# **TERMS OF REFERENCE**

#### Consultancy for conducting a climate-smart practice survey study

Project name: Introducing Water-Efficient Technologies to Barind Tract Location: Rajshahi Division, Bangladesh

#### **ABOUT SFSA**

Syngenta Foundation for Sustainable Agriculture ("SFSA") is a non-profit organization headquartered in Basel, Switzerland. SFSA's mission is to strengthen smallholder farming and food systems by catalyzing market development and the delivery of innovations while building capacity across the public and private sectors. SFSA scales the adoption of improved technologies, services, and business models. It also promotes developing and using tools and practices for climate-smart, resilient agriculture and food security. SFSA operates primarily in sub-Saharan Africa and Asia (see www.syngentafoundation.org).

#### BACKGROUND

SFSA has been present in Bangladesh since 2011 and has been implementing several innovative agricultural development projects to improve smallholders' income and livelihood opportunities there. It works with many local, regional, and international partners.

One of the projects is "Introducing Water-Efficient Technologies to Barind Tract (IWET)," which is sponsored by The Coca-Cola Foundation and supported by the 2030 Water Resources Group (2030WRG). The project has been implemented jointly by SFSA Bangladesh (technical partner) and DASCOH (implementing partner) in the context of the Bangladesh Water Multi-Stakeholder Partnership (BWMSP) workstream on Agriculture Water. The project's overarching goal is to enhance agro-water productivity, reducing groundwater extraction and increasing farmers' income, focusing on the water-stressed North-West region, especially in the Barind Tract. With the key objectives of enhancing agro-water productivity, including "More Crop per Drop" as well as more "Value per Drop" and increasing the net income of farmers, the project has introduced two major interventions- i) Ultra High-Density Plantation (UHDP) of mango and malta using drip irrigation technology, and ii) Rice cultivation using Alternate Wetting and Drying (AWD).

The project is in the second phase of implementation (5th year), directly reaching more than 18,000 farmers each year through training, meetings, demonstrations, promotions, and market linkages. IWET followed a multi-stakeholder engagement and market development approach in its implementation and added new beneficiaries every year. The project demonstrated to create some impacts on agro water productivity, yield, and income of the targeted beneficiaries. The <u>social impact</u> was measured by several yearly baseline surveys and two end-line impact studies during 2021/2022.

Recognizing the importance of climate change adaptation and mitigation, SFSA seeks to conduct a regenerative agricultural and climate-smart practices survey to evaluate the project's contribution to climate change mitigation and adaptation in the region. More specifically, we aim to

- Quantify the number of hectares of farmland under regenerative agriculture or climate-smart practices.
- Calculate the GHG emissions reduced by better agriculture practices (promoted through the project) by gathering farmers' geospatial data and other relevant information.
- Calculate soil carbon sequestered on-farm (below ground).

- Quantify the number of hectares with better water management (could be a sub-indicator under the number of hectares under climate-smart practices).
- Estimate GHG emissions reduced at the landscape level (if appropriate)

# **OBJECTIVES**

The primary objectives of this study are as follows:

- a. To understand the project's effectiveness (cost saving, productivity and income increase) in increasing the adoption of climate-smart technologies by measuring the number of hectares of farmland under regenerative or climate-smart practices and the number of hectares with better water management (amount of water saved).
- b. To evaluate the project's contribution to reducing GHG emissions (farmers and landscape level) and enhancing soil carbon sequestration on-farm (below ground).
- c. To test the effectiveness of the proposed framework and data collection instruments and, if needed, adjust the methodology based on the learnings.

### **GENERAL DESCRIPTION OF TASKS AND EXPECTED OUTPUTS**

The study will employ a combination of desk research, field visits, data collection, stakeholder consultations, and modeling/prediction, as deemed necessary by the selected consultant.

The consultant will refine the framework to measure the impact indicators and the final questionnaire/ tools (English and Bangla) for the survey in close collaboration with the SFSA team.

