inform and support country ambition and implementation through future ODA programming and international policy development.

Component 3: Build the long-term evidence base: Establish a Global Centre on Biodiversity for Climate (£4m approved; up to £47m over the current 4 years (21/22 – 24/25)

Biodiversity loss and climate change mutually reinforce and amplify each other’s impacts[[8]](#footnote-9). This programme will address this interface by expanding knowledge through a Global Centre on Biodiversity for Climate (GCBC) dedicated to the conservation and sustainable use of biodiversity to deliver climate solutions and contribute to improving livelihoods. Its research outputs will support counties to deliver on, and raise ambitions across, climate change (e.g. Nationally Determined Contributions (NDCs) and Long Term Strategies and Adaptation Communications (LTSACs) and biodiversity (e.g. National Biodiversity Strategies and Action Plans) commitments.

The GCBC will provide for a network of world-class academic institutions from both North and South capable of delivering and communicating policy-relevant research, using R&D to address priority evidence and data gaps, expand knowledge, develop innovative approaches, and facilitate stronger uptake of/investment in the conservation and sustainable use of biodiversity to tackle climate change and poverty. The GCBC will support country government access to the latest knowledge, data and evidence across a range of ecosystems, and help enable the effective stewardship of, and investment in, biodiversity to support sustainable economic growth, healthy lives and wellbeing[[9]](#footnote-10).

The focus of research will be the challenges specific to LICs and LMICs. The evidence indicates that LICs and LMICs will be particularly affected by climate change and that these effects are often exacerbated by pollution as these countries are industrialising but without fully developed environmental, safety and regulatory frameworks.

The GCBC will harness the very best UK and global capabilities to fill knowledge and data gaps on how action on biodiversity can deliver climate and development ambitions for ODA-eligible countries. Rather than build a new physical centre the GCBC will operate as a hub and spoke research programme to establish a global network of research institutions and experts focused on biodiversity for climate and, under the brand of the GCBC, ensure a strategic focus, coherence and engagement across these efforts to maximise global impact, outreach and take up. A core Secretariat will act as the ‘hub’ to oversee strategic coherence as a programme and with our international objectives, procurement, research quality, and uptake, and to commission research; and research consortia (‘spokes’) will bring together world-leading developing and developed country experts to deliver 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 expect a range of research consortia to be interested in bidding to conduct research across this range of areas and anticipate a strong developing country research presence within bids through which to facilitate not only a range of new partnerships but stronger developing country ownership of research outcomes. There are already some successful examples of ‘hub and spoke’ models operating at the £10-50m scale which we will use to inform design.

There is an ability and need to deliver productive R&D in this area. The GCBC would differ from previous and current activity, in being focussed on strategic Government targets, and more specifically on the use of nature to solve climate adaptation and mitigation challenges. Empirical research to date has focussed on one or two elements of nature’s role in combatting climate challenges and is often disparate. This has meant the applicability of such research for policy is limited to very specific contexts. However, to guide wider international policy and for solutions to both be applied at scale and have longevity on the ground (therefore being robust solutions), we require a systems approach to look at solutions in a broader context and begin to learn about best practice across contexts. It requires a coming together of disciplines and practices, including social and natural science, economics, governance and in some cases finance and business too. Such research, constituting a global public good, is only achieved through large-scale programmes, such as those delivered by ambitious governments.

Our early market engagement (EME) event had a global reach of over one hundred participants from academia, research and policy institutions and the private sector who overwhelmingly supported a scale-up of the GCBC, in recognition of the gap in large-scale strategic research in this area, globally. The EME identified that despite ‘lots going on’, the research being undertaken isn’t ‘question driven’, that there is a lack of co-creation, little standardisation and lack of true multi-disciplinary approaches (including the integration of social science).

This engagement, and recently commissioned evidence has highlighted the need to fill primary data gaps in order to create more effective modelling outcomes to inform investment decisions. Examples include a lack of natural solutions in marine ecosystems and urban environments, the underrepresentation of investment in non-forested ecosystems such as grasslands and wetlands (which often host high biodiversity), and greater evidence on biodiversity benefits across seasonal variability and the impact across years, decades and centuries.

Anticipated outcomes from the GCBC include:

* **Transformational outcomes on climate, biodiversity and poverty** through:
  + High quality data on how biodiversity can deliver climate and development outcomes;
  + New understanding and applied knowledge/tools for implementation;
  + Peer-to-peer learning network and annual learning event;
  + Advice on policy design/application to promote uptake and scale-up.
* **Increased value and protection of ecosystem services** through:
  + Better understanding the role of biodiversity components (ecosystems/species/genes) in tackling climate change, poverty and stronger integration of biodiversity values into land-use planning, governance and regulatory frameworks;[[10]](#footnote-11)
  + Identifying successful interventions, and solutions to barriers preventing effective scale-up/dissemination;
  + Stronger private sector interest in investing in biodiversity for climate solutions, more effective control of pollutants/hazardous waste/associated contamination.
* **Improved resilience of people** and **increased land under sustainable management** as a result of:
  + Improved knowledge of how climate, development and biodiversity interact in ecosystems, deliver benefits including climate resilient sustainable food, and are affected by environmental hazards;
  + Stronger identification of threats of environmental hazards in, in particular, low income, and lower-middle income countries (LMICs)[[11]](#footnote-12), and expanded knowledge on adaptation;
  + Research/tools to address the immediate needs of vulnerable populations and reduce the risk of future zoonotic pandemics through maintaining healthy ecosystems that retain their carbon and biodiversity integrity over the long-term;
  + Research on the impact pollutants have on effectiveness of biodiversity for climate solutions, and how solutions need to be adapted to the local environment.

As with all elements of the overall programme of work, the delivery provider(s) for this contract will have to be able to demonstrate that they have expertise and capacity to ensure that the evidence they produce is accessible to and used by policymakers and practitioners as well as a strategy for long-term take-up of the research. It will be a requirement of all commissioned work that the relevant partner can demonstrate expertise in communicating complex research findings and engaging with end users. We propose that an Advisory Group be formed to assist the secretariat in ensuring the relevance and quality of the GCBC research agenda, as well as support uptake of its findings. Further criteria for potential bidders will be developed in the tender documentation.

**A focus on research uptake:** Across this programme, Defra will support the transmission of knowledge along the chain from researchers to end users of evidence products in the UK and internationally. For example, in addition to using ‘best buys’ analysis to shape Defra’s thinking this will be shared with other UK Government Departments and other major investors in nature such as Norway, Germany and France as well as developing country partners that seek to invest in nature. We will explore with FCDO the scope to share the outputs of the different programme components through their ‘Research for Development’ portal.

## What are the expected results?

The impact of this programme will be to strengthen the evidence base for biodiversity-based interventions to tackle climate change and poverty and to promote the potential of natural solutions to support delivery of the Paris Goals, Sustainable Development Goals, and post 2020 Global Biodiversity Framework. The theory of change for this programme is set out below, together with a table of expected results from the different Components.

Components 1 & 2 will address known policy and operational questions. In these cases, demand is well articulated, and it is relatively clear who the main users of the evidence will be, the format in which they are likely to best receive information, and how to engage them. The research-driven component of the programme (Component 3), will enable social and natural scientists, via participatory approaches with local people, open source data and peer-to-peer learning networks, to answer the fundamental research questions that are needed to drive implementation and innovation in policy and practice and increase uptake over the longer-term.

We expect the programme to have relevance to ICF KPIs 1, 4, 6, 10, 12, 13, 14, and 15 (transformational change). The programme is expected to contribute to transformational change within 5 years by providing the evidential foundation required to influence decision-makers in developing countries, the private sector and donors (including the UK). It aims to have direct impact on the ground where solutions implemented have positive impacts for climate change and poverty reduction.

To assess the programme against KPI 15, progress at the output and outcome levels will be assessed. While the Component-specific outputs and outcomes will be developed further with the chosen delivery partner, the table below highlights expected outputs, outcomes and impact this programme of work is expected to achieve. The table builds on the Theory of Change (ToC) and will be developed further into a logframe (discussed in section 6.2) along with the selected delivery partners.

|  |  |
| --- | --- |
| Level | Expected Result |
| Outcome | * Policy-makers and practitioners have access to and take-up high quality data on the potential value of NbS in a range of ecosystems, increasing their application with a focus in low and lower middle income countries (GCBC, JNCC); * Practitioners and stakeholders responsible for the design, delivery and long-term management of NbS in LICs and LMICs have better information about ‘what works’ in numerous ecosystems, increasing the cost effectiveness of programming (GCBC, JNCC); * Decision-makers have better access to high-quality data and analyses that supports efforts to protect and restore forest cover, by supporting enforcement of timber regulations and improving global understanding of how forest restoration and protection contributes to biodiversity gains and carbon sequestration (Kew Gardens). |
| Output | * Sub-component 1a: JNCC produce an exhaustive paper on case studies on natural solutions and paper on best-buys for ICF investments into such solutions; and a suite of biodiversity indicators. This will serve to synthesise current evidence on NbS, in turn, directly shaping the long-term research areas explored in the GCBC. * Sub-component 1b: deliver up to 6 scoping reviews for pipeline business cases and international policy development. * Sub-component 2a: Kew Gardens establish an accessible and useable timber and commodity reference library, with sufficient number of samples in place by 2026 to enable enforcement agents to accurately assess the provenance of the majority of samples they receive; * Sub-component 2b: Creation of evidence reviews and scoping studies in support of area-based conservation (30by30) to inform future programming and international policy development; * Component 3: The GCBC develops and provides a range of accessible evidence products, including design support tools, best practice guidance, models, briefing papers and policy reports as well as peer reviewed articles in high impact journals. The GCBC provides a platform to enable free exchange of best practice and approaches e.g. CPET: https://www.gov.uk/government/groups/central-point-of-expertise-on-timber. |

# Strategic Case

## Context and Need for a UK intervention including market, governance and information failures

Degradation of the world’s ecosystems has a significant impact on climate, biodiversity, and ecosystem services; in turn impacting people’s health and livelihoods[[12]](#footnote-13). The global biosphere is rapidly approaching a planetary tipping point; climate change and biodiversity loss present one of the most severe tests to global resilience. [[13]](#footnote-14)

Urgent and concerted action is needed to avoid worsening degradation. Global ambition on tackling climate change will not succeed without significant changes to the forests, land use and marine sectors. The recent IPBES and IPCC assessments and the IPBES-IPCC workshop report[[14]](#footnote-15) stress the need for urgent, holistic solutions and research to fill critical evidence gaps to address climate change and biodiversity loss. 25% of assessed species are threatened with extinction and the extent of natural ecosystems has declined by almost 50%[[15]](#footnote-16). Biodiversity is key to mitigating, and adapting to, the effects of climate change - climate change is a key and growing driver of biodiversity loss which will further undermine its climate mitigation and adaptation potential. And so biodiversity loss and climate change are two sides of the same coin.

The threat to biodiversity is increasing. Forests act as a repository for up to 80% of the world’s terrestrial biodiversity[[16]](#footnote-17) yet they are being degraded at an alarming rate. From 2001 to 2018, there was a total of 361 million ha of tree cover loss globally (over 14 times the size of the UK), equivalent to a 9% decrease in tree cover since 2000 and 98.7Gt of CO₂ emissions[[17]](#footnote-18). 30-50% of mangroves have been lost in the past 50 years due to clearance for development, over-exploitation, and aquaculture[[18]](#footnote-19). Left unaddressed, the consequences of such biodiversity decline could be catastrophic. In relation to mitigation, forests alone absorb the equivalent of roughly 2.9 billion tonnes of carbon dioxide each year[[19]](#footnote-20) and mangroves in the Amazon store twice as much carbon per hectare as the region’s tropical forests[[20]](#footnote-21). In relation to adaptation biodiversity offers vital coastal protection to natural hazards, like tsunamis[[21]](#footnote-22), green infrastructure strategies that work in harmony with grey infrastructure[[22]](#footnote-23) systems, resilience in agricultural systems as climatic conditions affect productivity or pose new pest threats, or protecting and restoring forests and wetlands in catchment areas helps to regulate water supplies, support production of forest products, and protect communities and infrastructure from floods[[23]](#footnote-24). At a relatively low cost, biodiversity reduces climate change vulnerability across numerous sectors, including water, food, cities, infrastructure, supply chains, disaster risk management and health. And yet funding of biodiversity and other natural solutions remains low - attracting less than 3% of available climate finance[[24]](#footnote-25).

We know that while there is a significant body of scientific knowledge behind some aspects of natural solutions there are critical gaps. An internal desk-based review of the evidence identified three critical areas for the development of the evidence base to address key implementation challenges of natural solutions in delivering multiple benefits to cope with climate adaptation and mitigation[[25]](#footnote-26) (see annex 1.1). They relate to: efficacy (for example, trade-offs and complementarities, their long-term impacts and ways to design and manage natural solutions to avoid potential unintended consequences[[26]](#footnote-27)); robustness (for example, difficulty in predicting and measuring outcomes and responses of ecosystem, comparisons to grey infrastructure[[27]](#footnote-28)); and, performance (for example, understanding long-term benefits such as food and water security, trade-offs and benefits)[[28]](#footnote-29) [[29]](#footnote-30) [[30]](#footnote-31) [[31]](#footnote-32). These gaps were further confirmed through discussions with stakeholders and colleagues in the Chief Scientific Advisor’s Office, and through recent research collated under this programme.

Key gaps include (but are not limited to):

The environmental impact of different programming activities, including synergies/trade-offs between poverty, biodiversity and climate mitigation/adaptation outcomes;

The economics of natural solutions, including their cost-effectiveness compared to ‘grey’ solutions and their socio-economic benefits, including in terms of local communities, jobs and the provision of ecosystem services that benefit the poorest;

The public policy changes, including governance and subsidy regimes that are required to best support their delivery;

Behavioural and cultural changes needed to accelerate the adoption of natural solutions;

The design and delivery of natural solutions in low and middle income countries;

Understanding of carbon and biodiversity gains from land restoration, including in relation to the recovery of forest structure, ecological functioning and biodiversity levels; and

Identification of timber origins, therefore limiting the regulation of the timber trade.

Numerous methodological approaches are needed to address these evidence gaps. These approaches include, but are not limited to: experimental work, case studies, modelling, big data, literature reviews, horizon scanning, behavioural studies, business/stakeholder/community surveys and applying traditional knowledge.

The approach to evidence and research is fragmented and not delivering to its potential. There is a growing body of research across a range of organisations in both the global north and south that undertake research on natural solutions. Our ambition is to provide a focal point for accessible research on the role of biodiversity in addressing climate change and development challenges, provide a source of robust primary data and evidence and deliver high uptake of outputs. The proposal draws on lessons from other UK-funded programmes such as the DFID-funded Climate and Development Knowledge Network programme which filled gaps in understanding of climate change impacts and solutions[[32]](#footnote-33) and we will bring this and wider learning from UK domestic and ODA-funded R&D programmes to bear in the detailed design of the GCBC. We are also aware of a number of emerging initiatives that seek to utilise some sort of knowledge exchange element (e.g. IUCN’s NbS Facility, UNEP’s Multi-partner trust fund, and the WRI’s Cities4Forests programme). There is also the EU’s Horizon 2020 programme that have sponsored a number of research projects around NbS.[[33]](#footnote-34) Through extensive international stakeholder engagement, we have not identified any firm donor led initiatives to establish a global centre of sort envisaged through this programme, which would address the lack of evidence in a holistic way (as highlighted through the recent IPBES and IPCC assessments and the IPBES-IPCC workshop report[[34]](#footnote-35)), and the growing demand for such activity, and calls for action.

The programme seeks to respond to the growing international call for ‘nature positive’ futures to which the UK has committed through the Government’s response to the Dasgupta Review, through its G7 commitments (together with other G7 nations e.g. the Nature Compact) and through the Leaders’ Pledge for Nature (with over 80 other nations). The programme also seeks to support and encourage the ambition the UK is calling for on nature through its international nature objectives and the ‘COP26’ climate conference, specifically Nature Day and the ‘Nature in delivering the Paris Goals’ Ministerial event planned on Nature Day. An announcement regarding the programme is tentatively planned for the Ministerial event. This presents the opportunity to highlight the role that this programme may play in supporting enhanced ambition in national development plans, NDCs and NBSAPs, by helping to identify opportunities for countries to invest in nature to help limit global temperature rise to within 1.5 degrees.

Responding to this demand effectively will mean combining academic rigour with a focus on ensuring that the results are available to, and useable by, policy-makers and practitioners on the ground. With this in mind, considerable emphasis will be placed on ensuring that clear plans for the uptake of the research findings delivered by the programme. This includes ensuring project budgets include resource for Technical Assistance, communications and outreach, and ensuring this work feeds into and builds on pipeline and current Defra and HMG international climate finance programming and international policy development. Further, responding to current political, environmental and economic issues is vital in ensuring relevant and appropriate evidence. This includes understanding the implications and forced opportunities of COVID-19.

The UK has an opportunity to demonstrate thought leadership and commitment to science and evidence as part of tackling climate change through this programme. Our world class climate research and academic institutions, as well as our leadership at the G7 and UNFCCC through our COP26 Presidency, provide us the opportunity to deliver a unifying programme that will demonstrate innovation and credibility through the establishment of a Global Centre on Biodiversity for Climate (GCBC) dedicated to the conservation and sustainable use of biodiversity to deliver climate mitigation and adaptation solutions.

**What options have been considered?**

The business case considers four options. These are appraised in the economic case:

1. Option 1: Do nothing;
2. Option 2: Invest in a range of complementary R&D projects with a competed element, focusing on both the immediate, medium and longer term research and development work of Defra;
3. Option 3: Provide grant funding to one research body;
4. Option 4: Increase capacity in-house to deliver research

## What support will the UK provide?

The UK will invest up to ~£51m over the five years 2020/21-2024/25 on the 3 components of this programme dedicated to the conservation and sustainable use of biodiversity to deliver climate mitigation and adaptation solutions, with a possibility of extending this funding to the final year of the ICF period (the current ICF period runs from 21/22 to 25/26 with a ringfenced budget of £11.6bn).

Building effective partnerships will be critical to successful delivery and funding of the programme and is implicit in our thinking around the design of the GCBC and informs the Commercial case. There are three key partnerships that we seek to harness to successfully deliver the proposed GCBC outcomes:

* donors: we are looking to launch the GCBC initially as a UK only programme, both to address the urgency of need in this area (to align with our drive for ambitious actions by countries to meet Paris/2030 targets, as set out in COP26) and to bring to bear UK expertise in this space. However, post-launch of the GCBC there is scope to turn this into a multi-donor programme with the benefits of e.g. i) scaling up funding to expand the remit and impact of the GCBC, ii) extending the networks and country engagement that can be drawn on, and iii) to build the global legitimacy/recognition of the programme by expanding its country ‘ownership’. Experience shows that additional sources of funding may bring additional expectations and create pressure to change the scope of the programme which will need to be carefully managed to ensure that UK objectives continue to be delivered including to bring its global science expertise (and associated soft power) benefits to bear.
* philanthropics and private partners: there are opportunities to capitalise on the recent UNGA announcement, by a group of philanthropic organisations[[35]](#footnote-36), to commit $5bn to protect and conserve 30% of the planet by 2030 as well as to tap into private funding sources as markets for the products of nature-based solutions develop and where the benefits of research are being realised;
* developing countries: the Global Centre will establish research networks and regional hubs (as role models for the wider region) linking research institutes and expertise across the global north and south as well as build strong partnerships with those countries. The location of these regional hubs will be determined in partnership with the Secretariat once established (so first 6 months of the programme), based on various criteria such as institutional capacity, government/country engagement on the agenda, alignment with Defra/HMG priorities etc. Further partnerships will grow organically as the programme delivers over the medium-longer term. As research outputs of the programme are delivered we anticipate increased demand for the research products within developing countries.

