



GLOBAL CENTRE ON
BIODIVERSITY
FOR CLIMATE

Themes for Research Grant Competition 3 (RGC3)

Global Centre on Biodiversity for Climate

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Department
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Food & Rural Affairs

Royal
Botanic
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This paper sets out the rationale and background for the two themes of the third GCBC Research Grant Competition (RGC3).

Theme 1: Using biodiversity to improve the climate resilience of agricultural, food and bioeconomy value chains:

Transforming agrifood systems at scale to incorporate nature-based solutions that build biodiversity back into production landscapes to boost climate resilience and reduce poverty (open to all GCBC focus regions).

Theme 2: Biodiversity hotspots in Small Island Developing States (SIDS):

Building sustainable businesses from nature to adapt to climate change, protect biodiversity, and tackle poverty (focused in SIDS).



Overview of GCBC

The Global Centre on Biodiversity for Climate (GCBC) is a UK Official Development Assistance (ODA) research programme that aims to **unlock the potential of nature to deliver climate resilience and improve livelihoods for poor communities in developing countries**. It funds research projects through annual competitions to build new knowledge on how to boost climate resilience and alleviate poverty through better valuing, protecting, restoring and sustainably managing biodiversity in ways that boost resilience to climate change whilst alleviating poverty. The programme contributes to the UK Government's commitments on International Climate Finance.

The Climate, Biodiversity and Poverty Nexus

Climate change, biodiversity loss and poverty are intrinsically linked. Poor communities in developing countries are particularly vulnerable to the impacts of climate change (Hallegatte et al, 2016). For example through rising food prices, flooding, drought, severe heat, degraded water resources and sea level rise. Such risks can be compounded by biodiversity loss and resulting declines in ecosystem services. Developing countries are home to many of the world's most biodiverse ecosystems but are also experiencing some of the highest global rates of nature loss (WWF, 2024).

This has a direct impact on poverty; approximately a third of jobs in developing countries are directly dependent on biodiversity (IPBES, 2019).

Whilst biodiversity loss can exacerbate climate risks and poverty, nature can also be part of the solution. Working with vulnerable communities to protect and sustainably manage ecosystems can generate more sustainable sources of income whilst cushioning people and ecosystems from the extremes of climate change.

GCBC'S Research

GCBC helps address these issues by funding research into **scalable approaches** that conserve and sustainably use biodiversity to improve climate resilience and livelihoods in developing countries in the regions most susceptible to biodiversity loss and the impacts of climate change.

GCBC research is:

- **Generating evidence on the nexus of climate, biodiversity and poverty.**
- **Innovating new nature-based solutions.**
- **Finding new ways to change practice at large scale, e.g. through policy, incentives and investment.**



GCBC research is **transdisciplinary**, combining natural and social science disciplines while involving targeted stakeholders in the development and implementation of projects. Involving people in the research helps to bring in different perspectives and diverse forms of knowledge (including traditional or indigenous knowledge), generating fresh insights. It also helps ensure that projects are relevant to local needs while building the capacity of decision makers to implement the learning.

Our research applies **systems approaches** to understand the interdependencies between nature, climate and people. Systems thinking provides a framework for understanding root causes and drivers of behaviour spotting unpredictable behaviours

resulting, for example, from interdependencies or feedback loops. Such approaches can help identify actions to catalyse incremental change (enablers) or where action can be taken within a system to create transformative change (leverage points).

At a programme-level, GCBC aims to build a community of researchers, sharing knowledge and learning across projects, institutions and regions. For example, through workshops, symposia and online events.

GCBC projects include:

- **A focus on the nexus:** climate resilience, sustainable management and use of biodiversity and improve livelihoods (poverty alleviation) with a requirement to cover all three areas.
- **Systems approaches:** to understand the interaction between nature, climate and people.
- **Innovation:** developing new technologies, business models, policy practices, approaches or partnerships to advance progress, accelerate learning and challenge the status quo.
- **Transdisciplinary approaches:** involving stakeholders to ensure research is needs-driven, build capacity and drive impact.



