

## Call for Expressions of Interest

### Private sector-led digital agriculture extension for smallholder farmers: a literature review and learning study

#### 1. Summary

The Foreign, Commonwealth and Development Office (FCDO) [Research Commissioning Centre \(RCC\)](#) has been established to effectively commission and manage research to enhance FCDO's impact. Led by the International Initiative for Impact Evaluation (3ie), the University of Birmingham, and a consortium of UK and global research partners, the RCC aims to commission different types of high-quality research in FCDO's key priority areas. All FCDO-funded research and development (R&D) investments commissioned by the RCC will be implemented using rigorous and robust research methodologies and quality standards. These R&D standards include meeting the Frascati definition requirements and FCDO's Ethical Guidance for Research Evaluation and Monitoring Activities<sup>1</sup>. For this research, FCDO's Technology and Innovation Unit (TIU) and Agriculture Research Team are working with the RCC.

#### 2. Description of research to be commissioned

This call seeks expressions of interest from organisations to design and then conduct a learning study of the Global System for Mobile Communications Foundation's (GSMA) investments in agricultural extension services. This will contribute to the emerging evidence base on digital extension for smallholder farmers.

#### 3. Background

FCDO has funded the GSMA Mobile for Development (M4D) programme since 2013. The M4D programme brings together the mobile ecosystem and the development sector to stimulate digital innovation to deliver sustainable business models and large-scale socio-economic impact for low-income people in developing countries. The programme's objective is to improve climate resilience, livelihoods, and access to opportunities for women and underserved groups, and to mitigate climate change. This is achieved by unlocking mobile-enabled innovation that delivers on the SDGs, and improving people's access to and use of digital and mobile services. The last FCDO Annual Review of the programme and the business case addendum can be found [here](#) and [here](#).

Through its Innovation Fund, the programme has run two funding rounds on climate adaptation and resilience:

- First round: Co-funded by FCDO and Sida, £2.25m funding was provided for projects active between November 2022 and September 2024.
- Second round: Co-funded by FCDO and Sida, funding of £2m was provided for projects that ran between March 2024 and fall 2025.

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<sup>1</sup>See OECD. 2002. *Frascati Manual*. <https://doi.org/10.1787/9789264199040-en>; European Commission, Eurostat. 2014. "Manual on Measuring Research and Development in ESA 2010." Publications Office. <https://data.europa.eu/doi/10.2785/52718>; and the [FCDO Ethical Guidance for Research, Evaluation and Monitoring Activities - GOV.UK \(www.gov.uk\)](#)

As part of these, M4D supported eleven enterprises that offer digital extension services as part of their business model (a full list can be found in [Annex I](#)). These enterprises received up to £250,000 for up to 18 months, as well as technical assistance. Such assistance has included business and/or scaling support, IT support, e.g., developing an app, facilitating partnerships with Mobile Network Operators, governments, investors, etc.

#### 4. Research gap

Independent evidence on digital advisory services in low and middle-income countries (L&MICs) across Asia and Africa is patchy, and self-reported impacts need to be scrutinised more rigorously. Most evaluations focus on the 'reach' of these models, with limited analysis of their actual impact on the livelihoods, incomes and climate resilience of smallholder farmers, especially in the long term.

The evidence on the **scalability** of agricultural extension services is particularly scarce. Anecdotal evidence suggests business models have gone to scale. Still, little is understood about what works in different contexts or what external factors need to be in place for a solution to work (such as mobile internet penetration rates, digital literacy skills, as well as a broader market assessment). In Sub-Saharan Africa, for instance, [only 15 digital agricultural solutions](#) have exceeded the 1 million registered users mark, and in many cases, [only 15% to 30% of registered users are active users](#). It is worth noting that scalability does not necessarily translate to impact and exploring both aspects is essential.

Little is understood about the **business models** that work to deliver impactful advisory services at scale. Emerging evidence indicates that digital advisory on its own is unlikely to be profitable at the current stage of market development in many L&MICs, so advisory services need to be bundled or channelled through other businesses. Emerging evidence points to the need for human interaction to accompany any digitally based model to build farmer trust and deliver impact at scale. This could be face-to-face interviews with farmers and stakeholders on integrated farm management approaches. On occasions where human interactions may be difficult to approach, digital methods can be utilised in the form of social media. Furthermore, there is a need to shed light on the enabling environment that supports these efforts.