The shape of UK support will therefore change during the course of the programme and we will need to carefully manage expectations of other funders, as well as delivery of UK objectives, as the nature of financial support changes. Our trajectory for spend increases into the SR period to allow for a scaling up of research activity by 23/24. Following confirmation of SR settlement, we anticipate establishing the Secretariat this financial year with a view to procuring the first research consortia early in FY22/23. A settlement of £16m for FY22/23 (as part of a £47m GCBC) would allow us to procure and commence funding for this first year with between 5-8 thematic research ‘spokes’ (so £1.9m - £3m per spoke on average), in addition to funding the secretariat (~£1m).

## How will this programme contribute to ICF, Defra and other Policy objectives?

This programme will support the UK in honouring its international commitments, including the UK’s commitment under the Paris Agreement to help mobilise $100 billion of finance by 2020 to help vulnerable developing countries adapt to climate change and take up sustainable, low carbon, resilient and inclusive development. It also supports commitments to the SDGs, including SDG 1 (Poverty Reduction), SDG 2 (Food/Hunger), SDG 3 (Health), SDG 5 (Gender), SDG 8 (Economic Growth and Livelihoods), SDG 13 (climate action) and SDG 16 (Peace and Justice)[[36]](#footnote-37). In January 2021 the Prime Minister committed £3bn of the UK’s £11.6bn international climate finance on nature and biodiversity over five years.

The commissioning of this R&D programme provides an opportunity to embed nature within climate and development activity and to achieve a nature-positive future by supporting relevant international commitments arising through the forthcoming international conferences on biodiversity (“CBD COP15”) and climate change (“UNFCCC COP26”). Through this programme, and in particular the GCBC, we have an opportunity to support and drive ambition by developing countries to invest in nature, to enhance the role of nature within their national development plans, NDCs and LTSACs in support of international commitments to deliver the Paris Goals under the UNFCCC, and support the implementation of the Global post-2020 Biodiversity Framework to be agreed through the Convention on Biodiversity in 2022. The programme will also build on the outcomes of the Dasgupta Review[[37]](#footnote-38) and the Taskforce for Nature-related Financial Disclosures which make the case for valuing and increasing investment into nature as critical to supporting economic growth and development.

The evidence produced by this programme will help global policymakers to understand the scale of opportunity for natural solutions, the impacts of natural solutions on economies, society and the environment to help build a robust case for action. This will be alongside more practical research to improve how natural solutions can be best delivered to improve efficiency and effectiveness of natural solutions delivery further improving vfm. In turn, this will help inform and influence the policy and investment decisions by developing countries that are considering where and how to invest in nature (e.g. as set out in their NDCs, NAPS and NBSAPs). The evidence produced by this programme will also inform the design and delivery of current and future Defra and HMG ODA programmes and influence the activities of other donors and private sector organisations.[[38]](#footnote-39)

This proposal strongly supports the UK Government’s objective to accelerate the global transition to net zero and reset the world’s relationship with nature, including by committing £3 billion of our ICF to solutions that protect and restore nature.

The programme supports the [Defra group outcome framework 2021 –2022](https://intranet.defra.gov.uk/documents/2021/04/defra-group-outcome-framework.pdf/)[[39]](#footnote-40):

* **Priority Outcome 1: Environment** - Improve the environment through cleaner air and water, minimised waste, and thriving plants and terrestrial and marine wildlife.
* **Priority Outcome 2: Net zero** - Reduce greenhouse gas emissions and increase carbon storage in the agricultural, waste, peat and tree planting sectors to help deliver net zero
* **Priority Outcome 4: Agriculture, food, fisheries, animal welfare and biosecurity** - Increase the sustainability, productivity and resilience of the agriculture, fishing, food and drink sectors.

It also contributes to DepartmentalOutcome 5: Strengthening the union and international, by promoting a green, fair and resilient global recovery, halting and reversing global declines in biodiversity, and mitigating and adapting to climate change through work to reset the global relationship with nature, deliver a strategic, high impact and value for money ODA portfolio, and enhance human, animal and environmental health globally.

The programme aligns with the UK Aid Strategy, which seeks to deliver the government’s global efforts to defeat poverty, tackle instability and create prosperity in developing countries, all strongly in support of the UK national interest; and with the National Security Strategy, to secure a prosperous UK, with global reach and influence. It supports the Governments Integrated Review’s commitment to research and development, bolstering our global network, funding British research and development and helping the developing world with the UK’s International Climate Finance. The GCBC also represents our commitment to invest in nature and a ‘nature positive’ economy, integrating biodiversity into economic decision-making in response to the findings of the Dasgupta Review.

The programme supports delivery of the cross-Whitehall ICF strategy thematic delivery area of ‘Nature for Climate and People’.

## Risks

Section 6.3 highlights key risks identified in the programme. This programme has been assessed to have a risk rating of minor and is within Defra’s risk appetite (Annex 5.2). The main risks are delivery risks, especially around the quality and effectiveness of the research products including whether policy makers and practitioners use the findings to deliver better policy and practice.

These risks will be managed by Defra, providing a clear ToR for all delivery partners, ensuring transparency, and regular communication with Defra procurement and commercial teams. In addition, the COVID-19 contextual risks are considered and will be managed by regular communication with delivery partners, updating timelines, changes to finances and safety of staff, and developing contingency plans.

