

Terms of Reference

June 2024

Scoping study on ***AI and REDAA***

For the locally led restoration research-to-action support programme
Reversing Environmental Degradation in Africa and Asia (REDAA)

Background

[Reversing Environmental Degradation in Africa and Asia \(REDAA\)](#) is supported by the UK government's Foreign, Commonwealth and Development Office (FCDO) and managed by the International Institute for Environment and Development (IIED). REDAA's strategy is co-developed with the expertise of local organisations in Africa and Asia and emphasises support for local research, local leadership, inclusive decision-making and equitable partnership in action. REDAA provides grants to locally led initiatives in Africa and Asia which address nature-climate-people priorities. The programme also facilitates mutual support amongst grantees and others in a community of practice (REDAA Community). REDAA runs until March 2029.

REDAA lead grant-holders are organisations with effective systems for supporting Indigenous Peoples and local communities to improve their evidence, tools, civic space and governance powers in sub-Saharan Africa, South Asia or Southeast Asia. All initiatives address gender equality and social inclusion, climate resilience and action for nature, and each of them is focused on one or more of the following main thematic priorities:

1. **Local research and capability for research.** Evidence generation that is locally led, including evidence on local and traditional knowledge, and local research capability, research networks and appropriate data systems that make data useful locally and/or install locally generated evidence in national or regional information systems.
2. **Resource and land use assessments.** Integrated multi-objective participatory natural resource and land use assessments, and decision-support tools. These might include scenarios and spatial analyses that incorporate biophysical, social, political and economic data and information.
3. **Business models.** Productive business models, based on ecosystem goods and services, that are sustainable, equitable and climate-resilient, developed by non-profit organisations, potentially with co-development from enterprise partners. Initiatives might emphasise training and development of organisational systems, product development and quality assurance, risk management, or development of enterprise associations.
4. **Financing mechanisms.** Finance mechanisms and finance flows that are direct, patient and long-term in support of local nature stewardship and restoration. Initiatives might include research-to-action that helps improve local saving and loan practices, transparent accounting systems, connections to financial institutions or ways to redesign financial rules.
5. **Inclusive governance systems.** Improving the tenure security and resource rights of Indigenous Peoples and local communities, and improving interdisciplinary, cross-sectoral and multi-stakeholder decision-making and governance of nature stewardship and



restoration. Initiatives might focus on improving access to information and to citizen participation in law and policy decision or reform processes, or supporting local legal literacy training or the negotiation processes of local groups with government or the private sector.

Competitive grant calls are made at least once per year. The first call for proposals in 2023 led to 21 grant agreements for projects running over two to four years, with budgets between £200,000 and £500,000, starting in March 2024. In its second grant call, REDAA has invited proposals for substantial programmes of locally led, multi-locational, research-to-action for restoration in specified sub-regions and environments. Up to nine grants of between £1,000,000 and £1,500,000 are expected to be awarded for programmes running for four years starting in February 2025. Subsequent grant calls will also include smaller 'catalytic' grants aimed at enabling locally led restoration initiatives to take particular opportunities or build particular capabilities.

Partners in REDAA-supported initiatives and other interested organisations join in specific activities of the REDAA Community which aims to enable learning, spread use of evidence and tools, build and strengthen networks, and support capability development and influencing opportunities. Learning events on topics prioritised by partners are organised, and knowledge products are produced. The REDAA Community welcomes partners from other relevant programmes to share evidence and tools in thematic events, thus spreading and deepening the impact of locally led research-to-action restoration initiatives.

IIED provides the Scientific and Management Unit (SMU) for REDAA. The SMU organises or conducts scoping studies, manages grant calls and the resulting grant agreements, facilitates the REDAA Community, and provides reporting, engagement and communications for REDAA. The programme is governed by the REDAA Steering Committee, which FCDO chairs. REDAA is advised by an Independent Technical Advisory Panel (ITAP), comprising experts primarily from Africa and Asia, whose work includes review of REDAA grant proposals.

[REDAA Strategy](#) is periodically revised in the light of experience with the programme. One area in which experience is nascent but growing in the REDAA Community is artificial intelligence (AI) – machines that perform tasks normally performed by human intelligence, especially when the machines learn from data how to do those tasks. There is interest in the REDAA Community in developing shared understanding of how AI and related technologies could help local organisations running REDAA-supported initiatives, or other initiatives focused on research-to-action for locally led nature restoration (see REDAA Strategy for the broad framing of these terms – research and activities to use research to achieve positive nature-climate-people outcomes). Progress on each of REDAA's thematic priorities could potentially be greatly helped or disrupted by AI – we need to know how to seize the opportunities and avoid or mitigate any negative effects of AI.

IIED is thus looking to identify a consultant with appropriate expertise who can look into these issues and offer the REDAA programme some actionable options. Prospects, pitfalls, risks and issues associated with AI and related technologies – notably telecommunications – that might be explored in this study include, but are not limited to:

- Text and writing in e.g. research, project proposals, advocacy
- Speech and sound/acoustics development, recognition and use
- Visual images and 3D signals development, recognition and use
- Structured data, dataset development and use, and linking different sorts of data



- Use of the above in information extraction, question answering, sentiment analysis, image captioning, object recognition, instruction following, communicating, translation between languages, predicting (changes in people, climate, ecosystems), reducing barriers (doing things with less training, models needing less data), elevating collective local voice, monitoring, assessing and evaluating.
- Equity, gender equality and social inclusion, and ethical issues in the above, including those related to financial requirements and human capabilities, differential access e.g. to smartphones and internet connections, marginalised people and marginalised places including in countries of sub-Saharan Africa, South Asia and Southeast Asia.
- Nature and climate impacts – positive and negative – of the above, including the energy and resource requirements of technology developments relative to the requirements of actions that new technologies change or replace, including in countries of sub-Saharan Africa, South Asia and Southeast Asia.