FCDO is interested in using some of the 11 M4D grantees as case studies to contribute to the emerging evidence base on what works to design private sector-led, digital agricultural extension programmes that are impactful, operate at scale, and are financially sustainable. The hypothesis is that evaluating some of these projects will add to the global evidence base on this topic. However, given that the body of evidence that can be generated through the evaluation of these grantees will likely be limited<sup>2</sup>, it will be crucial to embed these findings firmly in the existing global evidence based on this topic.

FCDO would like this project to pay particular attention to female farmers, given the widespread inequality in women's access to digital solutions, as well as the crucial role they play in smallholder agriculture.

FCDO envisions that the funding recipient will perform the following:

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<sup>2</sup> While we expect the quality of the evidence generated by the supplier to be high, we expect there might only be a moderate to limited level of consistency and insights might be contextually limited.

- A literature review incorporating both academic evidence and high-quality non-academic sources. The researchers will be expected to explain the rigour of the evidence underpinning their insights.
- Formulate research questions to estimate the impact, scale and commercial viability of the projects supported by the GSMA, to identify the most effective interventions that can be recommended for agricultural extension services. Additionally, determine the most cost-effective approaches to maximise the value for money. This research will focus on the impact of M4D grants on beneficiaries' income, productivity, and other aspects, which will be detailed in the [research questions section](#).
- Assess the quality of GSMA's existing Monitoring, Evaluation, and Learning (MEL) data and design data collection tools that complement GSMA's own MEL, ensuring they are cost-effective for gathering data from their grantees.
- Collect data in the target countries amongst four groups:
  - Group 1: control group consisting of non-participants of the digital agriculture solutions.
  - Group 2: comprising users who continued using the solution for an extended period.
  - Group 3: representing individuals who began using the solution but subsequently dropped out.
  - Group 4: representing beneficiaries who utilise some, but not all, of the services offered through the solution.

There will also be the possibility of including questions in GSMA's endline surveys managed by grantees from the second round, which will run between May and August 2025.

## 5. Research questions and approach:

This opportunity has two main stages:

- Stage I: Background research includes a literature review, development of impact evaluation tools, and planning for Stage II.
- Stage II: A learning study of the solutions implemented by GSMA's M4D programme grantees.

### Stage I: Background research

The applicants should focus the start of the programme on two key strands: a literature review and developing tools for evaluation.<sup>3</sup>

#### 1. Literature review

- What is the existing evidence on successful business models for private sector-led digital extension services? <sup>4</sup>
- What are (common) features of those that are (and are not) successful? This should also consider external and underlying factors.
- What is the evidence on how different models include/ exclude and impact female farmers?

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<sup>3</sup> As part of the final proposal, applicants may suggest changes to these research questions, if appropriate. Further questions might be suggested based on the discussions with FCDO, the RCC, and GSMA.

<sup>4</sup> Successful = showing signs of meeting the following three criteria: impact on yields/ incomes/ consumption/ climate resilience etc., signs of commercial viability, evidence of reaching scale.

- What is the evidence on how different models include/ exclude and impact different segments of farmers, especially the poorest?

If applicable, we're interested in understanding the following impact questions:

- How do the different interventions and/or solutions impact women's (economic) empowerment, including family dynamics?
- What is the impact on yield production, quality, and diversification?
- Are there any spillover effects on other community members? This will need to be disaggregated by gender and other factors when possible.

## 2. **Tools for evaluation** of GSMA grantees and their contribution to the global evidence base

- How should we measure which of the GSMA agricultural extension grantees demonstrate the impact, cost-effectiveness and scale of the interventions? This could include climate resilience, income, yield, etc. It should not be limited to the reach of the programme.
- What methods and/or questions should we evaluate the success of grantees?
- What are the most cost-effective methods for gathering and evaluating robust data from the GSMA grantees?
- What questions should a fieldwork-based research project of the GSMA grantees focus on and what are the key factors to consider when accessing and evaluating this information?