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| |  | | --- | | Economic Case |  Economic rationale This programme will create a global public good, tackling some of the key evidence and data needs relating to the conservation and sustainable use of biodiversity to deliver climate mitigation and adaptation solutions (described above). This will equip decision makers globally with the evidence and knowledge required to address biodiversity loss, climate change and poverty reduction jointly and effectively. NbS have the potential to save 10 GtCO2e per year[[40]](#footnote-41), which exceeds the emissions from global transport, but their uptake is low - attracting only 3% of climate finance[[41]](#footnote-42). Their role was also highlighted in the Dasgupta Review on the Economics of Biodiversity, which advocated greater investment in NbS[[42]](#footnote-43).  As discussed in the strategic case, protection and investment in nature reduces sectoral vulnerability to climate change at a relatively low cost across a wide variety of sectors, including: water, food, cities, infrastructure, supply chains, disaster risk management and health; and in turn creates benefits for people, the environment and biodiversity. Of the 10 GtCO2e potential, 4Gt could come from protecting forests and grasslands, 4Gt from better agricultural and forest management and 2Gt from restoring forests and wetlands36. Separately, NbS can also support those reliant on ecosystems, the loss of which threatens jobs and the ability of people to meet their basic needs[[43]](#footnote-44). For example, oceans have significant economic value, with annual flows of $2.5 trillion per year[[44]](#footnote-45).  To realise the global economic and environmental potential of natural solutions and ensure value-for-money delivery across ICF investments, research must also tackle the dearth of comprehensive evidence directly applicable to implementation.  Research and Development is an important tool in addressing information public goods. Recent evidence from the World Bank[[45]](#footnote-46) demonstrates that global investment in agriculture R&D can increase global GDP by around $100bn, whilst simultaneously reducing the amount of natural habitat which is converted for agriculture. A recent review of UK-funded research on climate change and international development[[46]](#footnote-47) found that over 60% of survey respondents thought that the research programmes:   * Addressed important evidence gaps * Strengthened capacity of research actors in LMICs * Led to an international or national impact   While there are many individual research institutions and groups which focus on different aspects of conservation and sustainable use of biodiversity to deliver climate mitigation and adaptation solutions, these tend to remain focused on specific ecosystems (e.g. forests) or specific disciplines (e.g. ecology, biology, economics). This reflects the history of the field and a tendency within academic institutions to cluster around particular disciplines. While this approach has much to commend it, the potential risk is that it fails to capture the lessons that can be learned across different ecosystems and to promote the multi-disciplinary approach that will be needed to scale investment in nature in the real world. Given the UK’s leadership in this area it is timely to establish a Centre that brings together the best expertise globally in this area and is capable of leading multi-disciplinary research across different types of ecosystems with a focus on LICs and LMICs.  Defra Group has mapped out its extensive international footprint of programme activity, and the programme team has undertaken scoping work to consider the country focus of our NbS programmes based on impact, deliverability and Defra additionality. Country engagement through the GCBC can happen on three levels – i) establishment of regional research hubs; ii) geographical coverage offered by research ‘spokes’; and iii) country/regional focus of the R&D work undertaken. At a strategic level, this country engagement will be determined by us: a top-down framing based on our strategic view of international priorities and country priorities and identification of opportunities and research networks through our existing public sector research establishment footprint. It will also be shaped by the research community: a bottom-up framing based on where the global expertise in different research areas is to be found and where there is most potential for research partnerships, in-country uptake and peer to peer knowledge exchange.  For the purposes of this business case, specific countries have not been identified. This ensures flexibly for the delivery partner and Defra to determine appropriate networks and geographies to maximise outcomes. However, we will be ensuring that countries / geographies selected have a focus on high biodiversity, high climate mitigation / adaptation potential and are aligned with our international priorities.  A critical role of the GCBC is to establish / link global networks in order to build off best practice and ensure the highest chances of research uptake and peer to peer knowledge exchange. By considering the existing Public Sector Research Establishments (PSRE) networks against areas of need/expertise we may be able to identify neglected regions/countries and expand the relevant network to these regions/countries. We intend to utilise, where appropriate, existing networks/structures established by PSREs) and others (e.g. Science and Innovation Network).  Work is underway within Defra’s International Strategy Directorate to map international activities undertaken by core Defra and its PSREs which will enable us to identify suitable delivery partners on the basis of the type of activity and distribution of the network.  In addition to producing world class research, such a Centre would also become a focus for the next generation of academic endeavour in this field, attracting academics from around the world who will then help to shape evidence to guide future policy and practice. Appraisal summary The appraisal has evaluated options using a qualitative assessment of how well each option scores against the Critical Success Factors (CSF) for the programme. These cover the programme outcomes, value for money (VfM) and supplier capacity. The links between these outcomes and the impact in terms of better outcomes for poverty and climate are highly complex and uncertain. Therefore, a quantified or monetised assessment of the value of the benefits has not been possible.  The programme benefits will be:   * Giving policy makers, practitioners, businesses and researchers the evidence base to enable more and better investments in nature globally, building a global evidence base to reinforce and support delivery of international commitments; * Strengthening, and informing the development of, the UK’s ICF programming on ‘Nature for Climate and People’; * Improving the cost-effectiveness of addressing climate change and poverty alleviation through nature through a better understanding of what works. * The ultimate beneficiaries of this programme will be ODA-eligible countries and people living in poverty within these. Equally, the global population will benefit from climate change mitigation achieved through the scale up and effective use of natural solutions and associated benefits from halting and reversing biodiversity loss.   Although the benefits of this programme are non-monetisable, a rigorous approach is taken below to ensure the VfM of this programme both through programme design and through robust processes during delivery. This is in line with [Green Book](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf) guidance to consider quantitative and qualitative benefits in appraisal.  In addition, the [ODA Value for Money guidance](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/712367/ODA_value_for_money_guidance.pdf) highlights the importance of processes around governance and approvals, contracting and procurement, monitoring and evaluation and financial management and reporting. The good practice processes Defra ICF will follow, continuously ensuring VfM throughout programme delivery, are outlined in the commercial, financial and management cases.  The economic case for this programme consists of 4 stages:   * Appraisal Design and Shortlisted Options: sets out the options design process which establishes principles and parameters for the programme. * Appraisal of Shortlisted Options: through a Multi-Criteria Analysis (MCA), based on the programme’s strategic objectives * VfM Appraisal: detailed assessment of the main option against FCDO’s 4Es VfM model, which assesses economy, efficiency, effectiveness and equity. * Mechanisms to Ensure VfM: discussion of how this programme will ensure VfM pre-, during and post- delivery.   Overall, the multi-component approach was identified as the most appropriate programme design. Up to £51.6m capital will deliver the objectives:   1. Evidence to inform policy and design of international climate finance: Evidence for policy and programming (~£900,000) 2. Evidence to strengthen operational delivery of NbS policies and programmes: Driving innovation in forest protection and enforcement monitoring (£3.5 m) 3. Build the long term evidence base: Establish a Global Centre on Biodiversity for Climate (c.£47m)   The multi-component approach has been identified as having the highest potential to take a coordinated and systematic approach to research in the conservation and sustainable use of biodiversity to deliver climate mitigation and adaptation solutions. Further, through a multi-stakeholder approach, knowledge generation will transcend geographies and mobilise action for investing in nature and NbS internationally, evidencing significant capacity and capability for this work, and ultimately delivering VfM. Appraisal design and shortlisted options The options presented below have been assessed using a multi criteria analysis framework. This is a qualitative assessment of how well each option scores against the Critical Success Factors (CSF) for the programme. The programme’s Theory of Change sets out that the key outcomes are: improved data on the potential value of NbS, increased access to data on forests and NbS practitioners having better information about ‘what works’. Given the links between these outcomes and the impact in terms of better outcomes for poverty, climate and biodiversity are highly complex and uncertainty a quantified or monetised assessment of the value of the benefits has not been possible. For example, the particular countries the programme will engage with have not been confirmed at this point, therefore making specific monetised estimates of the value of the economic, social and environmental impacts difficult to quantify.  Delivery options were assessed based on the following CSFs:   |  |  |  | | --- | --- | --- | |  | CSF | Description | | International Policy | Influence on policy | The outcomes of this programme have a direct influence on both UK policy as well as policy in ODA eligible countries. Research is context-specific and so can be applied to address specific policy objectives. | | Shaping future ICF programming | Ability of Defra and wider government to focus the research on delivering ICF evidence needs (effectiveness). | | Global Impact | Mobilising action for investment in nature and NbS | This programme works to mobilise action and maintain momentum into nature and NbS and an initiative to tackle climate change, biodiversity loss and poverty, e.g. through input into COP26 (effectiveness). | | Global knowledge generation | Knowledge is produced globally, to ensure detailed and context-specific expertise is utilised (equity) | | Coordinated and systematic approach to investing in nature and NbS | * Research is aware of and complements other research in the same space. * Research builds on the strength of expertise through numerous disciplines (efficiency). | | VfM | Supplier capacity and capability | This programme evidences its ability to deliver the required services. | | ODA VfM | How well the option optimises social value (social, economic and environmental), in terms of the potential costs, benefits and risks (efficiency and effectiveness). |   Four shortlisted options were identified:  Option 1: Do nothing  This is the benchmark against which all costs and benefits of the other options are articulated and compared. The ‘do nothing’ option presents what we expect to happen over time without this programme.  This option would mean Defra’s ICF does not invest in the research. There will be limited evidence gathering at the programme level through other ICF programmes’ Monitoring, Evaluation and Learning (MEL) processes, however, this option means no strategic targeted, additional R&D addressing the conservation and sustainable use of biodiversity to deliver climate mitigation and adaptation solutions and poverty outcomes. Global research in this area will continue without Defra’s investment, however, this may lack the holistic, coordinated and systematic approach that we have identified as being necessary. Further, outputs of research would not be directly applicable and tailored to ICF programming. As such, ICF would continue to fund programmes of work without a developed and well-established evidence base into the most effective investments in nature.  The importance of strategic research into the conservation and sustainable use of biodiversity to deliver climate mitigation and adaptation solutions is outlined in the strategic case. Proceeding with Defra’s programming of ICF 3.0 under a business as usual scenario is insufficient to ensure the effectiveness of our investments in nature. This option will not deliver change against the following baselines:   * Gaps in the evidence around biodiversity and its effective implementation at different geographic scales. * Lack of effective measurement for biodiversity gains. * Lack of understanding of how biodiversity can be effectively implemented to deliver gains for climate change and poverty reduction. * Lack of monitoring and tracking of the illegal timber trade.   There would be no resource costs for this programme of work.  Option 2: Multi-component approach to international climate, biodiversity and poverty reduction research and development  Broadly, this research will focus on driving the scaling of investment in natural solutions by providing evidence to meet the needs of policy-makers and practitioners in the short, medium and longer term. It will answer immediate questions surrounding the feasibility and application of the conservation and sustainable use of biodiversity to deliver climate mitigation and adaptation solutions; address well-defined medium-term practical knowledge gaps; and, mobilise continued systematic and multi-disciplinary approaches to research and development into natural solutions. This work will also develop and strengthen partnerships in preparation for the increased spending in research and development in Defra’s 2021 ICF portfolio. The cost of this option would be up to £51.6m over 5 years.  The activities and outputs of this programme are:   1. Evidence to inform policy and design of international climate finance (~£900,000 over 5 years)   This component will comprise two parts. The first will work with JNCC to produce an exhaustive review of best-buys and case studies for NbS and robust and quality assured biodiversity indicators that measure the direct impact our programming is having on biodiversity. This will give particular attention to the economic potential of NbS, including returns on investment and better understanding the potential of NbS to improve the livelihoods and incomes of the poorest. The second part will deliver up to six scoping reviews for pipeline business cases and that can also help inform international policy development, ensuing our pipeline is well-informed and evidence-based.  The key outputs are: a paper of exhaustive NbS case studies, a paper on best-buys for ICF investments into NbS, a suite of biodiversity indicators, and scoped options for ICF investments.  This component would shape the GCBC (Component c) by assessing the extent and quality of existing evidence and therefore a more robust assessment of knowledge gaps.   1. Evidence to strengthen operational delivery of NbS policies and programmes: Driving innovation in forest protection and enforcement monitoring (~£3.5 m over 5 years)   This component will comprise two parts. The first sub-component will support Kew Garden’s existing work in developing their collection of samples of timber as a global reference to support the regulation and enforcement of the international timber trade, as part of a transformative approach to halt illegal logging. Working as part of a wider international collaboration, Kew Gardens will develop a timber and commodity reference library by 2026 and develop the tools for effective measuring of carbon sequestration potential and understanding reforestation potential. The second sub-component will fund an evidence review and scoping work to support Defra in understanding the priority countries/areas, potential demand, opportunities and key challenges for ODA-eligible countries to deliver 30x30, and how the Defra could inform and support country ambition and implementation through future ODA programming and international policy development. The sub-components here will produce evidence to alleviate evidence gaps around measurement of NbS, responding to defined operational questions in the medium-term.   1. Build the long term evidence base: Establish a Global Centre on Biodiversity for Climate (~£47m over 5 years)   The output of this Component will be a Centre, operating on the basis of a ‘hub and spoke’ model, leading to the delivery and communication of policy-relevant research, with a focus on LICs and LMICs. At the centre, or hub, a small Secretariat will be established which will establish and co-ordinate research activities to be undertaken within and between networks of research institutes across the UK and globally, including a strong developing country component.  The range of research consortia involved would bring expertise from numerous disciplines and from all over the world and produce a range of evidence products to address evidence gaps identified in component (a), and gaps identified through their own assessment in collaboration with key stakeholders. These evidence products could include, but are not limited to: design support tools, best practice guidance, models, briefing papers and reports. The evidence would link to a strong programme of research uptake, providing practitioners, the private sector and policy-makers with access to the best quality evidence on the conservation and sustainable use of biodiversity to deliver climate mitigation and adaptation solutions.  Additional outputs will be defined and based on proposals from consortium applications. The size, type of organisation and quality of evidence will determine the number of evidence products (outputs) produced. As such, this will not be defined in the business case. As part of the proposal criteria, potential consortiums will outline the expected evidence outputs under the allocated budget. This must also include a budget for open access[[47]](#footnote-48). This will then be used as part of the evaluation criteria. The full criteria will be defined prior to competitive tender and will include criteria on outputs, costs, multi-disciplinary approach, policy experience and expertise.  Option 3: Direct Grant Funding research initiatives  This programme would deliver a direct grant to a single research organisation with particular expertise on natural solutions who would not be able to subcontract any element of the work. This organisation would produce numerous evidence products over a five-year period, building the evidence base for natural solutions as an effective intervention in tackling climate change and poverty.  This organisation would evidence they have an extensive and peer reviewed collection of literature on natural solutions complemented with substantial networks and influence, internationally. They would also take a multi-disciplinary approach to research and development on natural solutions.  A clear Terms of Reference would stipulate which questions should be answered. This would include research into natural solutions in ODA eligible countries and include a focus on forestry or oceans and financing. The organisation would manage funding over the five year period. An example of this would be directly funding a university with expertise in natural solutions. This university could adopt an interdisciplinary approach to research, based on the academic expertise they have access to.  As with option 2, the expected results would depend on the organisation’s over-heads, quality of data and a budget allocation for open access.  To receive a direct award, the organisation would have to demonstrate they are the only organisation capable of delivering this research to the necessary standard. Through stakeholder engagement it was established that there is no single organisation that clearly meets this criteria or with world-leading expertise in the range of research areas of interest thus limiting the quality of delivery. Further, giving such substantial funds to one organisation would present a large delivery risk and make it harder to monitor VfM. Whilst it would clearly deliver a valuable programme of evidence, it most likely won’t be as successful as option 3. Additionally, a direct award to one institution would prohibit wide-scale engagement from a range of diverse research institutions with broad-reaching expertise, and could limit engagement from those research institutions that are from developing countries, as well as engagement with IPLCs.  Option 4: Increasing capacity in-house to deliver research  This option would involve hiring a new evidence team, including: scientists, economists and social researchers. It could also draw on some expertise from ALBs.  An evidence team of around 12 Full Time Equivalent (FTE), would be hired to conduct evidence reviews and basic modelling covering a range of geographies - from coastal regions to the rainforests - as well as influencing factors, such as leveraging finance and political appetite for natural solutions. The research would also look to develop biodiversity indicators for ICF programming, so ICF can ensure our programmes are resulting in gains for biodiversity and nature but will be based on existing information. The additional staff would be hired at a at a cost of c.£563,000 per annum (see Annex 3.2), i.e. a cost of a nominal £2.82m if we assume a programme running over 5 years, in line with the other options.  Given the substantially smaller cost associated with this option, the evidence will need to be almost wholly based on reviewing existing evidence, which won’t be able to address the primary research evidence gaps identified, severely limiting the transformational change aspect of the work. Scope will need to be reduced substantially, limiting the evidence gathering to specific countries or habitats further limiting the transformational change.  This option is considered as it allows for complete control over research direction and focus. However, in-house research would have limited outputs and research would be restricted to civil service guidelines. In conducting research in-house, Defra would not be able to leverage deep networks within academic institutions, benefit from cross-fertilisation from other related programmes and support mechanisms. Furthermore, Defra has limited experience in producing primary research. As such, this would be primarily a desk-based study, therefore limiting the work to an evidence synthesis rather than undertaking primary research. Researchers external to both Defra and HMG also have an additional element of independence from the government with which to challenge established thinking and integrate developing country and IPLC approaches into their work. Appraisal of shortlisted options Multicriteria analysis  The four options have been appraised qualitatively against the CSFs using the following scoring system. The CSFs were weighted equally to produce the total score:   * Red – does not achieve CSF at all – 0 * Yellow – minimal achievement of the CSF - 1 * Amber – some achievement of the CSF – 2 * Green – substantial achievement of the CSF – 3  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Option | Global knowledge generation | Mobilising action for NbS | Coordinated and systematic approach to NbS | Shaping future ICF | Influence on global policy | VfM | Supplier capacity and capability | Total score | | 1:Do nothing | None | None | None | None | None | None | None | 0 | | 2:Multi-component approach | High | High | Medium | High | High | High | High | 20 | | 3:Invest in a R&D programme | Medium | Medium | High | Medium | Medium | Medium | High | 15 | | 4:Increasing capacity in-house to deliver research | Low | Low | Low | High | Low | Medium | Low | 10 |   Option 2 was judged to have the highest level of **global knowledge generation** owing to its global reach, whereas option 3 would be less successful as the research would be conducted in one research organisation. Similarly, scores for **mobilising action** follow the same pattern as it was assumed research developed by a variety of experience and expertise would have greater impact. Option 3 was assessed as having the greatest ability to have a **co-ordinated approach to research on natural solutions** as the research would be delivered by one team, but at sufficient size to have knowledge of all aspects of relevant research. Whilst option 2 also achieves this to a certain extent, there are more co-ordination risks from dividing the research amongst numerous research organisations. In terms of **shaping future ICF**, options 2 and 4 score higher for different reasons - option 2 as it is best able to draw and create the full range of evidence needed and option 4 as the evidence team will be fully embedded within the ICF policy team. Given option 2 has the broadest scope and consists of the broadest representation of researchers, it scores highest against delivering **influential global analysis for policymaking.** The other options score more poorly as their networks for dissemination will be worse and have less credibility internationally. **VfM** is assessing in line with the FCDO’s ODA VfM guidance and is detailed in the section below. Given the resources available under options 2 and 3, they both score ‘High’ in terms **of supplier capability**.  Assumptions were made when conducting the MCA. If these assumptions fail to hold true then the risk they pose and subsequent mitigating actions are considered in the risk assessment (see annex 6.3).  With a score of 20, the highest scoring programme is Option 2. Section 3.5 assesses all options against the FCDO’s VfM guidance. Value for Money Appraisal Value for money (VfM) is assessed by considering the Economy, Efficiency, Effectiveness and Equity of the proposed programme. This methodology is recommended by the FCDO when assessing the VfM of ODA projects.  This qualitative methodology is applied as, in line with DFID guidance[[48]](#footnote-49), it is deemed the most appropriate for research and development looking to create transformational change. Quantitative methodologies, such as estimating the Benefit-Cost ratio are much more challenging to estimate for environmental research and development as pathways from research funded through to development impact are generally complex and indirect. Research and development can achieve VfM through ensuring: the right research areas are selected; delivered by strong partnerships; there is a high standard of research; tight programme management; effective commercial approach and shared learning.  The Strategic Case sets out the overall rationale for funding R&D on the conservation and sustainable use of biodiversity to deliver climate mitigation and adaptation solutions. Defra will work collaboratively with delivery partners across the three strands to ensure that only high-quality work that meets the objectives of this programme is funded.  Maximising VfM in Defra’s ICF programmes means that we design, procure, deliver, and close our interventions to maximise the impact on poor people’s lives, given available resource[[49]](#footnote-50). However, the pathways from research through to development impact are generally complex and/or long and usually involve not only Defra funded research but a range of other research actions and influences. Hence, direct attribution from Defra funding of research to solid, tangible change is difficult to measure. Defra follows FCDO frameworks on VfM at the programme’s design, mobilisation, delivery and closure[[50]](#footnote-51).  There is a robust positive relationship between spending on R&D and economic growth[[51]](#footnote-52).  *Economy*  Options 2 and 3 would have a total budget of £52m to be spent on the following activities:   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Component costs | 2020/21 | 2021/22  [prov.] | 2022/23 | 2023/24 | 2024/25 | Total | | 1a. Measuring the impact of aid on nature & identifying ‘best buys’ | £343,696 | £198,532 | £0 | £0 | £0 | £542,228 | | 1b. Scoping and intervention analysis for future ICF programming | £230,694 | £140,000 | £0 | £0 | £0 | £370,694 | | 2a. Tackling illegal deforestation | £443,128 | £840,000 | £420,000 | £400,000 | £400,000 | £2,503,128 | | 2b. Strengthening monitoring, reporting and verification: | £0 | £430,000 | £200,000 | £190,000 | £180,000 | £1,000,000 | | 3. Establish a Global Centre on Biodiversity for Climate | £0 | £900,000 | £15,380,000 | £19,410,000 | £11,420,000 | £47,110,000 | | Evaluation (integrated from 22/23) | £0 | £85,000 |  |  |  | £85,000 | | Programme costs | £1,017,518 | £2,593,532 | £16,000,000 | £20,000,000 | £12,000,000 | £51,611,050 | | Total | £1,017,518 | £2,593,532 | £16,000,000 | £20,000,000 | £12,000,000 | £51,611,050 |   *Table 1: proposed budgets and schedule of funding*  Option 4 scores more highly on ‘economy’ as at a cost of c.£563,000 per annum (see Annex 3.2), i.e. a cost of a nominal £2.82m if we assume a programme running over 5 years, in line with the other options.  *Efficiency*  Efficiency is the ability to transform input (financial investment) to outputs (e.g. evidence tools and reports). The efficiency assessment is similar for options 2 and 3 given the outputs and governance structures are common to both. Option 4 also demonstrates high efficiency as the much smaller in-house team will require much lighter touch governance.  The outputs of this programme serve the short, medium and long-term research needs. For example, the work with JNCC will evidence and consolidate current research (‘known-unknowns’), in turn helping to shape future ICF investments. Component 2 will focus on clearly defined medium-term knowledge gaps. The GCBC will generate medium (delivering on COP26 legacy) to long-term research, anticipating the next generation of evidence needs in the sector. Facilitating evidence over various timescales is vital to ensure continued development, understanding and effective implementation of NbS. In turn, delivering on efficiency and effectiveness. Specific outputs of this work are given below:   * Sub-component 1a: JNCC will produce an exhaustive paper of NbS case studies and paper on best-buys for ICF investments into NbS. They will also deliver a suite of biodiversity indicators. This will serve to synthesise current evidence on NbS, in turn, directly shaping the research areas explored in the consortium (Component 3). * Sub-component 1b: will deliver up to 6 scoping reviews for pipeline business cases. * Sub-component 2a: Kew Gardens will establish an accessible and useable timber reference library, with sufficient number of samples in place by 2026 to enable enforcement agents to accurately assess the provenance of the majority of samples they receive. * Sub-component 2b: will produce real-time satellite data which will provide innovative data on carbon sequestration by restoration activity. It will also deliver a platform to allow for verification of tree planting activities. It will include a final report which summarises the analysis and our understanding of what works, in what circumstances and how for forest restoration, carbon sequestration and biodiversity gains. * Component 3: The consortium will produce a range of evidence products building on evidence gaps identified in sub-component 1a. These evidence products could include, but are not limited to: design support tools, best practice guidance, models, briefing papers and reports geared for policy makers. The evidence will link to a strong programme of research uptake, providing practitioners and policy-makers with access to the best quality evidence and data to support scaled up use and investment in natural solutions.   Under options 2 and 3, to ensure efficient processes and ongoing VfM, new and existing governance structures will allow Defra to have influence over funding decisions through our positions in both working level and strategic level structures across all components. The governance structures within and across components will be finalised prior to capital disbursement but will ensure additionality, improve investment decisions and drive efficiency to address market barriers/remove distortions. Annual reviews and MEL will help to understand how the governance is working, and identify any changes that need to be made.  There will be different approaches taken for different pieces of work. Delivery partners are, or will be, selected on the basis of being experienced experts in the field, and as such will be efficient in research methodology and delivery. There is potential for further efficiency gains by influencing and mobilising other research into the field.  As discussed in the management case, prior to programme initiation all Components will produce a Terms of Reference including a Component level theory of change to contribute to the programme logframe. These tools will enable Defra to monitor the efficiency of the programme during delivery and take corrective action if and where necessary. Funding will be disbursed gradually and based on performance. This allows us to learn lessons and dynamically adapt programming for future spending.  For the GCBC (Component 3) there will be a further inception phase to establish the secretariat of ‘hub’ and scope delivery of the research ‘spokes’.  The Defra programme team will determine whether outputs have been delivered efficiently and feed this back to the programme. For example, if delays occur in disbursing funds or if evidence or processes are not sufficiently strong. Furthermore, there will be an independent evaluation of the programme. Lessons learned from other programmes and evidence gathered for this programme specifically show that the most efficient programmes are those that can be flexible and responsive to demand and changes in political economy and that transparently engage with their market of potential suppliers.  *Effectiveness and cost-effectiveness*  Effectiveness is assessed through understanding how well are the outputs produced by an intervention are having the intended effect or impact. The impact of this programme of work will be to increase investment in natural solutions by:   * Providing policy-makers in low and middle income countries with high quality data on the opportunities and value of investing in natural solutions, so increasing their confidence in investing in these approaches; (Components 1 and 3); * Providing better information to practitioners on how best to design and deliver natural solutions with a focus on low and lower-middle income countries, so increasing their impact and cost-effectiveness (Components 1, and 3); * Strengthening enforcement of timber regulations and improving verification of forest restoration efforts (Component 2).   As stated above, pathways from research funded through to development impact are generally complex and/or long and usually involve not only Defra funded research but a range of other research actions and influences. Hence, direct attribution from Defra funding of research to solid, tangible change is difficult to measure. Defra follows FCDO frameworks on VfM at the programme’s design, mobilisation, delivery and closure. As such, a quantitative cost effectiveness assessment of the programme is challenging to produce robustly.  This programme, like all ICF programmes, will aim to achieve transformational change and report on this using the qualitative Key Performance Indicator 15. Specific outputs and outcomes will be determined jointly between Defra and the delivery partner in the logframe development process. Progress on the outcomes and the overall transformational change will be monitored and evaluated throughout the programme through the ICF’s results collection and annual review process, which will show whether the programme is on track and achieving the outcomes and impacts that are expected in the theory of change. This will be used to continually assess VfM throughout the programme lifecycle. Data collected during monitoring and evaluation will be crucial to ensure VfM given that a quantitative assessment at this stage is not possible, along with the robust governance structures outlined in the Management Case.  Options 3 is the most effective here, as although the scope is similar to option 2 it has an advantage in terms of drawing on a much wider range of researchers to produce evidence. Option 4 has a much more limited pool of researchers to draw on, so is much less effective and will be very limited in terms of achieving transformational change.  Overall, the programme will drive transformational shifts through the effective incorporation of the outputs outlined above to strengthen the evidence and data base for investing in nature and NbS to tackle climate change, biodiversity loss and poverty reduction. The uptake of this research will translate evidence into knowledge and action and propel and catalyse the prioritisation of nature and biodiversity in effective policy making, private sector investment and scalable, effective programming.  Learning and steering decisions across the programme will be supported by the programme team at Defra. Further, governance structures will be explored which could include advisory boards for specific programme components (e.g. the GCBC) and peer review of the different products.  Understanding how the proposed programme of research fits with other related initiatives being conducted by wider-HMG, think tanks, NGOs, universities, multilateral institutions and governments is important to ensure that it is relevant and offers the best VfM. We have engaged with research groups on how the R&D programme could be embedded in and support the research already ongoing in the space of natural solutions to climate change, poverty and biodiversity. Engagement has also been undertaken with other stakeholders including other HMG departments, ALBs and research institutions, ensuring that research is aligned, relevant, and to limit overlapping of similar work. The design of the programme has been informed by a review of the international literature and broad stakeholder engagement, including engagement with FCDO on financing similar R&D programmes, which has helped inform and shape the programme design,  The success of the programme will be dependent on ensuring that the research commissioned is valued and used by decision-makers and demand led. In the case of the first component, demand is already demonstrated from within government given the immediate need for the best buys and indicator analysis. We expect others to be interested in these outputs also. For the second component, there is demonstrated operational demand to support the enforcement of our timber regulations and due diligence legislation to help reduce deforestation. For the GCBC, the procurement process will require that providers have gone through a robust process to demonstrate demand and/or demonstrate why they propose prioritising investment in answering particular research questions.  *Equity*  Equity recognises that different capacities and vulnerabilities exist in society and these create inequality. By recognising this, it goes beyond the related concept of equality. Through actively addressing inequality and vulnerability, it seeks to encourage fairness and equality in outcomes for all. Climate change undermines development gains and prospects in the world’s poorest countries who are also the most vulnerable to its impacts. It is already having a disproportionate effect on poor communities and marginalised groups including indigenous people and women around the world. If equity is not addressed, it is estimated that 100m more people are at risk of being pushed into poverty by climate change by 2030, and 720m by 2050[[52]](#footnote-53).  Addressing gender inequality is a key priority in environmental and climate change policy globally. For example, the relationship between gender and climate change was recognised by the international community in the Paris Agreement which states “parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights… gender equality, empowerment of women and intergenerational equity.” Gender analysis recognises the different roles and responsibilities of men and women which are culturally and socially constructed. Gender can influence access to resources, information, mobility and voice. This often means that – due to their gender - women and girls are more vulnerable to the impacts of climate and environmental change and are also less able to respond. Failing to consider gender in interventions can perpetuate and even increase these inequalities. On the other hand, specifically addressing gendered inequity can help reduce inequality.  Delivery partners will be expected to ensure the integration of gender, and other social equity metrics into all policies, programmes, and mechanisms in order to empower women and men, reduce inequalities between and among populations, and promote human rights. Delivery partners will especially value the participation of women in workshops, trainings and other activities related to public institutions; understanding the relationship between thematic areas and gender is vital to the overall effectiveness. Where possible, gender will be disaggregated across the programme logframe to ensure that benefits are equitably distributed between men and women. For compliance under the Gender Sections of the 2002 International Development Act, the ODA delivery partner should have a meaningful yet proportionate regard to the contribution its assistance is likely to make to reducing gender inequality before assistance is provided.  As discussed in the strategic case, the destruction of ecosystems will have a significant impact on the health and livelihoods of those most vulnerable, where deforestation and natural resource degradation undermine the livelihoods of some 1.6 billion of the world’s poorest people and disproportionately affect the most vulnerable, including women and indigenous people[[53]](#footnote-54). The programme will work to ensure that equity considerations are taken in all aspects of the programme. Delivery partners will be awarded grants and/or contracts on their ability to evidence a pragmatic and comprehensive approach to ensuing equitable benefits.  At a relatively low cost, nature reduces vulnerability to climate change impacts and improves health, in turn, creating benefits for people, the environment and biodiversity. In urban spaces, for example, natural solutions promote health by offering areas for physical activity, stress relief, and social interaction, which may be considered as cultural ecosystem services[[54]](#footnote-55). Using biodiversity to adapt to climate change in an integrated/One Health approach also fills a government gap to address causes of ecosystem degradation that damage climate and biodiversity loss mitigation potential.  *Ensuring additionality*  An initial desk-based literature review and stakeholder engagement have been undertaken to ensure that this programme is focused on the key evidence gaps around the conservation and sustainable use of biodiversity to deliver climate mitigation and adaptation solutions, which will directly add value to ICF policy and programming, as well as create a global public good for other policy-makers and practitioners. The latest literature acknowledges that, while there is a significant and growing scientific evidence base around natural solutions, the requirements of practitioners are sometimes poorly met by scientific literature. This leaves certain crucial knowledge gaps which are not being addressed by the science community, partly because they are focused on high level issues such as contribution to delivering Paris targets, and their ability to halt global biodiversity loss and deliver the Sustainable Development Goals. These are described in detail in the Strategic Case but include: efficacy (for example, trade-offs and complementarities, their long-term impacts and ways to design and manage natural solutions to avoid potential unintended consequences[[55]](#footnote-56)); robustness (for example, difficulty in predicting and measuring outcomes and responses of ecosystem, comparisons to grey infrastructure[[56]](#footnote-57)); and, performance (for example, understanding long-term benefits such as food and water security, trade-offs and benefits)[[57]](#footnote-58) [[58]](#footnote-59) [[59]](#footnote-60) [[60]](#footnote-61).  Additionality will be ensured by undertaking an extensive scoping exercise to determine what the GCBC should focus on and deliver with a holistic assessment of existing and planned research to address key evidence gaps.. All three components will deliver outputs that do not have any other source of finance available to them. The structure and governance selected will ensure interoperability.  Delivering additionality includes ensuring this work feeds into and builds on other Defra and HMG programming. There is significant work exploring the potential of natural solutions to benefit climate change and poverty. This includes work such as the Dasgupta Review[[61]](#footnote-62), IPBES[[62]](#footnote-63), and the Global Programme on Sustainability (GPS)[[63]](#footnote-64). While there is a significant body of knowledge behind some aspects of NbS, there is an urgent need to deepen and improve understanding of how they can be designed and delivered to tackle the interrelated challenges of climate change, biodiversity loss and poverty. Further, responding to current political, environmental and economic issues is vital in ensuring relevant and appropriate evidence. This includes understanding the implications and forced opportunities of COVID-19.  The proposal for the GCOE was tested through an extensive stakeholder exercise, sharing experience with colleagues across HMG, reviewing comparable programmes, and holding an Early Market Engagement event. This has provided considerable additional information to help shape our proposal. The engagement elicited a clear sense that the GCBC should be multi-disciplinary in focus to address a number of interlinked challenges, that there was a need for more empirical evidence as well as testing of existing research, more emphasis on issues such as monitoring and knowledge transfer, and a stronger focus on international collaboration and engagement with local communities. Feedback also suggested that there was a balance to be struck between the economies of scale to be gained through large-scale research projects which might consider issues at an ecosystem level, and the benefits of more targeted engagement with local communities and the specific challenges they face. It was clear, on the basis of this feedback as well as stakeholder experience and our own assessment from other research programmes, that further funding would be required. It was determined that investing c.£40-50m would allow for depth of coverage of a range of research areas, providing scope for a mix of larger- and smaller-scale research projects and that this would represent a proportionate bid for additional funding through SR21.  In reaching this view other research programmes were assessed for comparison; for example, we considered the ~£70m Programme on Innovation on Direct Air Capture and other approaches to Greenhouse Gas Removal which offered funding for research projects of between £3-5m over 3-4 year periods. Taking a similar approach to the GCBC could provide funding for a secretariat and around 7-8 thematic or cross-cutting research spokes operating over a similar time period. Sub-components 2a and 1a are based on detailed budget breakdowns submitted by delivery partners. Finally, sub-component 1b, is estimated from previous comparable work in ICF. As mentioned, all budgets are subjects to revision based on VfM considerations.  If this programme was not successful and resulted in no action (option 1: do nothing) then while research in this area may continue without Defra’s investment it may lack sufficient funding to create transformational change, and a coordinated and systematic approach to research into NbS. This in turn will impact its ability to inform policy, practitioners and the private sector. Further, outputs of research would not be directly applicable and tailored to ICF programming. As such, ICF would continue to fund programmes of work without a developed and well-established evidence base into the most effective NbS programming.  *In Summary VfM assessment*  Options 2 and 3 score well on efficiency and equity but less well on economy given they are the more expensive options. Option 2 scores the highest on effectiveness however, so is assessed as high vfm overall. Given the lower scores for economy and effectiveness, option 2 scores amber vfm. Option 4 scores less well on equity, effectiveness but highly on economy and efficiency so scores amber overall. Mechanisms to ensure VfM Monitoring and Evaluation (M&E) will be conducted throughout the duration of the programme, ensuring VfM through any corrective action. Further details are discussed in the Management Case but will include ongoing monitoring through KPI results collection, quarterly programme reports provided by delivery partners, and annual reviews. Evaluation will take place at the programme level and be managed by Defra. The design of the evaluation will remain flexible to ensure the most effective and appropriate method is used. This will be finalised through discussions with the strategic evaluation team in Defra, as well as colleagues in FCDO and BEIS.  Evaluations will work to assess whether the programme delivers VfM. This programme will also reflect on lessons learnt from previous programmes in ICF when working to ensure VfM. Moving forward, this programme will also share lessons learnt to inform future ICF programmes, especially R&D programmes. |