The consultant will undertake this work by: reviewing and analysing available information; identifying, interviewing and discussing with key people; and presenting the analysis in a report with actionable options that could be taken forward.

Objective of the study

A short study will aim to answer the following broad question: How can AI help organisations practising or supporting research-to-action for locally led nature restoration to be as effective and positively impactful as possible?

Scope of work, deliverables, inputs and timeline

The consultant will review the REDAA scoping studies, information about the REDAA programme and information provided by the SMU about REDAA-supported initiatives. In addition to information related to the REDAA programme, the consultant will explore relevant information which is likely to relate to contexts where: there are local nature restoration initiatives which conceivably could be helped by AI; local restoration initiatives are absent but are clearly needed and could conceivably be made possible through use of AI; and local restoration initiatives are already using AI-relevant technology (forerunner technologies, technologies linked to AI or AI itself).

The consultant will first develop a brief approach paper, describing a study that is feasible in the time and resources available, and outlining: the topics for focus; the sorts of information that will be accessed; the type and number of discussants – people with key expertise and experience – who will be approached; and the methods that will be used. In this approach paper, the consultant will also lay out a draft structure of the report of the analysis, and a way in which actionable options will be presented in the report. The approach paper will be reviewed by the SMU and FCDO, and the consultant and the SMU will schedule one or more check-in discussions thereafter. The first draft of the report will also be reviewed by the SMU and FCDO.

Actionable options described should include at least one that could be taken up by each of the following:

- SMU e.g. AI-linked objectives that might be incorporated in future REDAA grant calls
- REDAA Community e.g. issues on which to focus learning events in the Community, or key questions for dialogues between restoration initiatives and AI protagonists that could be organised by the Community



- REDAA-supported initiatives e.g. actions, who could take them, and with what resourcing, enabling AI to shape better and more equitable outcomes in the five areas of REDAA thematic priority.
- Other locally led nature restoration initiatives e.g. what AI approaches taken up by which locally led nature restoration initiatives could produce positive impact.

Expected deliverables, level of input from the consultant, and indicative due dates are as follows:

Deliverable	Input (days)	Date due
Approach paper – up to 5 pages, including an outline of the study report	5	15 August 2024
First draft report	20	30 September 2024
Final draft report – including a 2-page summary, up to 20 pages of main text, and annexes as necessary	5	15 October 2024

An accompanying short presentation product may also be appropriate, potentially including demonstration of some options proposed – this will be discussed with the consultant when finalising the approach paper.

Proposals, assessment and contracting

Proposals

Interested consultants should submit a proposal of no more than two pages, which should address these two questions:

- What is your expertise relevant to carrying out the scoping study on AI and REDAA (as described in the ToRs)?
- What would you explore, and how, in carrying out the scoping study on AI and REDAA?

The proposal must include a budget table, which should specify the consultant’s day rate, and should be broken down clearly by any relevant stages proposed in the study. The proposal must be accompanied by the consultant’s CV.

Proposals and CVs should be submitted by email, with ‘Proposal on AI and REDAA’ in the email subject line, to enquiries@redaa.org no later than 5pm British Summer Time (UTC+1) on **15 July 2024**.

Assessment and contracting

Proposals will be assessed by the REDAA SMU and FCDO. The assessment will be made on the basis of the strength of the proponent’s appropriate expertise and experience, the strength and clarity of the ideas about how to carry out the study, the relevance of the ideas in relation to REDAA and its priorities, and the value for money represented. The SMU will then communicate with the first choice proponent, carry out due diligence with that consultant, and – depending on the due diligence findings – proceed to a contractual consultancy agreement between the SMU (IIED) and the consultant.



Some initial resources on AI and nature, climate and development

Resource repositories:

- [Conservation Technology Directory](#)
- [Deep Learning for Nature Conservation & Climate](#)
- [ICT for Development \(ICT4D\)](#) resources and most recent ICT4D conference in [Accra in March 2024](#)

Discussion communities:

- [AI for Conservation WILDLABS](#) group, also [AI for Conservation Slack](#) group
- [Climate Change AI](#)

Some research papers, policy papers, recorded seminars and ongoing studies:

- [OECD AI papers](#)
- [OECD Digital Economy Outlook 2024](#)
- [Perspectives in machine learning for wildlife conservation](#). Paper by Tuia et al 2022
- [Harnessing large language models for coding, teaching and inclusion to empower research in ecology and evolution](#). Paper by Cooper et al 2024
- [Large language model applications for evaluation: Opportunities and ethical implications](#). Paper by Head et al 2023
- [UK gov science and technology framework](#) in which AI and 'future telecommunications' are identified as two of the top 5 'critical technologies' for UK gov focus.
- [Artificial Intelligence & Conservation](#) WWF Fuller Fund Seminar Series 2022/23, also [AI for Conservation Office Hours 2023](#)
- [Using Conservation Technology Ethically](#) WILDLABS event
- [AI in evaluation for GEF](#) and others, a call for EoI in doing a study - April 2024

Tools:

- [Wildlife Insights](#) and [Megadetector](#) - camera trap processing
- [Arbimon](#) - bioacoustics
- [PAWS](#) and [WPSWatch](#) - PA management/protection
- [Sentinel AI](#) - security, monitoring, recreation.
- [Lila.science](#) - data sets