At the conclusion of Stage I, FCDO and RCC will conduct a gate review<sup>5</sup> of the project, to ensure that the questions and approach align with the FCDO's preferences and key goals.

### **Stage II: Learning study**

Following the acceptance of the findings and questions generated in Stage I, the funding recipient will progress to the implementation stage. During this stage, they will evaluate the programmes selected with GSMA and formulate recommendations for agricultural extension interventions, drawing on scientific evidence and successful practical experiences in the global agricultural extension sector.

We anticipate and recommend that the researchers adopt a mixed-methods approach, integrating qualitative and quantitative tools chosen by the funding recipient based on their expertise. This will involve using existing data gathered by GSMA as well as supplementary data collected specifically for this assignment by an external data collection firm.

Researchers are encouraged to use a range of quantitative techniques, such as Propensity Score Matching (PSM) or other robust methodologies, with the understanding that conducting a Randomised Controlled Trial (RCT) is not feasible for this assignment. It is recommended that analyses of individual beneficiaries who have received support through M4D-funded projects, as well as those with comparable characteristics who have not received such support from M4D projects, be included.

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<sup>5</sup> This will involve an in-depth assessment of the project and whether it is viable to progress to Stage II.

We remain open to alternative research methodologies that the researcher(s) may propose, should they be more suitable and practical. The data collected will guide FCDO and GSMA in developing future strategies and investments in the agricultural extension sector.

The second stage will address the following questions. We invite bidders to suggest changes to these research questions if appropriate.

- What are the most effective and impactful approaches that can be recommended for agricultural extension services?
- Which interventions are the most cost-effective and have the potential for scaling up in collaboration with private sector and governmental partners?

Additionally, we will require experts to develop the following documents:

- A comprehensive list of potential partners and stakeholders for future agricultural extension projects, including NGOs, research centres, governmental bodies, and private sector partners.
- Recommendations for the most impactful interventions, identifying effective and ineffective approaches based on the literature review conducted in Stage I and the evaluation of existing programmes in Stage II.

## 6. Challenges

The successful delivery of this programme impact evaluation may encounter some potential challenges, including:

- **Limited user base:** The scalability of findings may be constrained due to the relatively small number of active users across some of the grantees' solutions.
- **Disparate services and markets:** The grantees' solutions differ significantly in their scope, market contexts, and operational models, complicating direct comparisons across case studies.
- **Sample size limitations:** A small sample size for certain grantees could lead to challenges in establishing robust statistical validity and generalisability.
- **Case study approach constraints:** The reliance on a case study methodology may limit the general applicability of findings beyond the selected grantees.
- **Fieldwork bias:** Smallholder farmers and stakeholders may provide responses that align with perceived donor expectations rather than reflect their actual experiences and outcomes.
- **Respondents' fatigue:** Frequent surveys and interviews with smallholder farmers and other stakeholders may lead to respondent fatigue, potentially affecting the accuracy and reliability of the data collected. There is also a risk that the enterprises funded by GSMA are unwilling to engage with this evaluation or are unable to engage within the timeframes necessary for this evaluation.

## 7. Deliverables and timeline

The commissioned research is expected to produce the following deliverables within 12 months, across two stages. Stage I should take approximately three months, while Stage II should take no more than nine months.

The list of milestones below is indicative and not exhaustive. Applicants should be propositional in their approach and focus on structuring the work to maximise quality of outcomes and value for money.

**Table 1: Deliverables and disbursement schedule**

Stage	Milestone	Timeline
Stage I	Satisfactory delivery of inception report for Stage I	Within two weeks
	Satisfactory delivery of mid-stage report. Draft literature review.	Within six weeks
	Satisfactory delivery of the end-of-stage report, which includes: <ul style="list-style-type: none"> <li>Literature review report</li> <li>Proposed research questions for Stage II</li> </ul> Proposed tools for evaluation to be used in Stage II. Successful in gaining approval for Stage II.	Within 12 weeks
Stage II	Satisfactory delivery of inception report for Stage II	Within 1 month of the start of Stage II
	Satisfactory delivery of progress report	Within 3 months of the start of Stage II
	Satisfactory delivery of progress report	Within 6 months of the start of Stage II
	Satisfactory submission of end-of-project report, including: <ul style="list-style-type: none"> <li>Report on GSMA evaluation findings.</li> <li>Report on the most cost-effective interventions based on the literature review and evaluation findings.</li> <li>The reports should emphasise the potential for scaling up these interventions, highlight opportunities for collaboration, and identify risks and potential risk</li> </ul>	At the end of month 9 of Stage II.