# Commercial Case

The Economic Case provided a high-level justification for establishing a multi-component approach to this programme, including the associated costs and benefits. The following sections (Commercial and Financial) provide further information on the financing method and commercial approaches for each component.

## Commercial approach

Defra’s commercial advisers[[64]](#footnote-65) have provided detailed input into the proposed approach from the programme’s early design (including input in this business case) and will continue to support the commercial approach after business case clearance.

The commercial approach for each Component is detailed below. The commercial timeline is outlined in annex 4.1 and a summary of the commercial approach is outlined in annex 4.2.

Component 3: Build the primary evidence base: Establish a Global Centre on Biodiversity for Climate (GCBC)

We propose to assess options for an organisation or ‘fund’ manager to assume the role of the secretariat or ‘hub’ – this could be an organisation such as Kew Gardens or an external provider identified through competitive tender. Our current preference is to seek a direct award to Kew Gardens, who have themselves recently launched a new strategy focused on solutions to the interwoven challenges of the extinction crisis and the climate emergency. A direct award would allow us to draw on the following benefits:

* Kew Gardens is a global plant and fungal science and conservation organisation, with more than 300 scientists, operating in about 100 different countries around the world;
* Kew is recognised globally for its expertise and capability and has strong and extensive engagement with developing country partners;
* through this engagement Kew has significant reach to the indigenous peoples and local communities (IPLCs) that are the key custodians of biodiversity and are often the groups whose livelihoods are negatively impacted by biodiversity loss and climate change. IPLCs will be critical to informing the research undertaken, and in facilitating uptake and dissemination;
* Kew holds not only the unique range of physical plant and fungi collection but also data about their distribution and would bring their legacy of almost 200 years of botanical and mycological science as well as strong research institute collaboration and public engagement.

There are other options including procuring competitively for the secretariat and we will continue to explore our preferred option, together with alternatives, with commercial colleagues to ensure that we are delivering best value for money. Once established, we then expect the secretariat to execute a competitive tendering process on Defra’s behalf for each of the research ‘spokes’. A competition provides the best way of attracting the best expertise, while also testing for commercial value. It is unlikely that any single institution will have sufficient expertise to deliver the range of research required across the GCBC as a whole and to translate the evidence gathered into learning and good practice. Defra therefore proposes that, once the secretariat or ‘hub’ is established, the GCBC runs an open competition, allowing any interested party to apply for funding to deliver research under the research ‘spokes’. Defra will be requesting bids from research institutions, with the lead organisation of any consortium being the one who officially submits the application to Defra. The successful bidder for each research ‘spoke’ will be encouraged to work collaboratively with other institutions/research consortia across the GCBC.  We propose to establish minimum criteria for developing country research institute engagement; this procurement approach has the advantage of maximising the opportunities to bring in such research expertise from low-middle income countries.

The Cabinet Office alternative funding options guidance was considered when determining the appropriate funding mechanism (grant or contract). It was concluded that a grant would be most appropriate for Component 3. This is because, to quote from the guidance, Defra are going to be funding activities that are aligned with departmental policy, paid on evidence of the entity’s need or qualification, in order to finance (or reimburse expenditure on) specific recipient activities or services. Defra will not be paying for any goods or services that will benefit the department solely and directly. Rather, the benefit will be felt by LICs and LMICs who will benefit from the research and evidence generated on natural solutions, which in turn will transform uptake of natural solutions within the wider global community.

Through stakeholder analysis (see annex 3.1), the market that the GCBC competition may attract was identified. An early market engagement (EME) event took place in May 2021 where the proposal was advertised to experts in the field. As part of this, we asked a range of questions to gather intelligence from the market and test the feasibility of our ask. This will work to ensure enough bidders with relevant expertise apply, offering strong VfM. It has also enabled us to tailor our ask to the market’s expectations and feedback. The process will ensure competitive pricing but avoid the constraints of buying the cheapest outcomes and will look at the quality and likelihood of effectiveness of proposals, not just the cost, to assess overall VfM.

Separately, due diligence (a Delivery Partner Review (DPR)) will be carried out on the successful delivery partners to ensure that they have the management, governance and fiduciary systems in place to manage the grant and as necessary to comply with ODA guidelines. A cross-Whitehall contract will be in place by the end of 2021 for the provision of DPR services, which Defra will be able to utilise to procure this DPR. For the period 2020/21, commercial funding is provided by core Defra budgets. As the ICF portfolio grows significantly from 2021/22 (as part of ICF 3.0), Defra ICF will seek to incorporate the cost of commercial support into its programme budget.

There will be evaluation criteria used to select the successful bidders. These will be refined following the business case approval in the ‘Invitation to Apply’ document. This will include, but is not limited to: costs, multi-disciplinary approach, policy experience and expertise and, proposed evidence outputs. The size, type of organisation and quality of evidence products will determine the number of evidence products produced. A proportion of the budget must include costs of open access[[65]](#footnote-66). This will then be used in the evaluation criteria.

Ensuring longevity and continuation after the current 4 year period of the GCBC will be an important consideration for bidders; as Defra’s funding reduces there is potential for other sources of funding to maintain the work of the GCBC. We therefore propose that the possibility of additional funding from other beneficiaries, including match-funding or commercialisation both during and after the 4 year period be detailed within the Applicant’s grant proposal as part of their demonstration that they have considered ways of ensuring the longer-term uptake of research and the continuation and financial sustainability of the GCBC.

Further government funding will be considered at the end of the current 4 year period, where a review will take place to determine if it would be appropriate to continue funding using Defra ICF funding with a particular focus on 25/26 which is the final year of the current ringfenced ICF budget. This is also dependent on the outcome of future spending reviews.

Components 1 and 2: Evidence to inform policy and design of International Climate Finance (Evidence for policy and programming) & evidence to strengthen operational delivery of natural solution policies and programmes (Driving innovation in forest protection and enforcement monitoring)

JNCC are in the process of delivering sub-component 1a and Kew Gardens are in the process of delivering sub-component 2a. Kew Gardens and JNCC are Arms-Length Bodies (ALB), and have experience of managing ODA-related science activities. JNCC were best placed to deliver on Component 1 given their expertise in Defra and specific programming and extensive experience in analysis in support of natural solutions. Further strengthening this relationship is important to influence international research for tackling climate change, biodiversity loss and poverty. As noted in the strategic case, the work with JNCC requires research to be initiated immediately so it can inform Component 3 and also future ICF pipeline. Kew has an established position as a major source of global expertise on climate change, biodiversity loss and poverty[[66]](#footnote-67). Kew Gardens has a unique capacity to house the timber reference library given its global status as a reference facility. The UK Government will compliment input from external governments and civil society, helping to build an international network of expertise. The timber library is already established and therefore ready to produce and deliver research in a far shorter timeframe than any other organisation. Also, creating a new timber library would constitute a lessor VfM proposition since Defra would have to pay for the creation of a new timber library from scratch. Utilising reliable and well-informed ALBs is the only appropriate option as an accelerated commercial process is required. Given both JNCC and Kew Gardens are the only organisations able to deliver their work, they will be directly selected to deliver their respective pieces of work.

A non-legally binding Memorandum of Understanding (MoU) between Defra and the ALBs has been developed to ensure these ALBs produce the necessary products and have the desired reporting requirements. Because collaboration agreements (e.g. MoUs) are not subject to the procurement regulations a competed process is not necessary, however best practice will be followed by way of justifying any direct award, with careful scrutiny of budgets. After clearance of the business case, the MoUs will be established within one month, subject to any complications.

External delivery partners will deliver Components 1b and 2b. The procurement strategies for these Components will be developed following clearance of the business case. For component 2b, procurement of a supplier is currently ongoing.

Component 1b, involves a relatively small investment and will be procured using the FCDO EACDS framework. Given the small size of investment for both sub-Components, following further scoping a ToR will be developed with the delivery partner. This will be approved by the programme SRO[[67]](#footnote-68) and will include the finalised commercial strategies.

As with Component 3, for any external and new delivery partner working on a high value/high risk project a DPR will be carried out on the successful delivery partner to ensure that the delivery partner has the management, governance and fiduciary systems in place to manage the grant and is necessary to comply with ODA guidelines.

For all projects, a clear ToR agreed with all delivery partners will ensure that there is agreement on deliverables. For example, for Component 3, this will involve creating knowledge globally; benefiting ODA eligible countries; and, that the consortium can be announced at the re-scheduled COP26.

## Ensuring value for Money through procurement

VfM is a key consideration in Defra ICF programmes. Each programme component will demonstrate that it is filling priority gaps in the evidence base. Salaries are the primary cost driver for research and we will ensure that these are in line with industry standards. Overall VfM will be determined in significant part by the degree to which evidence is used to drive changes in policy and practice: for this reason, considerable emphasis will be placed on maximising the impact of research, combining traditional approaches of publication of research in high impact peer reviewed journals with innovative approaches to engaging end-users with the results.

For the Components involving procurement, market engagement and a competitive tender process will help ensure the contractor is procured at the right price for the level and quality of outputs that this programme requires. For the GCBC (Component 3), the EME event has offered an opportunity to advertise the consortium to experts in the field. This worked to ensure enough bidders with relevant expertise will apply, increasing competition and VfM. The process will ensure competitive pricing but avoid the constraints of buying the cheapest outcomes and will look at the quality and likelihood of effectiveness of proposals, not just the cost, to assess overall VfM.

## Financial management and Ability of partners to deliver

To ensure good VfM for the taxpayer and that the programme can effectively deliver on objectives, there are numerous principles that guide commercial decisions. This includes ensuring transparency, complying with legal requirements and reporting lessons learned. These are outlined further in Annex 4.3.

Component 3, the GCBC, will bring together multiple research institutes, or consortia led by one institution with a proven capacity and capability to manage large, programmatic funding. In assessing the bids, a range of criteria will be used, including but not limited to a strong track record to deliver high quality, high impact inter-disciplinary research; research management; including proven ability to manage complex, multi-year, multi-partner and multi-disciplinary research programmes and a strong international network of partners.

During the grant term, the lead organisation will have responsibility for managing the consortium and ensuring adherence to Defra’s requirements and terms.

As previously mentioned, Component 2a is being delivered by an ALB (Kew Gardens). Kew Gardens has already evidenced their ability as a delivery partner to manage funding[[68]](#footnote-69). For Component 1b and 2b, the external delivery partner is subject to relevant due diligence requirements as well as being required to demonstrate VfM by assessing the delivery partner’s success in managing similar projects and careful review of proposed budgets.

Reporting, monitoring and evaluation arrangements are detailed in the management case. If performance is not satisfactory, Defra retains the right to terminate funding arrangements. Further, the grant agreements will include claw back clauses for any unspent or uncommitted funds.

## Safeguarding and equality

All delivery partners will need to demonstrate a commitment to maximising the positive environmental and social outcomes of its work while minimising the risks and negative impacts to people and natural capital, particularly on local communities. They will need to show that they have followed at least one or both  of the following standards ‘[Inter-agency standing committee on minimum operating standards on PSEH](https://sp.demeter.zeus.gsi.gov.uk/Sites/aa16/INT/_layouts/15/WopiFrame.aspx?sourcedoc=/Sites/aa16/INT/ODA_Budget/8.%20Communication%20and%20Engagement/Defra_ODA_events/Learning%20day/ODA%20learning%20day%20-%20safeguarding.pptx&action=default)’ and  ‘PSEA elements of the [core humanitarian standard on quality and accounting](https://corehumanitarianstandard.org/the-standard/language-versions)’. Transparency is vital, delivery partners must contact Defra as soon as a concern is raised. See section 6.5 for more information on safeguarding.

## Compliance with gender sections of 2002 International Development Act

Under the Act, the ODA delivery partner should have a meaningful yet proportionate regard to the contribution its assistance is likely to make to reducing gender inequality before assistance is provided. The decision to approve funding should consider the impact on gender inequality – the impact of the intervention on the different genders (men and women) and the relationship between them. It is the responsibility of the SRO to ensure that the impact of this development assistance on gender equality receives ongoing consideration.

## State Aid

This intervention is not expected to be defined as state aid. For government support to be defined as state aid, the aid must provide an economic advantage to a specific economic undertaking. This programme does not provide such an advantage. The research is aimed to serve as a global public good. The state aid regulations therefore do not apply to this scheme and ICF can proceed with the programme without the need for any further state aid analysis. This will, however, be revisited if rules to state aid change following the UK’s transition period in exiting the European Union.

## Commercial Risk

Commercial risks for this programme include: a lack of high quality applications received for the GCBC; level of funding is too high for the grant recipients to manage effectively; Defra receives a high number of bids, including poor quality bids with no chance of succeeding, which is overly time consuming and resource intensive to evaluate; sub-contractors involved do not adhere to the grant terms; and, risk of challenge if an unsuccessful bidder is unhappy with the grant award decision for the GCBC competition. Annex 4.4 details these risks, their likelihood and impact and action to mitigate the risk. Risks should also be considered against the commercial timeline (Annex 4.1).

The management case (section 6) details the monitoring and evaluation requirements for delivery partners. This includes how the commercial agreements will be managed. Annex 6.4 summarises these management agreements, using management indicators. Delivery partners are expected to report relevant information to Defra. If projects fail to do so to the agreed standard, Defra reserve the right to pause or suspend funding. This will be detailed in the commercial agreements[[69]](#footnote-70).

# Financial Case

The following financial case establishes that the preferred option outlined previous is affordable, the best use of Defra ICF funds, and that the principles of sound financial management for public funds are followed.

## Nature and value of the expected costs

*What is the proportion of Defra’s spend on the programme?*

Defra’s overall ICF contribution for SR21 is to be confirmed by HMT (expected 27th October), however the overall ICF bid for the 3 years of SR21 for this programme is £48m. This includes the GCBC at up to £46.2m with £40m currently approved. Over the 5 years from 20/21 – 24/25 the overall programme will total £51.6m and the GCBC projected to be £47.1m. Front line delivery costs (to be drawn from the programme budget) are costed separately and set out in section 5.3.