2025 Research Themes

The third GCBC Research Grant Competition (RGC3) focuses on two themes, set out below. Bidders are invited to submit proposals for projects that address either theme. All proposals need to address **poverty alleviation** and **climate resilience**, focusing on approaches that **better value, protect, restore and sustainably manage biodiversity**.

Theme 1

Using biodiversity to improve the climate resilience of agricultural, food and bioeconomy value chains:

Transforming agrifood systems at scale to incorporate nature-based solutions¹ that build biodiversity back into production landscapes to boost climate resilience and reduce poverty (open to all GCBC focus regions).

Theme 2

Biodiversity hotspots in Small Island Developing States (SIDS):

Building sustainable businesses from nature to adapt to climate change, protect biodiversity and tackle poverty (focused in SIDS).

Within the two themes, GCBC aims to fund a balanced portfolio of projects which collectively:

Develop innovative nature-based solutions:

Working with communities, businesses (including micro-SMEs) and indigenous peoples to develop and experimentally test new approaches to managing terrestrial, freshwater or coastal ecosystems. For example, research to underpin nature-positive business models, novel forest management approaches or innovative farming approaches that improve outcomes for local communities while boosting biodiversity and improving climate resilience for people and nature.

Apply systems approaches to inform large-scale transformative change: Research looking at the wider technological and socio-ecological context

for change, including novel policy interventions at local, sub-national or national scale. We encourage approaches that explore the factors, that hold socio-ecological systems in unhelpful or unsustainable states in order to find new ways of intervening at scale. Systematic approaches to policy may include interventions at specific leverage points to reconfigure socioecological systems, making nature-based solutions the preferred option. For example, through new technologies, novel markets, incentives, or by improving access to data and knowledge.

¹ As defined by IUCN, "Nature-based Solutions address societal challenges through actions to protect, sustainably manage, and restore natural and modified ecosystems, benefiting people and nature at the same time". See GCBC Research Strategy.

Rationale and Scope of Themes

Theme 1: Using biodiversity to improve the climate resilience of agricultural, food and bioeconomy value chains

Rationale for theme: Finding approaches that build biodiversity back into farming and wild harvest production systems is essential if we are to improve climate resilience, prevent biodiversity loss, reduce poverty, tackle food insecurity and improve dietary health. Smallholder farming is an economic keystone in poor rural communities around the world, underpinning livelihoods as well as food security and dietary health. Biodiversity in agricultural production landscapes also provides essential resources for emerging applications in the bioeconomy.

With agriculture accounting for nearly 50% of global land use, the trajectory of agricultural development has huge consequences for the diversity of both domesticated and wild species. Land use change for agriculture is the biggest global driver of wild biodiversity loss (WWF, 2022). Shifts towards monocultural systems have also led to declines in the diversity of organisms (plants, fungi, animals, microorganisms) that sustain essential functions, processes and structures within agricultural ecosystems. This loss of agrobiodiversity and the local and indigenous knowledge associated with it, undermines the resilience of farming and wild harvest systems to climate change, pests and diseases (IPBES 2018a,b,c).

Nature-based solutions that conserve and restore biodiversity in farming while supporting livelihoods can be highly context dependent. Scaling up solutions can therefore be challenging. Systems approaches are needed that consider the wider social, cultural, economic and environmental factors that drive land use and management decisions.

Scope and research focus: We invite proposals for research to explore ways of sustainably building agrobiodiversity back into agricultural, food and bioeconomy value chains to tackle poverty, improve climate resilience and improve outcomes for nature (including wild species that utilise production landscapes). The production systems and value chains in scope are set out in table 1.