The consultant will prepare and implement the work plan, which includes setting up the survey team with highly skilled and experienced experts and enumerators, ensuring they have substantial experience in water technology and horticulture in the Barind Tract region.

The consultant must pilot the questionnaire before rolling out the survey. The data collection will be conducted through face-to-face interviews with project beneficiaries and non-beneficiaries (a focus group could also be suitable for the non-beneficiaries group) using reliable data collection software for real-time monitoring.

The consultant must provide access to SFSA for all the collected data, including raw data and analytical tables. The consultant will ensure a closer feedback loop with SFSA to exchange as often as requested on challenges during the data collection, analysis, and any issues while implementing the framework.

The results and takeaways of the implementation will be summarized in a final report and database - including methodology, final questionnaire, data sources, key findings, conclusions, and key recommendations. Additionally, farmers' voices and a few short impact stories from beneficiaries (including pictures) are a desired output.

Expected Outputs	Suggested Tasks	Proposed Work schedule
Inception document outlining the proposed methodology (based on SFSA framework), data sources, and work plan, including the questionnaire (Bangla and English) and data collection.	Meeting with the project team	1 week
	Team formation and their detail	2 weeks
	Work plan	
	Methodology and tools development	
	Team orientation	
Database including access to the raw data	Data collection rollout	2 weeks
Database and report outline draft, including data analysis for review and feedback loop	Cleaning and analysis of the data	1-2 week(s)
	Draft analytical table with analysis	
	Report Outline	
Final report for internal and external peer review journal publication purposes (incl. database).	Draft report submission	1-2 week(s)
	Feedback adjustment and final	1-2 week(s)
	report submission	
recommendations should be adapted for		
- SFSA team about improvements to the		
impact indicator framework and its		
implementation process and,		
- A wider audience about the project's		
effectiveness in increasing the adoption of		
climate-smart technologies.		

More precisely, the selected consultanting firm is expected to deliver the following outputs:

The study is expected to be completed within eight weeks from the date of contract signing.

**Study Area and Population:** The study will be conducted in the North-West region (Chapainawabganj, Naogaon and Rajshahi districts) of Bangladesh in the Barind Tract. The interviewees will be selected to cover a representative sampling group (around 300 farmers in total), including farmers' beneficiaries and a smaller control group for reference. SFSA will provide a village-wise sample list of the respondents.

**Role of SFSA team:** SFSA HQ and the Bangladesh team aim to establish strong communication and exchange with the consultant to ensure a closer feedback loop throughout the study. Exchange of challenges and learnings from the implementation and analysis of results. The methodology will be developed based on a suggested approach from SFSA and in close discussion with the consultant's experience and other gold standards methodologies.

# **REQUIRED COMPETENCIES:**

- Interested consultanting firms must hold strong experience and knowledge of horticulture (mango) and rice sectors and agro-water technologies (AWD and drip irrigation), particularly for the Barind tract area.
- Proven expertise in climate change adaptation and mitigation assessment, such as estimating GHG emissions, carbon sequestration, or similar topics.

- Primary and secondary research skills, including experience in designing and executing field surveys and compiling, analyzing, and presenting data on climate-related indicators.
- Excellent spoken and drafting skills in English and computer skills in statistical tools.

#### HOW TO APPLY:

Interested consultants or research organizations are requested to submit a proposal to Ms. Andrea Balmer (andrea.balmer@syngenta.com) and Mr. Abdur Rouf (abdur.rouf@syngenta.com) at the Syngenta Foundation by **15 October 2023** that should include the following information:

- An overview and understanding of the assignment
- Proposed work plan for carrying out the study and a high-level overview of the suggested approach
  a full flesh methodology is not required as SFSA expects to develop it together with the consultant,
- Evidence of experience in similar assignments,
- Profile on key personnel with relevent experience, who would carry out the study,
- Proposed budget,
- Other relevant supporting documents including lists of similar assignments.

Please note that we can only accept applications from registered companies.