

# Terms of reference (ToR) for the procurement of services below the EU threshold

CONFIDENTIAL

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**Feasibility study on Biochar production from cotton stalks and carbon credit opportunities in cotton-based farming systems in Tajikistan**

**Project number/  
cost centre:  
G-011609-009**

**Tender number**

10040397

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## **0. List of abbreviations**

|      |                                                                          |
|------|--------------------------------------------------------------------------|
| AG   | Commissioning party                                                      |
| AN   | Contractor                                                               |
| AVB  | General Terms and Conditions of Contract for supplying services and work |
| FK   | Expert                                                                   |
| FKT  | Expert days                                                              |
| KZFK | Short-term expert                                                        |
| ToRs | Terms of reference                                                       |
| CBFS | Cotton-based farming systems                                             |
| FGDs | Focus group discussions                                                  |
| RRS  | Regions of Republican Subordination                                      |
| BCI  | Better Cotton Initiative                                                 |
| NGO  | Non-governmental organization                                            |
| VC   | Value chain                                                              |

## 1. Context

The Multi-Donor Action “Green Transition through the Cotton Value Chain in Tajikistan” is jointly co-financed by the European Union and the Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by GIZ via a separate output of the BMZ project “Integrative and Climate-sensitive Land Use in Central Asia (ILUCA)”.

The Action builds on many years of experience of the GIZ projects TRIGGER II/IRDP-TRIGGER in supporting certified sustainable cotton production systems (Better Cotton Initiative, organic cotton according to EU-regulations, Fairtrade) with local partner organizations.

The Overall Objective of the Action is to contribute to the socio-economic development of Tajikistan and the reduction and eradication of poverty by boosting sustainable productivity growth, climate resilience and cotton-based value chains (VCs).

"Thus, through its Action and development cooperation activities in Tajikistan, GIZ aims to support the green transition of agriculture through the cotton value chain, sustainable rural development, and climate-resilient agriculture by introducing sustainable cotton along the entire value chain."

Cotton is one of Tajikistan's most important agricultural crops, providing income and employment to thousands of rural households. In recent years, the project has been promoting more sustainable cotton production by introducing organic and Better Cotton standards. However, cotton farming systems still face challenges related to declining soil fertility, low organic matter, poor crop residue management, and growing climate risks.

Cotton stalks left after harvesting represent a significant source of biomass, which is often used as firewood for baking and cooking or plowed, leaving the stalks in the fields to decompose. This leads to environmental pollution, greenhouse gas emissions, and missed opportunities to improve soil health. Producing biochar from cotton stalks is a promising idea, as it transforms agricultural waste into a value-added product that can improve soil fertility, improve water retention, enhance carbon sequestration, contribute to climate change mitigation, and increase crop yields.

The project is exploring the potential for piloting of biochar production using cotton stalks among cotton farmers introducing organic and Better Cotton standards. In addition to its agronomic and environmental benefits, biochar has the potential to generate carbon credits through long-term carbon storage, creating additional income opportunities for farmers and project implementing partners.

To support evidence-based decision-making, the project considers conducting a feasibility study to assess the technical, economic, environmental, operational, and market feasibility of piloting biochar production from cotton stalks in Tajikistan.

Thus, in the framework of this assignment, the project seeks to hire an international expert for a short-term period to conduct a feasibility study on piloting biochar production from cotton stalks, including an assessment of the potential for carbon credit generation, certification, and commercialization through relevant carbon markets. The study should identify suitable technologies considering the experiences in Cameroon, supported by GIZ project, feedstock availability, business model, carbon credit opportunities, and recommendations for successful implementation and scaling up. Attention should also be paid to assessing the economic feasibility and farmers' willingness to harvest, dry, store, and process cotton stalks into biochar using pyrolysis in simple cone pits, taking into account associated labor costs in Tajikistan.

To facilitate this process and ensure effective implementation on the ground, the project intends to recruit a national advisor who will work closely with the international expert during all phases of the assignment. The national advisor will provide technical, logistical, and coordination support, as well as translate documents and assist with interpretation during field visits and meetings, while the international expert will be responsible for methodology, quality, all final results, and the achievement of study objectives.

## **2. Tasks to be performed by the contractor**

The Contractor shall conduct a comprehensive feasibility study on piloting biochar production from cotton stalks and carbon credit opportunities in Tajikistan and provide recommendations for potential implementation.

The contractor is responsible for providing the following services:

### **2.1 Preparatory phase**

- Review relevant project documents, reports, studies, and available literature related to sustainable cotton production, crop residue management, biochar production, carbon markets, and carbon credit methodologies.
- Review international experiences and lessons learned on biochar production from agricultural residues, with particular attention to GIZ-supported initiatives in Cameroon.
- Develop an inception report outlining the proposed methodology, work plan, data collection approach, stakeholder engagement, and timeline.