## Budget classification

Classification this programme has been classified as CDEL, through an ESA10 assessment undertaken by Defra scientists. Annex 5.1 gives the ESA assessment. Overall, it was deemed to satisfy the CDEL criteria. The scientist evaluation concluded that all three work packages had expenditure that clearly meet the ESA 10 definition of R&D:

*‘Creative work undertaken on a systematic basis to increase the stock of knowledge, and use of this stock of knowledge for the purpose of discovering or developing new products, including improved versions or qualities of existing products, or discovering or developing new or more efficient processes of production’. This means the budgets should be designated as: ‘Capitalise in Budgets’.*

In alignment with the Consolidated Budget Guidance (CBG), the accounting evaluation looked at the nature of the components and considered IAS 16 Property, Plant and Equipment and IAS 38 Intangible Assets. Our finance colleagues concluded that:

* Under components 3, 2b and 1 IAS 16 is not applicable as no tangible asset is being created, IAS 38 needs to be considered.
* Under IAS 38 for spend to be an intangible asset it has to have three critical attributes which are: identifiable; control and future economic benefits.

As the expenditure is being funded from the Department’s ODA budget the research will be available publicly to benefit the ODA eligible countries that need access to this information. Defra therefore has no control of any benefits obtained from the knowledge created from the research nor does it have any future economic benefit such as revenue or reduced future costs. Therefore Defra will not have created an intangible asset.

The ESA10 decision tree (Annex 5.1.) has been considered, with the answer being that under International Reporting Standards IAS 16 and 38, this expenditure does not meet capitalisation requirements; the expenditure does, however, meet the ESA10 definition of R&D. The decision tree highlights that the expenditure should be capitalised in the budgets, there is no depreciation or amortisation and it should be treated similarly to a capital grant in that it will be expensed as capital in the accounts in year in which the spend occurs.

5.3. SCHEDULE OF FUNDING

The detailed breakdown of budgets is estimated in the Economic Case. The total cost of the *Scaling nature-based solutions: building the evidence base to inform policy and practice* programme over five years is up to £51.6m between 20/21 – 24/25, with the GCBC comprising the largest element of that up to £47.1m (£40m currently approved). The programme remains deliverable, and the proposed operating model remains viable, with reduced funding (e.g. should Defra not secure all of the requested uplift through SR21). The programme may benefit from additional funding during the next SR period, for example to allow for research programmes requiring longer timeframes to complete their work; this would also provide an opportunity to extend the programme in the event that additional research needs are identified or should a reduced uplift be agreed.

*Early Market Engagement on Component 3*

An Early Market Engagement (EME) event was held in May 2021. This was an opportunity to test our initial ideas for the Global Centre for Excellence on Nature-based Solutions with the market. i.e. whether the proposal served the role needed with regards to filling evidence gaps, as well as demonstrating UK leadership. More specifically the EME focused on the Centre’s role being a hub for best practice and ultimately conducting, synthesising and communicating a range of research and development to drive a transition to a nature positive future through e.g. scaling of NbS. ​

Whilst the proposal was well received, there was an overwhelming response that the ambition for the Centre did not align with the proposed volume of finance (c.£3-4m for a single research consortium). This response reflected stakeholder views of the diversity of solutions, challenges, ecosystems and regions of implementation as well as the increased costs of primary data gathering resulting from the COVID 19 pandemic. A compelling case was made to breakdown the areas of research in natural solutions into thematic areas which would allow for the research undertaken to have more focus and impact across multiple sectors.

Additionally, since the EME event, and to further align with Defra and wider Government’s strategic priorities, the aims and outcomes for the Centre have progressed. For example, in our approach to widening the remit of the Centre we have included environmental quality drivers of ecosystem health, put IPLCs at the heart of the Centre, and brought a stronger focus on primary on-the-ground research. These aspects necessitate significant scale-up in funding to have the impact on the ground which we desire. Reflecting this, the Centre’s working title has been altered, now known as the Global Centre on Biodiversity for Climate (GCBC).

*How expenditure will be managed*

For all Components, costs are subject to change based on VfM considerations and necessary adaptions due to COVID19 and the cross-Government ODA Review conducted in November 2020. Some small adjustments have already been made to Component costs compared with the original business case.

Grants (Components 1b, 2b, and 3) and budget transfers (Components 1a, 2a) will be in sterling. Therefore, any exchange rate risk will be managed by the delivery partner. The overall expected budgets are set out in Table 1.

Delivery partners will be required to provide monitoring information as part of their contractual obligations. This data will be provided as part of quarterly reporting (see 5.6) and to inform the evaluation. This will serve to ensure each Component is on track with expectations outlined in the logframe. Evaluation will take place at the programme level and be funded and centrally managed by Defra. The evaluation validates the quality of the research and thus adds to the knowledge pool. This evaluation will be a separate contract with an external delivery partner. This will be up to 5% of total programme costs. The design of the evaluation will remain flexible to ensure the most effective and appropriate method is used. This will be finalised through discussions with the strategic evaluation team in Defra, as well as colleagues in FCDO and BEIS.

Quarterly reporting will help to identify early on if a Component has slipped, however, prevention is also important to consider. Each Component will be managed to ensure they stay within the projected spend amounts[[70]](#footnote-71). Budgets cannot roll into the next financial year, therefore close monitoring is required to minimise slippage. To monitor for slippage, programme managers will have regular updates from delivery partners, emphasising importance of transparency and accurate financial reporting. Delivery partners will be tracked against key milestones (see management case for more information). Within Defra, programme managers will work closely with the ODA Hub to report risks to slippage. This includes monthly reporting on risks and milestones. The ODA Hub are able to respond quickly to budget changes and to balance the overall ODA budget across Defra’s spending teams. As such, we are able to work flexibly, reprioritising within the ICF portfolio, including bringing other ICF programmes forward.

Grant payments (sub-Components 1b, 2b, and 3) and budget transfers (sub-Components 1a, 2a) will be linked to performance against agreed costs and deliverables. Delivery partners are expected to provide quarterly reports on the spend progress against budget and an annual, externally audited, financial report for the programme.

Proposed budgets are provided for activities (these are *indicativ*e subject to final approved amounts):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Component costs | 2020/21 | 2021/22  [prov.] | 2022/23 | 2023/24 | 2024/25 | Total |
| 1a. Measuring the impact of aid on nature & identifying ‘best buys’ | £343,696 | £198,532 | £0 | £0 | £0 | £542,228 |
| 1b. Scoping and intervention analysis for future ICF programming | £230,694 | £140,000 | £0 | £0 | £0 | £370,694 |
| 2a. Tackling illegal deforestation | £443,128 | £840,000 | £420,000 | £400,000 | £400,000 | £2,503,128 |
| 2b. Strengthening monitoring, reporting and verification: | £0 | £430,000 | £200,000 | £190,000 | £180,000 | £1,000,000 |
| 3. Establish a Global Centre on Biodiversity for Climate | £0 | £900,000 | £15,380,000 | £19,410,000 | £11,420,000 | £47,110,000 |
| Evaluation (integrated from 22/23) | £0 | £85,000 |  |  |  | £85,000 |
| Programme costs | £1,017,518 | £2,593,532 | £16,000,000 | £20,000,000 | £12,000,000 | £51,611,050 |
| Total | £1,017,518 | £2,593,532 | £16,000,000 | £20,000,000 | £12,000,000 | £51,611,050 |

*Table 1: proposed budgets and schedule of funding*

As outlined above, the criteria for selection of the best approach to delivery include research quality, experience in research uptake, capacity development expertise as well as financial cost. It is this combination of criteria which will determine the VfM offered by this programme. On the cost side, benchmarks such as reasonable costs for inputs (researcher’s time, equipment), overheads and direct and in-direct staff costs can be assessed from nationally available data, such as university salary scales. This will be especially important when running the competition for the GCBC. It will help to determine which proposals offer the best quality and quantity of research for a given cost.

If applied to the other options considered in the MCA, it becomes evident that while option 4 (in-house research) would cost c.£563,000 per annum, this option would not deliver the quality and range of evidence, nor the amount of research that can be delivered by a multi-component approach. This is further outlined below through efficiency, effectiveness, equity and additionality sections.

## 5.4 Administrative costs

Within Defra’s bid for funds provision has been made for Front Line Delivery (FLD) costs to pay for those staff directly involved in the delivery of the programmes. The proposed FTE requirements for this programme are set out in Table 2. Some of these positions are already in post while others will be recruited to support programme delivery. While the core posts lie within the International Nature, Climate and Development division, some FTE resource has been earmarked for Environmental Quality and Agri-Food teams. The expected approximate FTE costs, in aggregate, are set out below.

Managing the programme, as well as influencing and participating in key decisions, will require the below staff dedication (full time equivalent (FTE)) from Defra. Of these positions, 3.2FTEs are currently in post while the additional 1.7FTEs will be brought into the programme from April 2022.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **FY** | **FTEs** | ***G6*** | ***G7*** | ***SEO*** | ***HEO*** |
| 22/23 | 4.90 | *0.1* | *1.2* | *2.5* | *1.1* |
| 23/24 | 4.90 | *0.1* | *1.1* | *2.5* | *1.2* |
| 24/25 | 4.90 | *0.1* | *1.1* | *2.5* | *1.2* |

*Table 2: Anticipated Front Line Delivery FTE requirements for the 3-year SR21 period*

It is unlikely that all FTE recruited and in post will stay in post for the next 3 years of the programme. When a member of staff leaves, suitable provisions will be made to ensure there is sufficient FTE dedicated to this programme of work. Resource requirements are expected to increase from 22/23 to reflect the scale up of the GCBC Component of the programme and then stay broadly stable over the 5 year period (the small uplift accounts for salary inflation). FTEs will be carefully monitored to ensure there is not excessive or too limited resource allocated with overall FLD spend monitored by the ODA Hub. The SRO will be notified where action is necessary.

The SEO programme manager reports to a G7 Head of Team and manages a project manager for the GCBC. The SEO programme manager will manage and reports risks and milestones to the ODA Hub. The G7 analysts and Grade 6 will be approached where clearances and specialist advice is required with Deputy Directors currently acting as SROs.

## 5.5. Provisions for DEFRA to withdraw funding

The scenarios of potential suspension of funding, termination and returns to Defra and how they might be triggered, including by the monitoring and reporting cycle, are as follows:

|  |  |
| --- | --- |
| Scenario | Timing and reporting trigger (if relevant) |
| Occurrence of any illegal or corrupt practice. | Annual Reviews (by Defra), regular updates (from the delivery partner). |
| “Extraordinary circumstances that seriously jeopardize the implementation, operation or purpose of the programme”.  This is primarily designed to cover instances of force majeure. ICF assess this may also provide some cover in extreme cases of under-delivery. | Informal updates to the Steering Group, Quarterly financial reports. |
| “If the delivery partner does not fulfill its commitments according to the cooperation contract” | At the time if/when this happens or if identified through regular updates or annual reviews. |

Performance, including under-performance on all fronts (e.g. not achieving targets or failing to report on targets) is managed through the annual review process, according to the FCDO Operating Framework, where a programme is assessed annually as an A+, A, B or C. Programmes which receive a B or C undergo ‘remedial action’ and if the programme receives a B or C two years in a row then they could face early closure and withdrawal of funds.

There are key decision points in the process. These are outlined in Annex 5.3. HMT releases funding to ICF which it is then able to spend on the programme once the SRO with the appropriate delegated authority has approved the release of funds. The lead body manages the finances which are given to delivery partners, accordingly. Quarterly and annual reporting and reviewing determines if funding is achieving VfM and aligns with the Terms of Reference. This is a decision point. Failure to satisfy this means the funding may not be approved by SRO. 5.6. Financial and fraud risk assessment

Financial and fraud risk is assessed as Minor. This is in line with ICF and ODA financial risk appetites which are minor (Annex 5.2). Financial risks include: funds are not used for their intended purpose; expenditure is not properly accounted for; programme expenditure does not represent good VfM; foreign exchange risks programme delivery. Annex 5.4 details these risks including their likelihood, impact and actions to mitigate the risk.

Counter-Fraud and Anti-Bribery processes are aligned to FCDO best practice[[71]](#footnote-72). FCDO has a zero tolerance approach towards aid diversion, and we should do everything within our power to prevent, detect and, if found, respond robustly. Defra will take necessary steps to investigate all allegations of fraud, bribery and corruption and will pursue sanctions available in each case, including dismissal, prosecution, suspension and cancelation of aid.

Fraud will be monitored across the delivery chain. Alongside the quarterly unaudited financial reports, audited financial reports will be provided by the delivery partner annually. Monthly meetings with delivery partners will include a risk management item, including monitoring fraud risks. Within annual reviews, an internal and light-touch Due Diligence can be run by commercial partners.

Grants will be monitored throughout their duration. For projects 2b and 3, particular attention will be given to ensure the risk of fraud is minimised and easily identified. Techniques for managing these grants include staggering payments based on pre-agreed outputs and delivering payment retrospectively. Outputs will be defined as part of the grant strategy and agreed with delivery partners as part of the grant agreement.

## 5.6. powers for spending

The International Development Act (2002) sets out the powers to spend.

1. MAnagement Case

## What are the management & governance arrangements for implementing?

Effective management and governance of the programme is vital to ensure quality and to support uptake. Defra ICF has strong governance in place to monitor the quality of programming. This includes programme manager risk and milestone reporting to SROs and management boards (including Defra’s ODA Board and the Cross-Government ICF Management Board). This is demonstrated in Annex 6.1.

All Components will have strong governance arrangements in place. With all Components, there will be regular updates by delivery partners. As detailed in section 6.2, this includes regular communication, quarterly monitoring and annual reviews. Further governance arrangements for each Component are outlined below. This governance is facilitated by the Defra programme management team which comprises 4.9FTEs per year from 22/23; this includes an increase in 1.7FTEs from our current position (21/22) to help manage additional management requirements arising from the uplift in funding. Although the core programme management will be carried out within the International Nature, Climate and Development Division, the programme will also benefit from FTE resource within the Agri-food Chain Directorate and Environmental Quality Directorate.

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

*1a. Measuring the impact of aid on nature & identifying ‘best buys’*

Defra will work closely with JNCC to ensure the design of the products is as close to Defra ICF needs as possible and designed to inform future programming and research questions. A lead representative from JNCC will be the direct point of contact for the programme lead in Defra. This can ensure that research can be tailored and flexible to meet Defra’s needs with regular meetings to assess progress and to promulgate research findings.

*1b. Scoping and intervention analysis for future ICF programming*

As with Component 1a, Defra will work closely with delivery partners to ensure the design of the products are as close to Defra ICF’s specific programming business case needs and answer specific evidence questions.

Component 2: Evidence to strengthen operational delivery of NbS policies and programmes: Driving innovation in forest protection and enforcement monitoring

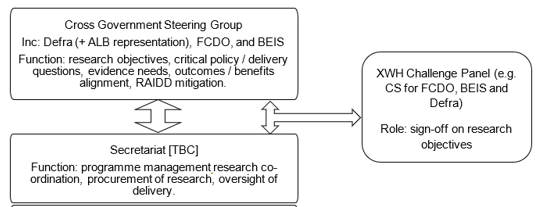
*2a. Tackling illegal logging*: *creating a timber reference library to support enforcement*

Kew is working as part of a network of international research teams to tackle the problem of enforcing international rules designed to reduce illegal deforestation. It will work with Agroisolab, York and U.S. Fish and Wildlife Service National Forensics Lab as well as the Forest Stewardship Council (FSC) and World Resources Institute (WRI) to deliver this project. There are regular updates between partners. Further, the expansion of key customers for project information, from enforcement agencies to increasingly those that operate in the global forest product trade, will help to ensure research remains balanced between supply and demand. The Defra programme lead will continue to have regular communication with the lead of the Component at Kew and link this Component up with the wider programme, to ensure wider knowledge needs are being met and the evidence produced is shared, particularly through the GCBC.

*2b. Strengthening monitoring, reporting and verification*

This work on Monitoring, Reporting and Verification (MRV) will inform and support future ICF investments and international policy development supporting 30by30 protected area ambitions. Further, through regular communication, this work can be shaped to align with wider ongoing HMG and international work and ensure the additionality and relevance of outputs to specific evidence needs.

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



An indicative high-level operational model is illustrated above. The network of research institutions will have a lead delivery partner who will run a secretariat function and be responsible for the delivery of the research contract as a whole, managing sub-contracted partners (research institutes or consortia of research institutes) to deliver research within thematic or cross-cutting ‘spokes’. We propose that a steering group for the GCBC be formed, which will include senior Defra staff members, including representation from Defra’s Chief Science Advisor’s Office (CSAO), ALBs and from FCDO. In addition, it will draw on the expertise of other international experts and senior policy makers suitably independent from the research itself. The Steering Group will help to inform the overall strategy of the GCBC, support quality assurance and advise on uptake of findings and provide a challenge function to ensure efficiency and sign off-on research objectives. The design of this Steering Group will be based on arrangements in similar, comparable consortia in programmes delivered elsewhere in HMG, which have proven effective in delivering high quality research programmes.

In addition, the Defra programme lead will continue to have regular communication with their counterpart in the Secretariat and lead research institutions.

The GCBC will require strong Governance arrangements to ensure successful delivery and, importantly, uptake of outputs. The ICF Programme Manager will manage day-to-day updating of the tools essential to successful delivery of a programme i.e. RAIDD register as well as the work plan, financial management information, and the logframe. Mitigation and validation of assumptions will be escalated and agreed at the Steering Group level. Regular meetings [c. every month] will be based on reviewing and assessing performance of the programme. Outcomes of the meetings will feed into the monthly Dashboards to provide the ICF Senior Responsible Office (SRO) and Senior Management Team with oversight of the performance of this programme.

## Monitoring and Evaluation plan

All Defra ICF programmes are designed to ensure that Defra ICF Monitoring and Evaluating are consistent with the requirements of the UK International Development Act 2015, while maximizing opportunities for learning and providing accountability.

Monitoring is the routine collection, analysis and use of information about programme progress and results being achieved. Evaluation uses monitoring data and other information sources to independently assess the relevance, efficiency, effectiveness, impact and sustainability of interventions and produces actionable learning for performance improvements. Evaluation has a dual purpose – accountability and learning.