	<p>mitigation strategies where possible.</p> <ul style="list-style-type: none"> <li>• One or two policy brief/s that document the report's key findings.</li> <li>• At least two presentations on the key evaluation findings: for the GSMA programme team and for the FCDO and RCC team.</li> </ul>	
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## 8. Preferred expertise and skills of the team

We welcome bids from any organisation(s) able to deliver against the FCDO's scope of work and encourage applications from groups of individuals or partners bringing their skills together to meet the project's needs. We are looking for:

- Expertise in digital agricultural extension with practical experience in developing and designing evaluations and research regarding gender-based issues in digital agriculture in L&MICs.
- Experience in digital extension services, particularly within the agricultural sector.
- Knowledge of successful private sector-led business models in digital agricultural extension.
- Strong quantitative and qualitative research and analytical skills.
- Excellent writing skills.
- Fluency in English required.

## 9. Estimated budget

The estimated evaluation budget is intended to cover the researchers' time as well as any necessary support required to complement this task, including, but not limited to, data collection, data analysis, and conducting of interviews. We expect the research team to propose a reasonable budget that reflects a comprehensive understanding of the assignment and an efficient utilisation of resources. The total budget for this assignment should not exceed £500,000, including VAT and any other charges.

## 10. Criteria for selection

All applicants will be asked to submit an EOI form along with the CVs of key team members. Each CV should not exceed three pages.

The FCDO claim the rights to use the results and the deliverables of the research project. The selected team must ensure the confidentiality of information and anonymity of research participants.

**Table 2: Criteria for selection for the EOI stage**

#	Criterion	Description	Maximum Score
1	Understanding of the Expression of Interest	The extent to which the application reflects the call for expressions of interest and meets the objectives of the project and the needs of the intended audience.	25
2	Methodological approach	The extent to which the methodological approach, at a high level, is appropriate for meeting the objectives of the project.	25
3	Proposed team	The extent to which the proposed core team demonstrates the required contextual, methodological and project management expertise to carry out the project.	25
4	Equity and inclusion	The extent to which the project substantively engages researchers and other key interest holders from the country(ies) or region(s) in which it takes place.	25

Note:

- Only legally registered organisations and/or their consortia of registered organisations, not individuals, may apply.
- The RCC will also strongly encourage the inclusion of in-country research partners where primary research is undertaken.

## **11. Deadline for submission of Expression of Interest: 14 February 2025**

## **12. Competition process and timeline**

Stage	Target dates
<b>Call for expressions of interest launched</b>	14 January 2025
<b>Deadline for queries</b>	28 January 2025
<b>FAQs posted</b>	31 January 2025
<b>Eoi submission deadline</b>	14 February 2025
<b>Eoi moderation</b>	17 – 21 February 2025
<b>Selection committee meetings</b>	26 February – 5 March 2025
<b>Outcome decided and bidders notified, shortlist invited to submit full proposals</b>	By 7 March 2025
<b>Full proposal submission</b>	By 7 April 2025



<b>Due diligence completed</b>	By 21 May 2025
<b>Signing of the accountable grant</b>	By 21 May 2025 (conditional on passing due diligence)

### **13. Q&A and Contact**

The FCDO Research Commissioning Centre manages this project. If you have any questions about this opportunity, please submit them to the [rcc@3ieimpact.org](mailto:rcc@3ieimpact.org) mailbox, including "RCC Private sector-led digital agriculture extension for smallholder farmers Request for Clarification" in the subject line. In the interest of fairness and transparency, all questions and answers will be published on the website page alongside other information on how to apply.

## Annex I: Case studies

With each of these grantees, it'll be important to check what level of sophistication the service that GSMA supported is, including how long it has been active and how many active users it has, in order to ensure it is a suitable case study for this assignment.