### **2.2 Data Collection**

- Select a representative sample of cotton-growing farms related to implementing partners in at least 3–4 key regions (to be confirmed with GIZ), as well as other potential organizations and individuals.
- Conduct surveys, focus group discussions (FGDs), and key informant interviews to collect information on the survey topics indicated below.

#### **Technical data**

- ✓ Availability and seasonal distribution of cotton stalk biomass in selected project areas.
- ✓ Volume of cotton stalks that could realistically be collected and used for biochar production.
- ✓ Logistical requirements and costs related to collection, transportation, drying, storage, and handling of cotton stalks.
- ✓ Identify and evaluate suitable biochar production technologies appropriate for Tajikistan, including low-cost and farmer-friendly technologies such as cone pit pyrolysis systems (experience of Cameroon) and/or production of biochar integrated with ginneries.
- ✓ Technical requirements, equipment needs, operational procedures, safety considerations, and maintenance requirements.
- ✓ Biochar quality requirements and potential standards relevant to agricultural application and carbon credit generation.
- ✓ Application of biochar on agricultural lands and its effectiveness, as well as the possibility of mixing it with other organic materials to improve the quality and/or reduce the alkalinity of the biochar PH.

#### **Economic and financial data**

- ✓ The full production costs of biochar including assessment of labor requirements for harvesting, drying, storing, transporting, and processing cotton stalks into biochar for both farmer pilots and ginneries.
- ✓ Projection of benefits including increased harvests based on soil fertility, carbon credit sales, avoided expenses on fertilizer etc.
- ✓ Farmers' willingness to participate in biochar production considering labor intensity, opportunity costs, and prevailing rural wage rates in Tajikistan.

#### **Environmental, social and agronomic data**

- ✓ Potential environmental benefits and risks associated with biochar production and application.
- ✓ Expected impacts on soil fertility, soil organic carbon, water retention, nutrient availability etc.  
Potential unintended impacts, incl. social impacts such as lack of or additional expense or collection time for fuel biomass for heating, occupation of storage space that would otherwise be used for other purposes, etc.

### **2.3 Data Analysis and interpretation**

- Analyze data related to the assessment topics indicated above using appropriate quantitative and qualitative methods.
- Compare alternative biochar production technologies in terms of efficiency, costs, scalability, environmental performance, and suitability for smallholder farmers. (e.g., if piloting with ginneries in addition to methods used in Cameroon)
- Cost-benefit analysis and estimate potential economic returns for farmers and implementing partner organizations.
- Assess the carbon sequestration potential of biochar produced from cotton stalks as well as potential carbon credit volumes and revenues from this.
- Analyze opportunities, challenges, costs, and risks associated with carbon credit certification and commercialization.
- Provide recommendations on suitable ways.

### **2.4 Pilot model and scaling strategy**

- Propose practical pilot implementation models suitable for project intervention areas.
- Recommend implementation mechanisms, investment requirements, operational procedures, and monitoring mechanisms.
- Provide a roadmap for scaling up biochar production within sustainable cotton production systems in Tajikistan.

### **2.5 Reporting**

- Prepare a draft report for GIZ review and feedback.
- Presentation of findings and recommendations to GIZ, project partners, and relevant stakeholders
- Submit a final report incorporating stakeholder feedback.

### **2.6 Deliverables**

- Inception Report including methodology and timeline
- Draft feasibility study report
- Final version of report with annexes, tools, data, transcripts, photos.

### **2.7 Other general provisions**

- The contractor is responsible for selecting, preparing, training and steering the international and national, short and long-term experts assigned to perform the advisory tasks.
- The contractor provides equipment and supplies (consumables) and assumes the associated operating and administrative costs.
- The contractor manages costs and expenditures, accounting processes and invoicing in line with the requirements of GIZ.
- The contractor reports regularly to GIZ in accordance with the current AVB of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Certain milestones, as laid out in the table below, are to be achieved during the contract term:

| <b>Milestones/process steps/partial services</b>                                                 | <b>Deadline/place/person responsible</b>                                                                                                  |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Preparatory work (methodology, tools, work plan etc.)                                            | By Week 2 of contract (September 2026)<br>Place: Remote<br>Responsible: Consultant                                                        |
| Desk Review of relevant documentations                                                           | Week 3<br>Place: Remote<br>Responsible: Consultant                                                                                        |
| Data collection (Summary of field activities and data quality checks)                            | Weeks 4–7<br>Place: Tajikistan, regions of Sughd, Khatlon, Dushanbe, Regions of Republican Subordination (RRS)<br>Responsible: Consultant |
| Analyzing data collected, filling out the excel table to prepare draft feasibility study report  | Weeks 8–9<br>Place: Remote<br>Responsible: Consultant                                                                                     |
| Pilot model and scaling strategy                                                                 | Week 10<br>Place: Remote<br>Responsible: Consultant                                                                                       |
| Preliminary submission of feasibility study report review and feedback                           | Week 11<br>Place: Remote<br>Responsible: Consultant                                                                                       |
| Workshop to present report and address feedback                                                  | Week 12<br>Place: Remote<br>Responsible: Consultant                                                                                       |
| Submitting Final version of Report with annexes (tools, data in excel, transcripts, photos etc.) | By Week 13<br>Place: Remote<br>Responsible: Consultant                                                                                    |

Period of assignment: from mid – September 2026 until 12.04.2027.

### 3. Concept

In the tender, the tenderer is required to show *how* the objectives defined in Chapter 2 (Tasks to be performed) are to be achieved, if applicable under consideration of further method-related requirements (technical-methodological concept). In addition, the tenderer must describe the project management system for service provision.

Note: The numbers in parentheses correspond to the lines of the technical assessment grid.

## Technical-methodological concept

**Strategy (1.1):** The tenderer is required to consider the tasks to be performed with reference to the objectives of the services put out to tender (see Chapter 1 Context) (1.1.1). Following this, the tenderer presents and justifies the explicit strategy with which it intends to provide the services for which it is responsible (see Chapter 2 Tasks to be performed) (1.1.2).

The tenderer is required to present the actors relevant for the services for which it is responsible and describe the **cooperation (1.2)** with them.

The tenderer is required to present and explain its approach to **steering** the measures with the project partners (1.3.1) and its contribution to the **results-based monitoring system** (1.3.2).

The tenderer is required to describe the key **processes** for the services for which it is responsible and create an **operational plan** or schedule (1.4.1) that describes how the services according to Chapter 2 (Tasks to be performed by the contractor) are to be provided. In particular, the tenderer is required to describe the necessary work steps and, if applicable, take account of the milestones and **contributions** of other actors (partner contributions) in accordance with Chapter 2 (Tasks to be performed) (1.4.2).

The tenderer is required to describe its contribution to knowledge management for the partner (1.5.1) and GIZ and to promote scaling-up effects (1.5.2) under **learning and innovation**.

## Project management of the contractor (1.6)

The tenderer is required to explain its approach for coordination with the GIZ project. In particular, the project management requirements specified in Chapter 2 (Tasks to be performed by the contractor) must be explained in detail (1.6.1).

The tenderer is required to draw up a **personnel assignment plan** with explanatory notes that lists all the experts proposed in the tender; the plan includes information on assignment dates (duration and expert days) and locations of the individual members of the team complete with the allocation of work steps as set out in the schedule (1.6.2).

## 4. Personnel concept

The tenderer is required to provide personnel who are suited to filling the positions described, on the basis of their CVs (see Chapter 7), the range of tasks involved and the required qualifications.

The below specified qualifications represent the requirements to reach the maximum number of points in the technical assessment.

## **Team leader**

### Tasks of the team leader

- Overall responsibility for the advisory packages of the contractor (quality and deadlines)
- Coordinating and ensuring communication with GIZ, partners and others involved in the project
- Personnel management, in particular identifying the need for short-term assignments within the available budget, as well as planning and steering assignments and supporting local and international short-term experts
- Regular reporting in accordance with deadlines

### Qualifications of the team leader

- Education/training (2.1.1): university degree (German 'Diplom'/Master) in bachelor or equivalent in agriculture science or related field
- Language (2.1.2): C1-level language proficiency in English
- General professional experience (2.1.3): 7 years of professional experience in the rural development, sustainable agriculture or assessments/studies in related fields
- Specific professional experience (2.1.4): 3 years of experience with cotton-based farm systems, conduction agricultural cost benefit analysis, assessing soil fertility and soil carbon, biochar production, knowledge of carbon credit generation and sustainability standards (such as organic farming, Fairtrade, Reg Ag, BCI)
- Regional experience (2.1.6): 2 years of experience in projects in Central Asian countries (regions)
- Development cooperation (DC) experience (2.1.7): 3 years of experience in DC projects

### Soft skills

In addition to qualifications, the following qualifications are required:

- Team skills
- Initiative
- Communication skills
- Socio-cultural skills
- Efficient, partner- and client-focused working methods
- Interdisciplinary thinking

## **5. Costing requirements**

### **Assignment of personnel and travel expenses**

Per diem allowances are reimbursed as a lump sum up to the maximum amounts permissible under tax law for each country as set out in the country table in the circular from the German Federal Ministry of Finance on travel expense remuneration (downloadable from the [German Federal Ministry of Finance – tax treatment of travel expenses and allowances for international business travel as of 1 January 2026 \(GERMAN ONLY\)](#)).