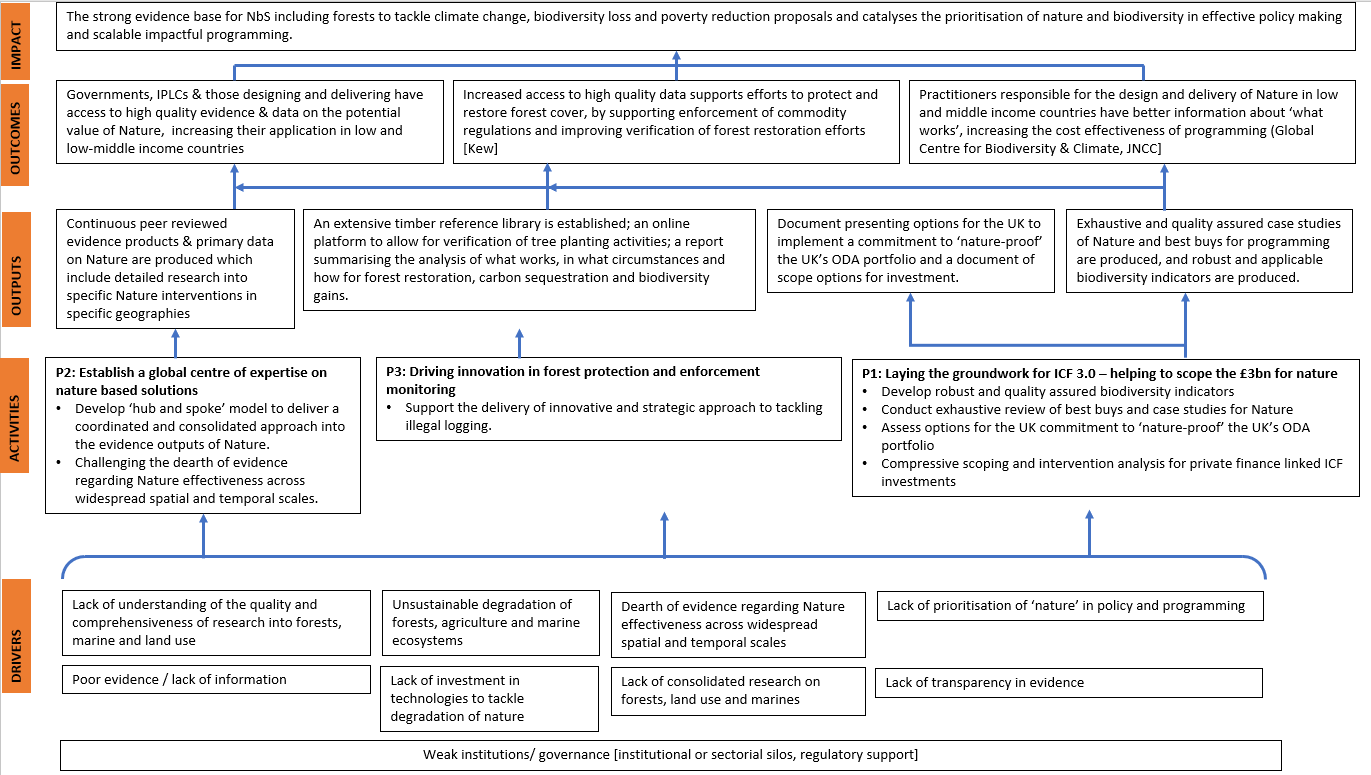
Defra ICF has adopted the programme management approach set up by FCDO which ensures a clear separation between those delivering and those checking against compliance and performance. Programme management will be led by the GCBC Project Manager and the ICF R&D Programme Manager and structured around Project Delivery Plans (PDPs), Annual Reviews and Delivery Partner Reviews. These products ensure strong risk management, uphold safeguarding best practices, and provide clear governance and reporting processes. PDP trackers were adopted from DFID as best practice tools for delivering effective aid programmes and are embedded in the management of programmes across the ICF portfolio.

The ICF Programme Manager will maintain the risk register, an issues log, a work plan, financial management information, the logframe and other important tools critical for the successful delivery of a programme. Regular meetings will be based on reviewing and assessing performance of the programme. Outcomes of the meetings will feed into the monthly Dashboards to provide the ICF Senior Responsible Office (SRO) and Senior Management Team with oversight of the performance of this programme.

The cost of providing monitoring information will be included as part of delivery partners’ admin fee. This data will be provided as part of quarterly reporting, and will be used to inform the evaluation. This will serve to ensure Components are in line with expectations outlined in the logframe. Evaluation will take place at the programme level and be funded, procured and managed by Defra. This will be up to 5% of total programme costs. Delivery partners will be expected to collaborate with the independent evaluator. The design of the evaluation will remain flexible to ensure the most effective and appropriate method is used. This will be finalised through discussions with the strategic evaluation team in Defra, as well as colleagues in FCDO and BEIS.

**Theory of change**

Below highlights the draft Theory of Change (ToC) for this programme, to be refined prior to the programme’s initiation. This ToC represents the programme level. Individual Components will produce their own ToCs which will be mapped back to the programme level.



Within this ToC there are numerous assumptions, outlined below. These assumptions will be revised with the delivery partners for each component and used to shape the logframe (see below). 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.

Key assumptions were made in this ToC:

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 natural solutions continues beyond 2020.

The outcomes as laid out in the Theory of Change are synonymous with programme benefits which we anticipate developing further alongside a suitable delivery model in conjunction with delivery partners to reflect the spending review outcome with a focus on benefits realisation against both programme and project baselines.

###### Monitoring

Annex 6.1 highlights governance structures in place for the programme.

As mentioned above, delivery partners will provide monitoring information as part of their admin fee. This data will be provided as part of quarterly reporting, where the key outputs inform the evaluation and individual Component partners will be expected to collaborate with the independent evaluator. This will serve to ensure Components are on track with expectations outlined in the logframe.

Monitoring will be done against the programme’s milestones. The milestones are presented in Annex 6.2. Delivery partners are expected to report to Defra to evidence progress against milestones. Section 6.3 details the risks and mitigating actions in place.

**Logical framework (logframe)**

A logframe will be managed at a programme level by the Defra programme manager. This will detail activities and expected outputs, outcomes and impact, against which Components will be evaluated. Each delivery partner will develop their own logframe, working with Defra analysts and ensuring that it is aligned with the programme level logframe.

Quarterly progress and financial reports submitted by the delivery partner will be used to monitor progress through an annual review. Defra write annual reviews and are responsible for the final scoring, conclusions and publishing of this document. Delivery partners are expected to support and input on this. Further, logframe indicators and milestones will be updated annually to take into account programme performance, changes to programme design, and/or feedback on the usefulness of current indicators.

Quarterly performance and delivery reports should include:

* 1. Amounts received from the donor (ICF/Defra) in relation to the Component;
  2. Approved and disbursed amounts relating to the Component, broken down by sub-components;
  3. General description of each approved activity and its implementation, broken down by Components; and
  4. Results achieved in respect to the Component’s expected M&E results.

**Key performance indicators (KPI)**

The Components will be required to report on at least one of the ICF KPIs[[72]](#footnote-73). We expect the programme to have relevance to ICF KPIs 1, 4, 6, 10, 12, 13, 14, and 15 (transformational change). All Components will seek to report on ICF portfolio KPI 15[[73]](#footnote-74): “The extent to which the ICF intervention is likely to have a transformational impact”. According to the UK Government Climate Change Compass, “Transformational Change is ‘change which catalyses further changes’”, enabling either, “a shift from one state to another” or “faster change (e.g. speeding up progress on cutting the rate of deforestation)”.

In line with ICF objectives, the programme will be focused on meeting KPI 15. Research and Evidence is vital to deliver transformation in programming for nature. Adoption and operationalisation of research products takes time, as such the programme should be expected to achieve results that can be considered as early signs of transformation, and that are likely to result (in a number of cases, over a time horizon that may go beyond the program’s duration), in transformational impacts.

To assess the programme against KPI 15, progress at the output and outcome level will be assessed. While the Component specific outputs and outcomes will be developed further with the chosen delivery partner, the table below highlights expected outputs, outcomes and impact this programme of work is expected to achieve. The table builds on the ToC and can be developed further into a logframe along with the selected delivery partners.

|  |  |
| --- | --- |
| Level | Expected Result |
| Outcome | * Policy-makers and practitioners have access to and take-up high quality data on the potential opportunities and value of investing in nature and NbS in a range of ecosystems, increasing their application in low and low and middle income countries (GCBC, JNCC); * Practitioners responsible for the design and delivery of NbS in low and middle income countries have better information about ‘what works’ in numerous ecosystems, increasing the cost effectiveness of programming (GCBC, JNCC); * Increased access to high-quality data and analyses supports efforts to protect and restore forest cover, by supporting enforcement of timber regulations and policy efforts to tackle illegal deforestation (delivered by Kew Gardens). |
| Output | * Sub-component 1a: JNCC will produce an exhaustive paper of NbS case studies and paper on best-buys for ICF investments into NbS. They will also deliver a suite of biodiversity indicators. This will serve to synthesise current evidence on NbS, in turn, directly shaping the long-term research areas explored in the consortium. * Sub-component 1b: deliver up to 6 scoping reviews for pipeline business cases, with the Brazil scoping study having already been funded this year through this programme. * Sub-component 2a: Royal Botanic Gardens, Kew will establish an accessible and useable timber / soy reference library, with sufficient number of samples in place by 2026 to enable enforcement agents to accurately assess the provenance of the majority of samples they receive; * Sub-component 2b: Create a unique global dataset on carbon sequestration and biodiversity gains by forest landscape restoration in (sub) tropical ODA-eligible countries. It will include a final report which summarises the analysis and our understanding of what works, in what circumstances and how for forest restoration, carbon sequestration and biodiversity gains. * Component 3: The consortium will produce a range of evidence and data products, including design support tools, best practice guidance, models, briefing papers and policy reports as well as peer reviewed articles in high impact journals. |

The outputs of Component 3 will be defined and based on proposals from consortium applications. The size, type of organisation and quality of evidence products will determine the number of evidence products produced. As such, this will not be defined at business case. As part of the proposal criteria, potential consortiums can outline the expected evidence outputs under the allocated budget. This must include a budget for open access. This will then be used in the evaluation criteria (see section 4).

The table below summarises the monitoring requirements.

| **Document** | **Lead** | **Description** | **Form** | **Cycle** | **Deadline** |
| --- | --- | --- | --- | --- | --- |
| **Quarterly progress reports (monitoring)** | Delivery partner lead and ICF programme manager lead | Informal progress updates | Written and verbal updates | Quarterly | N/A |
| **Annual reports (monitoring)** | Delivery partner lead and ICF programme manager approve | Technical report on programme activities | Agreed paper with grading from ICF | Annual | 12 months of programme initiation |
| **Logframes and ICF results reporting (monitoring)** | Delivery partner lead and ICF programme manager approve | A results framework will be agreed by the consortium lead and ICF | Agreed product at start of programme and to be included in reports | Annual, with updates as and when necessary | Logframes should be updated before funding and updated at least 6 months before an Annual Review |

**Local Feedback & Knowledge**

Successful implementation of NbS and other Nature interventions depends on engagement with, and learning from, IPLCs. As part of this monitoring and evaluation plan, all components will be expected to report on and ensure engagement with IPLCs. We propose that as part of the logframe evaluation, delivery partners will be expected to plan activities to build in local feedback and knowledge. They will carry out regular monitoring of the effectiveness of outcomes via engagement with IPLCs, establish local feedback loops and build a bank of knowledge which will be contributed to and shared via symbiotic channels with IPLCs, wider local communities and components themselves. This information will inform outcomes and outputs in development, and be readily available to IPLCs.

###### Evaluation Plan

This programme will have independent evaluations, including consideration of the extent to which the programme has VfM. Independence here means that the evaluation will be carried out by a third party who is not a member of or directly controlled by Defra or the implementing partner(s).  Programmes must aim for the highest standards of robust impact evaluation, following OECD-DAC criteria[[74]](#footnote-75).

The Defra programme lead, supported by Defra analysts, will commission and manage an independent evaluation of the programme as a whole. We will allocate up to 5% of programme costs (of £51.6m) for the evaluation, as outlined in the Economic Case[[75]](#footnote-76). A detailed evaluation plan will be provided within the first year after programme approval, as is expected in Defra ICF M&E best practice. This will be a summative evaluation, with methods to be used to be confirmed through the contracting of the evaluation and procurement of the evaluation supplier.  This plan will also outline any data collection requirements for the interim until the evaluation takes place, and give ballpark estimates of the costs of the evaluation studies. Delivery partners must provide the independent evaluators with full access to data, documents and people.

The evaluation will use a range of approaches to assess progress against the programme’s Theory of Change (ToC) and project level logframes whilst assessing whether the interventions in place remain the most effective use of resources. The scope of the evaluation will also involve reviewing and improving the programme’s ToC and creating a programme-level logframe. Collecting monitoring information in relation to all the programme’s Components will play an important role in the programme’s Monitoring Evaluation and Learning (MEL) and the evidence and learning from evaluation reports and research activities will inform the adaptive management of the R&D programme.

A positive evaluation is important in securing further ICF funding for future R&D work, with lessons learned ensuring more efficient, cost-effective future programming. The design of the evaluation will remain flexible to ensure the most effective and appropriate method is used. This will be finalised through discussions with the strategic evaluation team in Defra, as well as colleagues in FCDO and BEIS.

## What are the risks and how will they be managed?

This programme has been assessed to have a risk rating of minor and is within our risk appetite (Annex 5.2). The ‘level’ of each risk is based on its probability and the magnitude of potential impact if realised.

Risks are present throughout the programme’s life cycle. Annex 6.3 details these risks including their likelihood, impact and actions to mitigate the risk. The main risks are delivery risks, especially around the quality and effectiveness of the research products including whether policy makers and practitioners use the findings to deliver better policy and practice. Failure to achieve this presents a risk to achieving the intended programme objectives and therefore achieving VfM.

Further, there are risks to not achieving the milestones (outlined in Annex 6.2). Risks to achieving the programme’s milestones will be monitored closely and mitigating action will be taken, as appropriate.

In addition to the risks identified, the success of the programme is dependent also on monitoring and mitigation of issues,[[76]](#footnote-77) dependencies[[77]](#footnote-78) and assumptions. [[78]](#footnote-79)

Defra will maintain a risk, assumptions, issues and dependencies (RAID) register with the Defra programme lead responsible for ensuring it is up-to-date. This will be updated throughout the programme’s cycle. As new risks and issues emerge, and dependencies and assumptions change, appropriate mitigating actions will be taken to minimise the impacts they may have as well as any implications on the outcome of the ToC. If risks exceed their appetite, they will be escalated to the PMO and SRO (as outlined in annex 6.1).

## Avoiding Fraud and corruption

Defra follows FCDO best practice on avoiding fraud and corruption. FCDO expects all organisations to have a zero-tolerance approach to fraud and corruption; acting immediately if it is found, working with authorities to bring perpetrators to account and pursuing aggressive loss recovery approaches. The Review confirmed that all agencies have systems in place to detect and combat fraud.

## Safeguarding

The delivery partners must be committed to maximizing the positive environmental and social outcomes of its work while minimising the risks and negative impacts to people and natural capital. In practice this means protecting and investing in natural and social resources, responding to the challenges of climate change, promoting sustainable infrastructure solutions, and ensuring social inclusion and accountability. The delivery partner must also provide safeguarding assurances. These must ensure that the organisation themselves and any third parties consulted on their behalf have the policies and processes in place to combat the four key points identified below:

* Provide a safe and trusted environment which safeguards anyone who your organisation has contact with, including beneficiaries, staff and volunteers;
* Set an organisational culture that prioritises safeguarding, so that it is safe for people to report any incidents and concerns with the assurance they will be handled sensitively and properly;
* Have adequate safeguarding policies, procedures and measures to protect people and these are shared and understood; and
* Be absolutely clear as to how incidents and allegations will be handled should they arise, including reporting to the relevant authorities.

## Summary of Roles and Responsibilities

A designated lead from each delivery partner is responsible for the regular communication with the programme lead in Defra. Delivery partners are expected to report relevant information to Defra. Annex 6.1 outlines governance arrangements.

The delivery partner is expected to reserve a small percentage of the Component’s cost for monitoring. The monitoring results should then be submitted to Defra’s lead evaluation partner. The evaluation will occur at the programme level. Defra will be responsible for the evaluation of the programme and produce annual reviews.

Annex 6.4 summarises the management agreements, using management indicators. These management indicators show the agreed expectations around monitoring and financial reporting and evidence products. If delivery partners fail to produce evidence to the agreed standard or to agreed milestones (Annex 6.2), Defra reserves the right to pause or suspend funding.

## Communication and engagement

In spring 2021, an Early Market Engagement (EME) event was held to gauge stakeholder interest. This was received positively, with representatives from over 100 institutes in attendance and high levels of interest from a range of parties, in addition to useful market feedback on the approach. We propose to hold another EME, to engage stakeholders with updated plans and further develop understanding of the market, in late 2021/early 2022. This will be used as a communication tool with potential interested bidders with follow-up communications after the event.

Following approval, a stakeholder engagement matrix will be formed for the Component 3. This will be used to inform stakeholder engagement plans and methods of communication in order to manage the wide range of stakeholder involved.