Agrobiodiversity is the diversity of biological organisms (plants, fungi, animals, microorganisms) that sustain essential functions, processes and structures within agricultural ecosystems (Wood et al., 2015). It plays important roles in supporting food and livelihood security, and essential ecosystem functioning and complexity (Kahane et al., 2013; Wood et al., 2015). Agrobiodiversity includes:

1. **Species and varieties of crops, fish and livestock** (including locally adapted landraces, wild varieties and the genetics harboured within them).
2. **Wild harvested species**, including flora, fauna, fungi, fish and forest products.
3. **Wild organisms associated with agricultural landscapes** that provide the supporting and regulating ecosystem services on which agriculture depends.

We encourage bidders to focus their research in areas of the world where there are clear opportunities for boosting biodiversity in farming and wild harvest production systems or where biodiversity and agriculture (in the broadest sense as above) are in conflict.



Table 1. Scope of Theme 1. We are interested in projects exploring ways of using biodiversity to improve the climate resilience of agricultural, food and bioeconomy value chains in any of the areas set out in the table below:

| ▼ Production systems: | ▼ Agrobiodiversity: | ▼ Value chains: | ▼ Social, economic and environmental outcomes: |
|---|---|--|--|
| <ul style="list-style-type: none"> → Smallholder farming → Rangeland grazing → Aquaculture → Freshwater and coastal fisheries → Other wild harvest systems | <ul style="list-style-type: none"> → Domesticated crops and livestock, including farmland trees and aquaculture systems (fish, fungi shellfish, algae) → Wild-harvested species e.g. non-timber forest products, fungi, fish and shellfish → Organisms providing supporting and regulating functions: (e.g. pollinators, natural enemies of pests, soil organisms) | <p>Business and livelihoods arising from production, distribution, processing and consumption of:</p> <ul style="list-style-type: none"> → Food products → Other bioeconomy products (fibre, fuels etc) → Carbon and nature markets | <ul style="list-style-type: none"> → Climate resilience → Poverty alleviation through equitable and resilient livelihoods → Food security (including dietary health) → Gender equality and social inclusion → Wild biodiversity (species utilising production landscapes) → Carbon sequestration → Water regulation |

We invite bidders to look holistically at the social, cultural, economic and environmental context for production systems, exploring novel leverage points to create the conditions for change. This may involve interventions that reconfigure food and bioeconomy value chains to better value, utilise and therefore conserve biodiversity in farming and wild harvest systems.

Research should take a systems approach, helping to navigate different perspectives, forms of knowledge (including indigenous knowledge) and desired outcomes from farming and wild harvest production systems. Transforming agricultural, food and bioeconomy value chains requires simultaneous changes in behaviour by many actors.

A variety of levers may be used to achieve this, including new technologies, incentives, regulation, knowledge sharing, access to material (e.g. seed systems), logistics, new technologies and rights-based approaches.

Regions: ODA eligible countries in Latin America and Caribbean; South East Asia and Pacific; Sub-Saharan Africa.



Theme 2: Biodiversity hotspots in Small Island Developing States (SIDS)

Rationale for theme: Small Island Developing States (SIDS) are heterogeneous and geographically dispersed but share a unique set of developmental and environmental challenges. The isolation of the islands mean they have more endemic species of flora and fauna than continents (UN-OHRLS, 2017) but are most at risk from climate change and disasters with more limited capacity to respond (OECD, 2018). Many small islands are low lying and susceptible to rising sea levels. If global temperatures rise by 1.5°C, predictions suggest that the earth will lose 70% of coral reefs, on which tourism and fishing industries depend (HOC IDC, 2024). SIDS collectively, hold 14% of the world's coastlines (controlling ~30% of global oceans and seas) with less than 1% of the global land area (OECD, 2018).