Accommodation allowances are reimbursed as detailed in the specification of inputs below.

With special justification, additional Accommodation costs up to a reasonable amount can be reimbursed against evidence.

All business travel must be agreed in advance by the officer responsible for the project

### Sustainability aspects for travel

GIZ has undertaken an obligation to reduce greenhouse gas emissions (CO<sub>2</sub> emissions) caused by travel. When preparing your tender, please incorporate options for reducing emissions, such as selecting the lowest-emission booking class (economy) and using means of transport, airlines and flight routes with a higher CO<sub>2</sub> efficiency. For short distances, travel by train (second class) or e-mobility should be the preferred option.

CO<sub>2</sub> emissions caused by air travel must be offset. GIZ specifies a budget for this, through which the carbon offsets can be settled against evidence.

There are many different providers in the market for emissions certificates, and they have different climate impact ambitions. The [Development and Climate Alliance \(German only\)](#) has published a [list of standards \(German only\)](#). GIZ recommends using the standards specified there.

### Specification of inputs

| Fee days                                     | Number of experts | Number of days per expert | Total | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------|-------------------|---------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Designation of TL                            | 1                 | 35                        | 35    | Preparation/debriefing (5), Implementation (25), Reporting (5)                                                                                                                                                                                                                                                                                                                                                                            |
| Travel expenses                              | Quantity          | Number per expert         | Total | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Per-diem allowance in country of assignment  | 1                 | 20                        | 20    | Tajikistan                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Overnight allowance in country of assignment | 1                 | 19                        | 19    | <p>Tajikistan</p> <p>Overnight stays abroad:</p> <p><b>Note:</b> Under the BMF travel expense regulations, overnight allowances not exceeding 100% of the lump sum amounts can be submitted for reimbursement against evidence. Up to 75% of the maximum rates specified in the travel expense regulations can be submitted for reimbursement on a lump-sum basis.</p> <p>Please indicate in the price schedule whether your offer is</p> |

|                                                     |                 |                          |              |                                                                                                                                                                                                            |
|-----------------------------------------------------|-----------------|--------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                     |                 |                          |              | <b>on a lump-sum basis or against evidence.</b>                                                                                                                                                            |
| <b>Transport</b>                                    | <b>Quantity</b> | <b>Number per expert</b> | <b>Total</b> | <b>Comments</b>                                                                                                                                                                                            |
| <b>International flights to Tajikistan and back</b> | 1               | 1                        | 1            | Round trip to the place of service delivery Tajikistan                                                                                                                                                     |
| <b>CO<sub>2</sub> compensation for air travel</b>   | 1               | 100 Euro                 | 100 Euro     | A fixed budget of EUR <b>100</b> is earmarked for settling carbon offsets against evidence.                                                                                                                |
| <b>Travel expenses (train, car)</b>                 | 1               | 1                        | 1            | Travel within the country of assignment, transfer to/from airport etc.                                                                                                                                     |
| <b>Other travel expenses</b>                        | 1               | 1                        | 1            | e.g. visa costs                                                                                                                                                                                            |
| <b>Other costs</b>                                  | <b>Number</b>   | <b>Price</b>             | <b>Total</b> | <b>Comments</b>                                                                                                                                                                                            |
| <b>Flexible remuneration</b>                        | 1               | 1.000 Euro               | 1.000 Euro   | A budget of EUR 1000 is foreseen for flexible remuneration. Please incorporate this budget into the price schedule.<br><br>Use of the flexible remuneration item requires prior written approval from GIZ. |

## 6. Requirements on the format of the tender

The structure of the tender must correspond to the structure of the ToR. In particular, the detailed structure of the concept (Chapter 3) should be organised in accordance with the positively weighted criteria in the assessment grid (not with zero). The tender must be legible (font size 11 or larger) and clearly formulated. It must be drawn up in English (language).

The complete tender must not exceed 10 pages (excluding CVs). If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment. External content (e.g. links to websites) will also not be considered.

The CVs of the personnel proposed in accordance with Chapter 4 of the ToRs must be submitted using the format specified in the terms and conditions for application. The CVs shall not exceed 4 pages each. They must clearly show the position and job the proposed person held in the reference project and for how long. The CVs can also be submitted in English (language).

Please calculate your financial tender based exactly on the parameters specified in Chapter 5 Quantitative requirements. The contractor is not contractually entitled to use up the days, trips, workshops or budgets in full. The number of days, trips and workshops and the budgets will be contractually agreed as maximum limits. The specifications for pricing are defined in the price schedule.