Name of enterprise and country	What does the grantee do?
<p><a href="#">GSMA   GeoKrishi   Mobile for Development</a>, Nepal</p>	<p><a href="#">GeoKrishi</a> helps smallholder farmers adapt to climate stressors and adopt climate-smart agricultural practices through digital learning content and advisory services.</p> <p>Impact case study <a href="https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/case-study-digitising-agriculture-in-nepal-geokrishi/">https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/case-study-digitising-agriculture-in-nepal-geokrishi/</a></p> <p>Video case study: <a href="https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/gsma-innovation-fund-start-ups-geokrishi/">https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/gsma-innovation-fund-start-ups-geokrishi/</a></p>
<p><a href="#">GSMA   BaKhabar Kissan (BKK)   Mobile for Development</a>, Pakistan</p>	<p><a href="#">BaKhabar Kissan</a> (BKK) runs a network of weather stations providing hyperlocal weather information, enabling access to agricultural expertise through digital platforms.</p> <p>Video case study: <a href="https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/gsma-innovation-fund-start-ups-bkk/">https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/gsma-innovation-fund-start-ups-bkk/</a></p>

<p><a href="#">GSMA   Lersha   Mobile for Development</a>, Ethiopia</p>	<p><a href="#">Lersha</a> provides digital services to enable smallholder farmers to access farm inputs, hire mechanisation services and receive advice, credit and insurance through their in-house call centre, mobile app and agents.</p>
<p><a href="#">GSMA   CoAmana   Mobile for Development</a> Nigeria</p>	<p><a href="#">CoAmana</a>'s digital agricultural marketplace management and trade platform provides farmers and stakeholders in the agri-value chain with digital tools to improve agricultural productivity, help farmers manage financial risks related to drought conditions, purchase drought-resistant seeds and access information on best practices and financial services.</p> <p>Video case study: <a href="https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/gsma-innovation-fund-start-ups-coamana/">https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/gsma-innovation-fund-start-ups-coamana/</a></p>
<p><a href="#">GSMA   Crop2Cash   Mobile for Development</a> Nigeria</p>	<p><a href="#">Crop2Cash</a> supports farmers to adapt their farming practices through climate-smart farming content and to manage financial risks through their digital marketplace, connecting farmers to high-yield, drought-resistant maize seeds.</p>
<p><a href="#">GSMA   AloI   Mobile for Development</a> Nepal</p>	<p>AloI helps dairy farmers access training and loans to adopt climate-smart milk production practices, including using community forestry land and agro-forestry for fodder production, biogas production from manure for domestic energy use, water conservation techniques, and solar panels for cooling storage.</p>
<p><a href="#">GSMA   BizyTech   Mobile for Development</a> Tanzania</p>	<p>By employing cutting-edge technology, BizyTech assesses the soil health of specific locations, and in turn, provides tailored, agricultural actionable recommendations to farmers.</p>
<p><a href="#">GSMA   Crop2X   Mobile for Development</a> Pakistan</p>	<p>Crop2X provides farmers with real-time information on crop conditions, water levels, nutrient levels, fertilizer needs, yield predictions, and crop classification through mobile and web-based applications.</p>

<p><a href="#">GSMA   InQube   Mobile for Development</a></p> <p>India</p>	<p>InQube is establishing GreenQube, a SaaS platform with Internet of Things sensors and digital payment capabilities to digitally integrate stakeholders through the last-mile farm aggregator, connecting farmers and providing advisory services.</p>
<p><a href="#">GSMA   SenzAgro   Mobile for Development</a></p> <p>Sri Lanka</p>	<p>SenzAgro has developed a transparent Digital Agriculture Value Chain platform that communicates regenerative agriculture practices, such as timely weather information and soil health conditions to farmers.</p>
<p><a href="#">GSMA   agrocenta   Mobile for Development</a></p> <p>Ghana (Innovation Accelerator) TBC</p>	<p>AgroCenta is an online platform that connects smallholder farmers in the staple food (rice, maize, millet and soybean) value chain to a wider online market, access truck delivery services and get real-time market information on their mobile phones via SMS and voice services</p>