Many island nations are struggling to escape poverty as climate change accelerates the degradation of the natural resources that underpin their economies. Livelihoods in SIDS depend heavily on biodiversity, with tourism and fisheries contributing to over half of the GDP of small island economies. Not only does biodiversity hold aesthetic and spiritual value for many communities, but it also provides a food supply, clean water, reduced beach erosion, soil and sand formation, and protection from storm surges. Coral reefs and fish stocks are in decline. Sea level rise is leading to the salinization of rivers and lakes, thus making freshwater scarce on the islands; and eroding coastlines battered by intensifying storms (UN-OHRLDCLDCSIDS, 2024).

The cost of managing the complex biodiversity of often isolated tropical islands is often beyond the means of Governments and national institutions; and requires the infrastructure and resources of tourism and business (Nevill, 2004). Sustainable “blue” growth is also a frontier many SIDS are looking to for economic development (OECD, 2018). This will require designing robust policy and regulatory agreements to help business invest in nature for business initiatives that benefit biodiversity conservation and communities to ensure there are biodiversity, economic and social benefits.

Further research is needed into how business models, finance mechanisms and governance arrangements can be established that enable business to invest in nature. For business and finance, this will mean assessing and disclosing impacts and dependencies on nature and climate, developing and investing in nature-positive business models and activities, producing goods and services within nature's limits (UNEP, 2022), and encouraging more sustainable choices (WWF, 2022). Opportunities exist to build community-based businesses (such as eco-tourism) that shield communities from the effects of climate change while protecting endangered species and ecosystems. Such opportunities contribute to local efforts to conserve and enhance natural heritage and biodiversity, as well as promoting environmental education and outreach among customers and the local community.



Scope and research focus: This research theme focuses on the development of new business models and income streams based on nature-based solutions that protect biodiversity hotspots while reducing poverty in the face of climate change. Opportunities could include, for example, ecotourism, sustainable harvesting of wild species (e.g. fish/ shellfish), sustainable production systems (e.g. agroforestry), novel bioproducts (e.g. seaweed farming), carbon and nature markets. Building an enabling environment for businesses to thrive while providing social and environmental benefits will require a systemic approach, considering policy, regulation, incentives, markets and data/ knowledge infrastructure. Such systems approach need to take into account different perspectives, forms of knowledge (including indigenous knowledge) and multiple desired outcomes to find intervention points that catalyse change.

Research opportunities also include:

1. Identifying nature-based solutions to help protect land and water resources from mismanagement (including from agriculture and tourism)
2. Assessment of existing conservation areas and design of future areas to maximise benefits for climate adaptation while safeguarding biodiversity
3. Addressing uncertainties related to environmental change
4. Supporting the economic development of communities dependent on resources near protected conservation sites
5. Scaling up nature-based solutions from local successes to other islands.

Regions: ODA eligible Small Island Developing States.

Table 2. Scope of Theme 2. We are interested in projects that consider nature for business in SIDS, covering any of the areas set out in the table below:

| ▼ Ecosystems: | ▼ Biodiversity in scope: | ▼ Biodiversity / value chains: | ▼ Social, economic and environmental outcomes: |
|--|--|---|---|
| <p>Small Island Developing states including:</p> <ul style="list-style-type: none"> → Terrestrial (natural, semi-natural and highly managed ecosystems) → Coastal (e.g. reefs, mangroves) → Oceanic | <ul style="list-style-type: none"> → Wild organisms in natural, semi-natural or managed ecosystems → Domesticated crops and livestock, including farmland trees and aquaculture systems (fish, shellfish, algae) → Wild-harvested species e.g. non-timber forest products, fungi, fish and shellfish → Organisms providing supporting and regulating functions: (e.g. pollinators, natural enemies of pests, soil organisms) | <p>All kinds of businesses that sustainably utilise or manage nature or natural resources. For example:</p> <ul style="list-style-type: none"> → Farming → Fishing → Aquaculture → Seaweed harvesting → Ecotourism → Food systems → Other bioeconomy products (fibre, fuels etc) → Carbon and nature markets (including blue carbon) → Other businesses based on natural resources → Conservation | <ul style="list-style-type: none"> → Climate resilience (coastal erosion, freshwater resources, land degradation, saltwater ingress, protection from storms etc) → Poverty alleviation through equitable and resilient livelihoods → Food security (including dietary health) → Gender equality and social inclusion → Wild biodiversity → Carbon sequestration → Water regulation |