# Annex

|  |
| --- |
| **Annex 1.1: A Defra review to the Barriers to Delivery of Natural Solutions to Climate Change and Development**  The absence of wide-scale take-up of Natural Solutions is caused by a number of barriers:  **Lack of evidence:** With only a handful of large-scale natural solutions-based projects, the evidence base needed to understand the full potential and limitations of natural solutions is lacking. It is suggested that there are three critical areas for the development of the evidence base for key implementation challenges as they relate to the efficacy, robustness, and performance of natural solutions in delivering multiple benefits to cope with climate adaptation and mitigation.[[79]](#footnote-80)  **Efficacy** - Balanced evidence that is capable of assessing the efficacy of natural solutions, particularly within the context of trade-offs and complementarities, their long-term impacts and ways to design and manage them to avoid potential unintended consequences is underdeveloped. There is also a need to identify best practices and the processes through which these can be embedded and scaled up while balancing disservices.[[80]](#footnote-81)  **Robustness** - The complex nature of social–ecological systems makes measuring the outcomes of interventions across scales extremely challenging.[[81]](#footnote-82) [[82]](#footnote-83) Natural solutions offer variable levels of protection, and the response of ecosystems is much harder to predict and cost than engineered/grey infrastructure meaning significant uncertainties remain.[[83]](#footnote-84)  **Performance -** Appraisals of natural solutions’ cost effectiveness do not generally use appropriate frameworks, often underestimating the economic benefits of working with nature, especially over the long terme.g. benefits such as food and water security, trade-offs, future benefits (and uncertainty).[[84]](#footnote-85) [[85]](#footnote-86) [[86]](#footnote-87) [[87]](#footnote-88) Natural solutions also have a higher risk of reversals. The AFOLU sector, within which natural solutions are implemented, is highly dynamic, influenced by weather patterns and climate change, for example, meaning countries could be in a position where they do not achieve their targets, even if they implemented all measures included in their NDC strategy or action plan. |

**3. Economic Case**

3.1 design approach to programme

|  |  |
| --- | --- |
| Approach | Description |
| Engaged with academics and other stakeholders | Discussions with academics and trusted stakeholders highlighted the urgent need to develop the evidence base around natural solutions. It also highlighted the need to establish what research was currently published and what research needed to be commissioned. |
| Engaged with Evidence Team in the Defra group | Working with the International Evidence teams’ highlighted Defra team’s ongoing and pipeline programming, helping to establish what research was needed and how this research programme could be complimentary to others. |
| Engaged with technical experts in FCDO | Technical support from FCDO experts was beneficial in identifying best practice for commissioning R&D programmes, as well as commercial and financial support that would be needed. |
| Engaged with representatives from the Chief Science Advisor Office (CSAO) | The CSAO were able to offer significant support in identifying the gaps in evidence on natural solutions and in designing the GCBC. |

3.2 Staff FTE costings for option 4: in-house R&D, per annum

|  |  |
| --- | --- |
| Grade equivalent | FTE |
| EO | 2 |
| HEO | 6 |
| SEO | 2 |
| G7 | 1 |
| G6 | 1 |
| DD | 0.2 |
| Total Cost | **£563,216** |

3.3 Scoring methodology

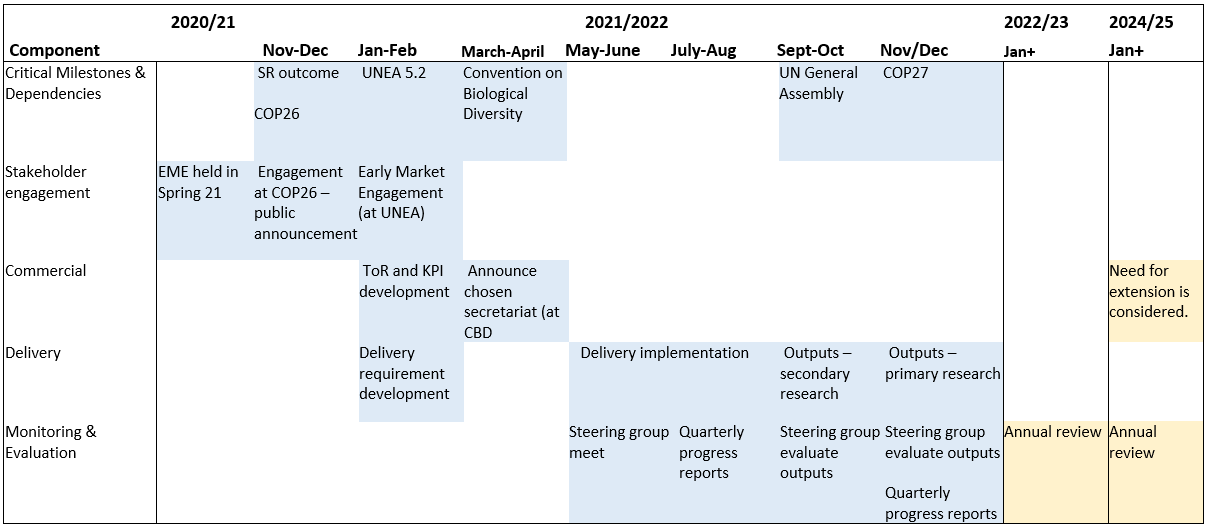
|  |
| --- |
| Assumptions:   * 1. For coordinated and systematic approach to natural solutions: * Where options have been scored ‘high’ it is assumed that delivery partners are able to conduct research in a systematic way. To manage this, we will make it clear in commercial agreements that a systematic and coordinated approach must be planned for and delivered.   1. Shaping future ICF * Where options have scored ‘high’ it is assumed the projects will produce high quality and ICF-relevant evidence outputs. As option 3 would not be able to have as much influence from Defra, it is assumed that this will be the least relevant for ICF programming.   1. Influence on global policy and Global knowledge generation * It is assumed that option 4 (in-house research) would be unable to leverage global influence due to limited networks relative to other options.  1. Mobilising action for natural solutions  * It is assumed that global motivation for natural solutions will continue beyond 2020 and that where options are scored ‘high’ they are able to contribute to this.  1. Supplier capacity and capability  * Where options have scored ‘high’, it is assumed that through the various commercial approaches we are able to ensure that delivery partners have significant capability and capacity. |

**4. Commercial Case**

4.1 commercial timeline for programme[[88]](#footnote-89)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2020/21** | | **2021/2022** | | | | | | | | | | | | **2022/23** | **2024/25** | | | | |
| **Component** |  | **Apr – Jun** | | | **Jul - Sep** | **Oct** | **Nov** | **Dec** | **Jan** | **Feb** | | **Mar** | **Apr+** | | | | **Mar** | |
| **1a. Measuring the impact of aid on nature & identifying ‘best buys’** | MoU finalised and agreed | |  | |  |  |  |  |  |  | MoU agreement ends. Extension considered | | |  | | | |  | |
| **1b. Scoping and intervention analysis for future ICF programming** | Some scoping studies procured | |  | Procurement for remaining scoping studies | |  |  |  |  |  |  | | |  | | | |  | |
| **2a. Tackling illegal logging** | MoU finalised and agreed | |  |  | |  |  |  |  |  |  | | |  | | | | MoU agreement ends. Need for extension is considered. | |
| **2b. Strengthening monitoring, reporting and verification** |  |  | | | Procurement |  |  |  |  |  | | | |  | | | |  | |
|  |  |  | | |  |  |  |  |  |  | | | |  | | | |  | |
| **3. GCBC** |  |  | | |  |  | Procure for  Secretariat/’hub’ |  |  |  | | | | Procure for research ‘spokes’ | | | |  | |

4.1.1 Key milestones for the Global Centre on Biodiversity for Climate



4.2 Summary of commercial agreements

|  |  |  |  |
| --- | --- | --- | --- |
| **Component** | **Commercial approach** | **Value** | **Agreed with DgC (if N- what action?)** |
| 1a. Measuring the impact of aid on nature & identifying ‘best buys’ | Direct Award MoU with ALB | c.£600,000 | Y |
| 1b. Scoping and intervention analysis for future ICF programming | Frameworks or competed grant | c.£300,000 | N- specification to be signed off by SRO |
| 2a. Tackling illegal logging | Direct Award MoU with Kew | £2,589,434 | Y |
| 2b. Strengthening monitoring, reporting and verification: | Direct Award or competed grant | c.£1,000,000 | N- specification to be signed off by SRO |
| 3. Establish a Global Centre on Biodiversity for Climate | Competed Grant | £47,000,000 | Y |
| Programme evaluation | Frameworks or competed contract | up to 4/5% programme cost | N- specification to be signed off by SRO |

4.3 Principles that guide commercial decisions:

|  |
| --- |
| Principles that guide commercial decisions to ensure results are delivered at agreed costs:   * All programme funds will be delivered transparently, effectively and efficiently, without jeopardising the objectives. * Allocation of funding will comply with legal requirements, HMG commercial requirements and principles for ODA spend. * Any future programme procurement exercises (e.g. sourcing a delivery partner for Pillar 3 and a learning contractor) must be planned in detail with Defra specialist teams before proceeding and look to leverage UK and global expertise but must not be designed in a way that distorts the market. * Ongoing VfM and delivery at agreed cost will be ensured through continual improvement processes including: lessons learned from this programme and others in the ICF portfolio, tracking and course correcting based on VfM indicators under development, the Annual Review cycle (see Economic Case). |

4.4 Commercial risk matrix

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk[[89]](#footnote-90)** | **Likelihood** | **Impact** | **Mitigation** |
| No high quality applications are received for the GCBC grant competition. | **L** | **H** | ICF will conduct early market engagement with possible applicants to ensure there is sufficient interest. The application window will also be of sufficient length (roughly 8 weeks) to minimise as much as possible the event occurring. |
| Level of funding is too high for the grant recipient(s) to manage effectively. | **L** | **H** | Effective due diligence and continuous monitoring and reporting of milestone adherence, expenditure reporting, etc. will mitigate the risk of this occurring. An independent third party will assess the successful applicant’s ability to manage the funds. |
| Sub-contractors involved do not adhere to the grant terms. | **m** | **H** | Defra will be clear with the grant recipient(s) that they are responsible for the delivery / compliance of any subcontractors within its remit. |
| Defra receives a high number of bids, including poor quality bids with no chance of succeeding, which is overly time consuming and resource intensive to evaluate. | **m** | **L** | Defra Group Commercial (DGC) and ICF will agree on a screening question within the technical envelope of the Invitation To Apply, which will screen for applicants which are either not relevant or of very poor quality. E.g. we will ask for word limited CVs of the applicant’s project team and evaluate against a criteria on a pass / fail basis. Those that fail this will not be evaluated further. |
| The Defra commercial group do not have the necessary capacity for the *Scaling nature-based solutions: building the evidence base to inform policy and practice* programme.  There is a risk that this may not be prioritised as necessary and as such this risks internal delays to the delivery of the programme. | **m** | **H** | The programme lead will have regular communication with the commercial leads to ensure there is enough capacity and support for this business case. Where there is a lack of capacity, the programme lead will discuss with commercial leads who is best placed to take this work forward and update timelines as necessary. Stakeholders will be informed as to any changes or delays.  Defra’s Portfolio and Strategy Office will continue to work closely with commercial to ensure they have the relevant capacity for both this programme and future ICF programmes. |
| Risk of challenge if an unsuccessful bidder is unhappy with our grant award decision for the GCBC competition. | **m** | **m** | DGC will ensure that applications are marked and evaluated correctly and fairly. DGC will also ensure that the consensus meeting is run as per best practice, fairly and transparently. |

5.**Financial Case**

5.1 ESA10 Assessment

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| --- |
| **ESA10 Assessment**  The three proposed Components to be undertaken in the business case are Component 3 which will undertake research (including primary), Component 2 (sub-components 2a and 2b) which will both undertake research with sub-component 2a also collecting physical samples and the purchase of science equipment and Component 1 (sub-components 1a and 1b) will be desk-based research.  In light of the nature of the expenditure, research, it is appropriate to undertake an ESA10 evaluation to ascertain the budget and accounting treatment of the expenditure. To that end we have consulted with a Defra scientist and our Finance Business Partners.  The scientist evaluation concluded that all three work packages had expenditure that clearly meet the ESA 10 definition of R&D:  *‘Creative work undertaken on a systematic basis to increase the stock of knowledge, and use of this stock of knowledge for the purpose of discovering or developing new products, including improved versions or qualities of existing products, or discovering or developing new or more efficient processes of production’. This means the budgets should be designated as: ‘Capitalise in Budgets’.*  The accounting evaluation looked at the nature of the components and considered IAS 16 Property, Plant and Equipment and IAS 38 Intangible Assets. Our finance colleagues concluded that:  Under components 3, 2b and 1 IAS 16 is not applicable as no tangible asset is being created, IAS 38 needs to be considered.  Under IAS 38 for spend to be an intangible asset it has to have three critical attributes which are: identifiable; control and future economic benefits.  As the expenditure is being funded from the Departments ODA budgets the research will be available publicly to benefit the ODA eligible countries that need access to this information. Defra therefore has no control of any benefits obtained from the knowledge created from the research nor does it have any future economic benefit such as revenue or reduced future costs. Therefore Defra will not have created an Intangible asset.  The ESA10 decision tree, below has been considered, with the answer being no under International Reporting Standards, IAS 16 and 38 this expenditure does not meet capitalisation requirements, the expenditure does however, meet the ESA10 definition of R&D. The decision tree highlights that the expenditure should be capitalised in the budgets, there is no depreciation or amortisation and it should be treated similarly to a capital grant in that it will be expensed as capital in the accounts in year in which the spend occurs.  Under sub-component 2a Kew is the preferred delivery partner. Kew have provided details on potential costs of this component which includes the aspiration of needing to purchase a Dart machine to strengthen their research results, the Dart machine could cost c£200k. A firm decision has not been made as to whether this cost will be supported, however, should it be, this would lead to needing to consider IAS 16. As Defra would be making a budget transfer to Kew, and Kew would be purchasing an asset that will be used over the 5 years of the component life time, they would need to review their polices around capitalisation thresholds and depreciation terms to ascertain if they would be applicable to this purchase.  **Decision Tree for Capitalising Research and Development costs in budget\*.**    *\*Taken from ESA10 guidance criteria. Available upon request.* |

5.2 Defra ICF risk appetite

|  |  |  |
| --- | --- | --- |
| Risk Type | Risk Appetite | |
| **Portfolio** | **Programme** |
| Context  (e.g. in country political developments) | Moderate | Major |
| Reputational  (risk that could threaten Defra's reputation) | Minor | Moderate |
| Fiduciary (funds not being used for intended purposes or being properly accounted for) | Minor | Minor |
| Delivery (risks associated with achieving the aims and objectives of the programme) | Moderate | Severe |
| Safeguarding (risk of doing harm) | Minor | Minor |
| Operational (Defra's capacity and capability to manage the programme) | Minor | Minor |

5.3: Cycle of funding, with key decision points



Defra

5.4. Financial and Fraud risk assessment.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Risk Summary** | **Likelihood** | **Impact** | **Level** | **Mitigation Plan** |
| Funds are not used for their intended purpose | L | M | Minor | A clear Terms of Reference will set out the financial expectations for Defra’s investment. Tight monitoring of finances and complete transparency will be made explicit. Failure to comply with these conditions will result in no further payments being made. |
| Expenditure is not properly accounted for | L | L | Minor | Quarterly reporting is expected (see section 6 for more information). As above, tight monitoring of finances and complete transparency will be made explicit. Failure to comply with these conditions will result in no further payments being made. |
| Programme expenditure does not represent good VfM | L | M | Moderate | A full programme review will be conducted on an annual basis including a VfM assessment. If VfM is no longer being delivered, corrective action can be taken. Should this be insufficient, break points built into the programme may allow funds to be recalled and repurposed (see the management case). |
| Foreign exchange risk  Grants (Components 3, 1b, 2b) and budget transfers (Components 1a, 2a) will be in sterling. Therefore, any exchange rate risk will be managed by the delivery partner. | L | L | Minor | Components 1 and 2 are not expected to be impacted by foreign exchange risk.  Component 3 is expected to have global knowledge production and as such may be at very low risk of fluctuations in exchange rates. These are not expected to pose risk. The programme manager will monitor exchange rates for currencies where research is taking place. Significant fluctuations should be reported and Defra will establish whether funding should be delayed. This risk is owned by the delivery partners. |

**6. Management Case**

A screenshot of a diagram

Description automatically generated

* 1. Milestones of the programme

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Key milestones each year** | | |  |  |  |  |
|  | **2020/21** | | **2021/22** | **2022/23** | **2023/24** | **2024/25** | **2025/26** |
| **1a. Measuring the impact of aid on nature & identifying ‘best buys’** | MoU negotiated July 2020. MoU awarded by Aug 2020 (contingent on approval from HMT). Research over 7 months (August 2020 to March 2021).  MoU finishes March 2021. June 30th final date to cancel the component. |  | |  |  |  |  |
| **1b. Scoping and intervention analysis for future ICF programming** | 6 business cases scoped by April 2022. Projects identified and delivery partner selected by December 2020. December 2020 final date to cancel this component. | | |  |  |  |  |
| **2a. Tackling illegal logging** | MoU negotiated June 2020. MoU awarded by Aug 2020. July 30th final date to cancel the component. | | Ongoing research outputs throughout | | | Research completed and final reports given |  |
| **2b. Strengthening monitoring, reporting and verification** | August 2020 grant strategy produced. Awarded Q4.  Q4 final date to cancel component. | | Ongoing research outputs throughout | | | Research completed and final reports given |  |
| **3. Establish a Global Centre of Excellence on Nature-Based Solutions** |  | | Early Market Engagement - May 2021. Secretariat appointed late 2021/early 2022. | Research tendered – April 2022. Ongoing research outputs throughout | | | Research completed and final reports given / possibility to secure additional funding |
| **Programme level** | June 2020- December 2020 Programme Theory of Change (ToC) and Logframe developed through programme level ToC and logframe discussions. | | Annual Review autumn 2021. Evaluation at the programme level. | Annual Review at summer 2022. Evaluation at the programme level. | Annual Review at summer 2023. Evaluation at the programme level. | Annual Review at summer 2024.  Evaluation at the programme level. | Annual Review at summer 2025. Programme closure report and/or assessment of programme continuation based on performance of programme and SR allocation. |

6.3: Risk assessment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Risk description** | **Likelihood** (Rare, Unlikely, Possible, Likely, Almost Certain), **Impact** (Insignificant, Minor, Moderate, Major, Severe) and **RAG** | **Category of risk (Context,**  **Reputational, Fiduciary, Delivery, Safeguarding, Operational)** | **Within risk appetite\*** | **Management strategy** |
| The evidence product is of low quality as the delivery partner fails to produce the agreed valid, in-depth and appropriate research.  This will have a direct impact on future programming which is reliant on evidence gaps to be filled. It will not be sustainable.  It also risks VfM because it fails to produce the agreed product. | Likelihood: Possible,  Impact: Moderate,  RAG: Moderate | Delivery | Yes | A clear Terms of Reference will be given for all delivery partners to make sure they understand the quality of research they are expected to produce.  Transparency, honesty and regular reporting are vital in identifying potential problems as they occur, and thus taking the necessary measures to address these issues. This will be a clear expectation of delivery partners.  The delivery partner must demonstrate that their research objectives clearly align with Defra’s ICF objectives. They must also clearly show a means of achieving these objectives and the risks associated. |
| Threat to sustainability of research if there lacks a plan and strategy for effective implementation in ODA eligible countries.  This threatens the ability of policy makers and other organisations to adopt NbS as a mechanisms to tackle climate change, biodiversity loss and poverty. Components are either not adopted or implemented poorly. | Likelihood: Possible  Impact: Moderate  RAG: Moderate | Delivery/ context | Yes | Delivery partners must demonstrate their long-term plans for this research, including up-take and demand for their research. This must adopt context-specific approaches; taking into consideration environmental, economic, political and social factors.  Defra must plan how this research will fit into its future pipeline programming to ensure the evidence produced is adopted and integrated into future programmes.  Research organisations in ODA eligible countries will be considered in procurement as they offer unique understanding of their environment. |
| Defra are unable to obtain the necessary expertise to develop and procure the consortium.  This would mean Defra’s internal teams are unable to effectively develop the frameworks for, and procure, the consortium.  This risks the delivery of a high quality consortium and the procurement of appropriate expertise. As a result, this programme would fail and evidence would not be produced. | Likelihood: Possible  Impact: Major  RAG: Major | Delivery | Yes | Defra will consider the necessary resourcing and capability requirements for both this programme of work as well for future programming to ensure sustainability.  The budget for the initial procurement of the consortium is smaller than future budgets may be to limit financial risk. |
| There is a risk that delivery partners fail to meet agreed milestones.  This could either be due to delays in Defra’s internal clearance and commercial processes, or the delivery partner fails to work to the agreed timeframe.  This risks the delivery of evidence products that may be necessary for future programmes. It also risks missing spending deadlines. | Likelihood: Possible  Impact: Major  RAG: Major | Delivery | Yes | Regular communication with delivery partners will be vital. Updating timelines, changes to finances and safety of staff.  Transparency, honesty and regular reporting are vital in identifying potential problems as they occur, and thus taking the necessary measures to address these issues. This will be a clear expectation of delivery partners.  If delivery partners continue to miss important milestones, Defra is able to suspend payments. |
| COVID-19 restrictions on working, isolation measures and absences threaten delays to the funding of delivery partners and programme implementation. This poses a risk to achieving ICF spending targets.  There are some additional risks to specific components:  Component 3: Reduced appetite for the GCBC because of reduced capacity and ability to make bids. This risks leveraging the world’s best expertise for the GCBC.  Sub-components 1a and 2a: Delay in Defra internal processes, delaying MoU agreement. This means delayed start-up of components and risks missing financial milestones and obtaining evidence products in the required timeframe.  Sub-components 1b and 2b: are likely to start later and as such are expected to be at significantly lower risk of delay due to COVID-19. | Likelihood: Likely  Impact: Moderate  RAG: Major | Delivery/ reputational/ operational | No (minor risk appetite for operational risk) | Regular communication with delivery partners will be vital. Updating timelines, changes to finances and safety of staff.  Contingencies will be developed in case this programme of work will not achieve spend by December 2020.  Defra can assess the appetite, capacity and capability for the consortium via email. This can establish whether delaying the programme is necessary.  Specific component mitigation efforts include:  Component 3: Reach out to trusted stakeholders to gauge potential appetite for bidding. If necessary, delay any EME events and bid process until universities and other research organisations are running.  Components 1a and 2a: Readjust milestones, where no longer feasible and ensure Defra ICF Portfolio and Strategy Office (PSO) are aware of changes to account for portfolio spend. Increase flexibility in MoU for end date of component and keep stakeholders well informed as to changes. For sub-component 1a, where there looks to be a delay to evidence products, work with JNCC to get regular, smaller out-puts rather. |

\* Defra ICF has a specific risk appetite. See Annex 5.2 for more information.