Eligible projects

Applications are encouraged from many different types of potential delivery partners, both local and international, including, but not limited to: non-government organisations, civil society organisations, multilateral organisations, social development organisations, academic institutions, private sector partners. Funding can also be awarded to parastatal organisations if the proposed activities are not receiving funding from other governments.

UN bodies are eligible under the same terms and conditions as other applicants. Private sector partners may be consortia members, but are ineligible to

receive grant funds for profit, or act as consortia Lead Delivery Partners. PhD Students are not eligible for funding under this grant competition.

We encourage applications from the Lead Delivery Partners/Organisations based in the target ODA-eligible country. New and equitable partnerships involving local project Partners are also encouraged. All applications must include an organisation based in one of the GCBC's target ODA-eligible countries as part of the research team.

Eligibility criteria include:

Fit to GCBC: All proposals need to address **poverty alleviation** and **climate resilience**, focusing on approaches that **better value, protect, restore and sustainably manage biodiversity**.

Fit to theme: Proposals must address research questions within one of the themes set out above.

GESI: All proposals must incorporate clear plans to factor in gender, equality and social inclusion from the outset.

R&D: Proposed work must meet the definition of research and development: creative and systematic work undertaken to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge (OECD, 2015).

Grant size: Grants must not exceed a total value of £1m and be of a minimum value of £100k. We encourage proposals for projects of any size within this range and will seek to fund a portfolio of projects of different sizes and types. The value of any individual grant may not exceed 25% of the applicant's or Lead Partner's average income/turnover for the past 3 years.

Duration: The research period will run for up to a maximum of 36 months from no later than November 2025 with the option for project proposals to range between 12 –36 months.

Location: Research must take place in one or more GCBC target countries, as set out under each theme above.



What we're looking for:

Full details about selection criteria and scoring will be provided in the application pack.

Research should aim to generate learning, solutions, tools or methodologies that can be **upscaled** and **replicated** in other regions or countries. Uptake of research results is likely to require **stakeholder involvement** throughout project development and implementation. Proposed research must be carried out to a **high ethical standard**, including due consideration for **gender equality and social inclusion**.

We encourage **innovation** in projects. Innovation is the process of developing and testing new ideas, methods, or technologies (or improving existing ones) in ways that advance knowledge, solve problems, or create value for specific groups. Proposals should explain where proposed approaches are novel, and how they are expected to address specific and clearly identified conceptual or practical problems, knowledge gaps or challenges.

We encourage applicants to consider the [GCBC's delivery principles](#).

Strong proposals will demonstrate:

1. **Scientific excellence/ research design:** Applying robust methods in the collection and analysis of data to answer the research question.
2. **Embedding gender, equality and social inclusion**
 - **Gender equity:** Research must explicitly consider inequalities in the opportunities, choices and resources available to girls, women and non-binary individuals.
 - **Social inclusion and empowerment:** Seeking to reduce the marginalisation of indigenous and local communities in developing solutions.
 - **Equitable access and benefit sharing:** Ensuring benefits from the use of the natural resources are shared equally between those using the resources in the local communities and the providers.
3. **Demonstration of demand for research from local, national or international stakeholders:** Demonstrating a good understanding of the likely demand and uptake of proposed solutions.
4. **Replicability and scalability:** A clearly defined strategy as to how the solutions demonstrated can be sustainable, scalable and replicable to increase impact at an increased rate.
5. **Quality of engagement plan:** Involving stakeholders in design and delivery of research through a transdisciplinary approach. Considering multiple scales of governance from local to national or international. Up-front engagement of the private sector, including micro-SMEs.



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