6.4: Summary of management expectations discussed in section 6

| **Metric** | **Management indicators** | **Description** | **Minimum Standard** | **Acceptable Standard** |
| --- | --- | --- | --- | --- |
| Management Information (Assessed by Authority) | **Reports (Management Information)**  **Deliverables:** | Quarterly progress and financial reports submitted by the delivery partner will be used to monitor progress through an annual review. Defra write annual reviews and are responsible for the final scoring, conclusions and publishing of this document. Delivery partners are expected to support and input on this. Further, logframe indicators and milestones will be updated annually to take into account programme performance, changes to programme design, and/or feedback on the usefulness of current indicators. | Verbal and/or written updates are not given for one or more quarterly report. | Information for quarterly reports are provided. Updates are given through written and/or verbal updates |
| Financial Information (Assessed by Authority) | **Updates to the Authority**  **Deliverables:** | Financial quarterly performance and delivery reports should include:   * Amounts received from the donor (ICF/Defra) in relation to the programme; * Approved and disbursed amounts relating to the programme, broken down by components; * General description of each approved activity and its implementation, broken down by components; and * Results achieved in respect to the programme’s expected M&E results. | Delivery partner does not report on all financial quarterly performance and delivery components, where applicable. | Delivery partner reports on all four financial quarterly performance and delivery components. |
| Written Material (Assessed by Authority) | **Evidence products** | Evidence products are expected to be delivered within 6 months of the programme’s inception. Regular reporting against this timeline is necessary.  Draft reports are delivered on time and reports and external publications are of a good quality, well-written, with a clear purpose, content tailored to the intended audience, easy to understand and fit for purpose.  95% of scheduled outputs delivered on time. | Less than the agreed scheduled outputs delivered on time and the quality is below the standard expected for one or more of the evidence products. | 95% of scheduled outputs delivered on time and delivered to the agreed quality. |

1. IUCN (2019) https://www.iucn.org/commissions/commission-ecosystem-management/our-work/nature-based-solutions [↑](#footnote-ref-2)
2. Griscom et al (2017) “Natural climate solutions”. Proceeding of the National Academy of Sciences. [↑](#footnote-ref-3)
3. Griscom BW et al. (2020) National mitigation potential from natural climate solutions in the tropics. Phil. Trans. R. Soc. B 375: 20190126. [↑](#footnote-ref-4)
4. https://wwfint.awsassets.panda.org/downloads/report\_the\_state\_of\_the\_indigenous\_peoples\_and\_local\_communities\_lands\_and\_territor.pdf [↑](#footnote-ref-5)
5. ICF 3.0 refers to the spending period 2021/22- 2025/26. [↑](#footnote-ref-6)
6. Griscom et al (2017) “Natural climate solutions”. Proceeding of the National Academy of Sciences. [↑](#footnote-ref-7)
7. <https://ttf.co.uk/enforcement-market-surveillance-report-2016-2017-summary/> [↑](#footnote-ref-8)
8. Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services [↑](#footnote-ref-9)
9. The UK government is committed to the [2030 Agenda for Sustainable Development](https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf) and the [Strategic Framework for the International Plant Protection Convention (IPPC) 2020-2030](http://www.fao.org/documents/card/en/c/cb3995en) which contributes to the UN’s SDGs, in particular SDG 2 (Zero Hunger) [↑](#footnote-ref-10)
10. e.g. by successfully managing and restoring mangroves Defra’s ICF Blue Forests programme has already delivered a $281,680pa increase in mangrove forest ecosystem services in 8,500ha of forest; [↑](#footnote-ref-11)
11. LMICs are particularly impacted by changes to climate, biodiversity loss and pollution which is often most acute because they are industrialising but without fully developed environmental safety and regulatory frameworks [↑](#footnote-ref-12)
12. https://www.un.org/sustainabledevelopment/biodiversity/ [↑](#footnote-ref-13)
13. See [Global Footprint Network](https://www.footprintnetwork.org/) (footprintnetwork.org) and Dasgupta. P (2021) The Economics of Biodiversity: The Dasgupta Review. London, HM Treasury. [↑](#footnote-ref-14)
14. <https://ipbes.net/sites/default/files/2021-06/20210609_workshop_report_embargo_3pm_CEST_10_june_0.pdf> [↑](#footnote-ref-15)
15. https://ipbes.net/global-assessment [↑](#footnote-ref-16)
16. WWF (2018) Living Planet Report. https://wwf.panda.org/knowledge\_hub/all\_publications/living\_planet\_report\_2018/ [↑](#footnote-ref-17)
17. https://www.globalforestwatch.org/dashboards/ [↑](#footnote-ref-18)
18. https://www.worldwildlife.org/publications/living-blue-planet-report-2015 [↑](#footnote-ref-19)
19. Pan et al (2011): http://science.sciencemag.org/content/early/2011/07/13/science.120160 [↑](#footnote-ref-20)
20. Carbon Brief (2018) https://www.carbonbrief.org/amazon-mangroves-twice-as-carbon-rich-as-its-rainforests [↑](#footnote-ref-21)
21. https://blueventures.org/landmark-study-shows-the-true-value-of-madagascars-mangroves/ [↑](#footnote-ref-22)
22. Grey infrastructure is human-engineered solutions that often involve concrete and steel. More at: WRI (2012) https://www.wri.org/blog/2012/06/green-vs-gray-infrastructure-when-nature-better-concrete [↑](#footnote-ref-23)
23. https://www.naturebasedsolutionsinitiative.org/what-are-nature-based-solutions/ [↑](#footnote-ref-24)
24. Adams (2018) there is a forgotten solution to climate change that we must invest in – nature. World Economic Forum. [↑](#footnote-ref-25)
25. Niki Frantzeskaki et al. (2019) <https://doi.org/10.1093/biosci/biz042> [↑](#footnote-ref-26)
26. [Ibid] [↑](#footnote-ref-27)
27. Seddon et al. (2019) <http://dx.doi.org/10.1098/rstb.2019.0120> [↑](#footnote-ref-28)
28. Wild T, Henneberry J, Gill L. 2017 Comprehending the multiple ‘values’ of green infrastructure—valuing nature-based solutions for urban water management from multiple perspectives. Environ. Res. 158, 179–187. [↑](#footnote-ref-29)
29. Reddy SM et al. 2016 Evaluating the role of coastal habitats and sea-level rise in hurricane risk mitigation: an ecological economic assessment method and application to a business decision. Integr. Environ. Assess. Manag. 12, 328–344. [↑](#footnote-ref-30)
30. Kabisch N et al. 2016 Nature-based solutions to climate change mitigation and adaptation in urban areas: perspectives on indicators, knowledge gaps, barriers, and opportunities for action. Ecol. Soc. 21, 26270403. doi:10.5751/ES-08373-210239 [↑](#footnote-ref-31)
31. Seddon et al. (2019) <http://dx.doi.org/10.1098/rstb.2019.0120> [↑](#footnote-ref-32)
32. [DevTracker Project GB-1-114370 Documents (fcdo.gov.uk)](https://devtracker.fcdo.gov.uk/projects/GB-1-114370/documents/). The CDKN programme offers a number of lessons such as in relation to multi-donor funding and country engagement. [↑](#footnote-ref-33)
33. <https://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-climate_en.pdf> [↑](#footnote-ref-34)
34. <https://ipbes.net/sites/default/files/2021-06/20210609_workshop_report_embargo_3pm_CEST_10_june_0.pdf> [↑](#footnote-ref-35)
35. Arcadia, Bezos Earth Fund, Bloomberg Philanthropies, Gordon and Betty Moore Foundation, Nia Tero, Rainforest Trust, Re:wild, Wyss Foundation, and the Rob and Melani Walton Foundation [↑](#footnote-ref-36)
36. Eppel et al (2019). Biodiversity, Ecosystems and Sustainable Development – The Role of UK Overseas Aid. Biodiversity and Sustainable Development Advisory Council. [↑](#footnote-ref-37)
37. https://www.gov.uk/government/collections/the-economics-of-biodiversity-the-dasgupta-review [↑](#footnote-ref-38)
38. We have already shared the conclusions from Component 1a across Government and externally, and within Defra we are already using some of the outputs from Component 1a as the basis for developing recommendations on how we can work with our Impact Investment Fund delivery partners to develop best practice monitoring and assessment of biodiversity impacts. [↑](#footnote-ref-39)
39. [Department for Environment, Food and Rural Affairs Outcome Delivery Plan: 2021 to 2022 - GOV.UK (www.gov.uk)](https://www.gov.uk/government/publications/department-for-environment-food-and-rural-affairs-outcome-delivery-plan/department-for-environment-food-and-rural-affairs-outcome-delivery-plan-2021-to-2022) [↑](#footnote-ref-40)
40. [Nature-based solutions can help cool the planet — if we act now](https://www.nature.com/articles/d41586-021-01241-2) [↑](#footnote-ref-41)
41. https://climatepolicyinitiative.org/wp-content/uploads/2019/11/2019-Global-Landscape-of-Climate-Finance.pdf [↑](#footnote-ref-42)
42. [Final Report - The Economics of Biodiversity: The Dasgupta Review - GOV.UK (www.gov.uk)](https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review) [↑](#footnote-ref-43)
43. WWF (2018) Living Planet Report. https://wwf.panda.org/knowledge\_hub/all\_publications/living\_planet\_report\_2018/ [↑](#footnote-ref-44)
44. http://www.fao.org/3/a-bc014e.pdf [↑](#footnote-ref-45)
45. [World Bank Document](https://documents1.worldbank.org/curated/en/445311625065610639/pdf/A-Global-Earth-Economy-Model-to-Assess-Development-Policy-Pathways.pdf) [↑](#footnote-ref-46)
46. [01880-UKCDR-Climate-Change-Report.pdf](https://www.ukcdr.org.uk/wp-content/uploads/2021/04/01880-UKCDR-Climate-Change-Report.pdf) [↑](#footnote-ref-47)
47. This is in line with FCDO best practice. More information at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/181176/DFIDResearch-Open-and-Enhanced-Access-Policy.pdf [↑](#footnote-ref-48)
48. FCDO Internal Guidance: RED VFM Framework (October, 2016). Available upon request and with necessary permission. [↑](#footnote-ref-49)
49. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/712367/ODA\_value\_for\_money\_guidance.pdf [↑](#footnote-ref-50)
50. FCDO Internal Guidance: RED VFM Framework (October, 2016). Available upon request and with necessary permission. [↑](#footnote-ref-51)
51. https://assets.publishing.service.gov.uk/media/57a08c9140f0b652dd0013f0/Return\_on\_Research.pdf [↑](#footnote-ref-52)
52. Shock Waves: Managing the Impacts of Climate Change on Poverty. Climate Change and Development Series. World Bank. 2016. https://openknowledge.worldbank.org/bitstream/handle/10986/22787/9781464806735.pdf [↑](#footnote-ref-53)
53. http://www.fao.org/forestry/livelihoods/en/ [↑](#footnote-ref-54)
54. Kabisch N, van den Bosch M, Lafortezza R. The health benefits of nature-based solutions to urbanization challenges for children and the elderly - A systematic review. Environ Res. 2017;159:362‐373. doi:10.1016/j.envres.2017.08.004 [↑](#footnote-ref-55)
55. [Ibid] [↑](#footnote-ref-56)
56. Seddon et al. (2019) <http://dx.doi.org/10.1098/rstb.2019.0120> [↑](#footnote-ref-57)
57. Wild T, Henneberry J, Gill L. 2017 Comprehending the multiple ‘values’ of green infrastructure—valuing nature-based solutions for urban water management from multiple perspectives. Environ. Res. 158, 179–187. [↑](#footnote-ref-58)
58. Reddy SM et al. 2016 Evaluating the role of coastal habitats and sea-level rise in hurricane risk mitigation: an ecological economic assessment method and application to a business decision. Integr. Environ. Assess. Manag. 12, 328–344. [↑](#footnote-ref-59)
59. Kabisch N et al. 2016 Nature-based solutions to climate change mitigation and adaptation in urban areas: perspectives on indicators, knowledge gaps, barriers, and opportunities for action. Ecol. Soc. 21, 26270403. doi:10.5751/ES-08373-210239 [↑](#footnote-ref-60)
60. Seddon et al. (2019) <http://dx.doi.org/10.1098/rstb.2019.0120> [↑](#footnote-ref-61)
61. https://www.gov.uk/government/collections/the-economics-of-biodiversity-the-dasgupta-review [↑](#footnote-ref-62)
62. IPEBS (2019) https://ipbes.net/global-assessment [↑](#footnote-ref-63)
63. World Bank Programme funded by Defra. More information at: https://www.worldbank.org/en/programs/global-program-on-sustainability [↑](#footnote-ref-64)
64. Commercial has provided overall support and leads specifically on grant projects (projects 1, 2b, 3b). Commercial support on MoUs (projects 2a and 3a) has been provided. [↑](#footnote-ref-65)
65. This is in line with FCDO best practice. More information at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/181176/DFIDResearch-Open-and-Enhanced-Access-Policy.pdf [↑](#footnote-ref-66)
66. Kew is a global resource for plant and fungal knowledge. Kew make their scientific resources a global asset, bringing benefits to science, conservation policy and education worldwide. [↑](#footnote-ref-67)
67. For this programme the SRO is currently DD level, but this role is being carefully reviewed and may be delegated in order to maximize effectiveness. [↑](#footnote-ref-68)
68. Kew is an ALB that has managed and continues to manage government grants. [↑](#footnote-ref-69)
69. For Project 1, 2b and 3c this will be detailed in the respective grants; and, for project 2a and 3a, this will be detailed in their respective MoUs. [↑](#footnote-ref-70)
70. To note, ICF funding is ring-fenced within ODA spending. Any unspent funds from this programme specifically are not expected to return to HMT. [↑](#footnote-ref-71)
71. Guidance available upon request and with necessary permissions [↑](#footnote-ref-72)
72. Further information can be found on [https://www.gov.uk/government/publications/uk-climate-finance-results](https://nam03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.gov.uk%2Fgovernment%2Fpublications%2Fuk-climate-finance-results&data=02%7C01%7Crcervigni%40worldbank.org%7C2bf4a741bfc045f0d2f508d795e5ba37%7C31a2fec0266b4c67b56e2796d8f59c36%7C0%7C1%7C637142686384275599&sdata=oKyYLAI5YPSfWnCsRzWTAMUu3NpXTZKPtfpwNuGS788%3D&reserved=0) and <http://climatechangecompass.org/> [↑](#footnote-ref-73)
73. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/813600/KPI-15-extent-ICF-intervention-lead-transformational-change.pdf](https://nam03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fassets.publishing.service.gov.uk%2Fgovernment%2Fuploads%2Fsystem%2Fuploads%2Fattachment_data%2Ffile%2F813600%2FKPI-15-extent-ICF-intervention-lead-transformational-change.pdf&data=02%7C01%7Crcervigni%40worldbank.org%7C2bf4a741bfc045f0d2f508d795e5ba37%7C31a2fec0266b4c67b56e2796d8f59c36%7C0%7C1%7C637142686384275599&sdata=yBlucx6y82G0wzxX%2BFQLgdyclzGjChlnTgdWW7%2BCxwo%3D&reserved=0) [↑](#footnote-ref-74)
74. http://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/daclist.htm [↑](#footnote-ref-75)
75. The Overseas Development Institute indicates that a rule of thumb for MEL costs should be between 5-10% - [Monitoring and evaluation: five reality checks for adaptive management | ODI: Think change](https://odi.org/en/insights/monitoring-and-evaluation-five-reality-checks-for-adaptive-management/) [↑](#footnote-ref-76)
76. Issue: an issue is an event which is currently compromising the objectives of a project or the programme. When a risk event occurs it becomes an issue and the risk is closed. [↑](#footnote-ref-77)
77. An external dependency is the causal relationship between a deliverable from one party (the supplier) and a project or programme milestone (the beneficiary). [↑](#footnote-ref-78)
78. An assumption is an outcome or event which is expected to occur during the project lifecycle. Assumptions are accepted as “true” in order to begin project [↑](#footnote-ref-79)
79. Niki Frantzeskaki et al. (2019) <https://doi.org/10.1093/biosci/biz042> [↑](#footnote-ref-80)
80. [Ibid] [↑](#footnote-ref-81)
81. Ostrom E. 2009 <https://science.sciencemag.org/content/325/5939/419> [↑](#footnote-ref-82)
82. Christiansen L, Martinez GS. 2018 <https://resilientcities2018.iclei.org/wp-content/uploads/UDP_Perspectives-Adaptation-Metrics-WEB.pdf> [↑](#footnote-ref-83)
83. Seddon et al. (2019) <http://dx.doi.org/10.1098/rstb.2019.0120> [↑](#footnote-ref-84)
84. Wild T, Henneberry J, Gill L. 2017 Comprehending the multiple ‘values’ of green infrastructure—valuing nature-based solutions for urban water management from multiple perspectives. Environ. Res. 158, 179–187. doi:10.1016/j.envres.2017.05.043 [↑](#footnote-ref-85)
85. Reddy SM et al. 2016 Evaluating the role of coastal habitats and sea-level rise in hurricane risk mitigation: an ecological economic assessment method and application to a business decision. Integr. Environ. Assess. Manag. 12, 328–344. doi:10.1002/ieam.1678 [↑](#footnote-ref-86)
86. Kabisch N et al. 2016 Nature-based solutions to climate change mitigation and adaptation in urban areas: perspectives on indicators, knowledge gaps, barriers, and opportunities for action. Ecol. Soc. 21, 26270403. doi:10.5751/ES-08373-210239 [↑](#footnote-ref-87)
87. Seddon et al. (2019) <http://dx.doi.org/10.1098/rstb.2019.0120> [↑](#footnote-ref-88)
88. To note, this table give indicative commercial timelines. They are subject to change to ensure effective project delivery. [↑](#footnote-ref-89)
89. *See annex 6.3 for general risks, some of which apply to commercial risks.* [↑](#footnote-ref-90)