
Project Title: Enabling the Implementation of Georgia's Forest Sector Reform (ECO.Georgia)

Project/Activity Number: 20.2275.4-002.00/0701

Title of the assignment: Field work for assessing degradation and other forest characteristics

1. Brief information on the project

Climate change impacts and the demand for fuelwood from rural population put significant pressure on Georgia's forests: up to 90% of rural households (1.43 million people) rely on fuelwood for their energy needs. The problem is exacerbated by the fact that households use obsolete technologies, such as traditional stoves with a lifetime of two years and an efficiency of 35% or less. Fuelwood demand exceeds sustainable harvesting levels, considering reduced productivity of many forests in the country because of extensive forest degradation. This forest degradation leads to a loss of carbon absorption capacity which is projected to decrease by five times between 1990 and 2030.

In order to address this negative development, the project "Enabling the Implementation of Georgia's Forest Sector Reform - ECO.Georgia" supports the Government of Georgia to implement its transformational forest sector reform agenda to put the entire nation's forests under the framework for sustainable forest management (SFM). It will do so by supporting the establishment of a nation-wide SFM system (Component 1) and in parallel promoting market development for energy efficient appliances and alternative fuels (Component 2) to address the main driver of forest degradation. The project will safeguard the reform implementation by diversifying livelihood opportunities and strengthening local self-governance in forest adjoining rural communities (Component 3).

The project is funded by the Green Climate Fund (GCF), the German Federal Ministry for Economic Cooperation and Development (BMZ), and the Swiss Development Cooperation (SDC) with GIZ being the project's accredited entity. The German contribution is part of the wider German support in the priority area "Environmental policy, conservation and sustainable use of natural resources in the South Caucasus", which aims at the sustainable use of natural resources, biodiversity conservation and climate protection, particularly for the benefit of the rural population. Similarly, both the share of renewables in the energy composition as well as the energy efficiency levels will increase.

Especially rural households using firewood as their source of heating energy will benefit from improved air quality and reduced fuelwood demand through eased access to energy efficient stoves. Forest-related small and medium-sized enterprises and their employees will receive support to improve economic efficiency and environmental sustainability of their business activities. Additionally, staff members of relevant public institutions (National Forestry Agency NFA, Department of Environmental Supervision DES, Environmental Information and Education Center EIEC, Rural Development Agency RDA, municipalities) will receive direct support through human capacity development measures and grant finance.

ECO.Georgia primarily contributes to achieving the SDG 15 (Protect, restore and promote sustainable use of terrestrial ecosystems) of the 2030 Agenda of the UN, but also to achieving SDG 7 (Ensure access to affordable, reliable, sustainable and modern energy for all), SDG 13 (Take urgent action to combat climate change and its impacts), SDG 1

(End poverty in all its forms everywhere), and SDG 5 (Achieve gender equality and empower all women and girls).

The duration of ECO.Georgia is from April 2021 until March 2029.

2. Description of the Assignment

2.1. Context

In the light of climate change-imposed challenges, Georgia's forests, covering 44.7% of the country, play a pivotal role in securing net removal of GHG emissions. Tackling unsustainable use of fuelwood - the underlying driver of the degradation - by making fuelwood use more efficient and improving the management of the undervalued forest resource, will have a direct climate impact: unsustainable biomass extraction will be reduced on one hand and, on the other, incremental growth in the more resilient forest will increase. It is expected that broader SFM implementation will lead to a reduction of forest degradation in the range of 0.8 t biomass per ha and year (1.3 tCO₂/ha/year); in addition, forest biomass will increase by 1.7 t biomass per ha and year (2.9 tCO₂/ha/year) as a result of direct SFM measures.

In 2017-2022 the first National Forest Inventory (NFI) was carried out in Georgia providing solid data for a baseline about the state of the forests in the country. In the course of ECO.Georgia project implementation, measures affecting forest conditions are being supported with their expected effects varying in amplitude and timeliness. While strengthened forest supervision may lead to reduced degradation almost immediately, improved forest management planning and implementation of more sustainable forest management practices requires time for fundamental changes of procedures, training of staff, and the forests' natural dynamics to turn the improved conditions into increased timber stocks.

As the above-mentioned assumptions on project impacts to be expected were based on data stemming from a diversity of sources with different degrees of the data sets' actuality and reliability, an assessment of the forest conditions and dynamics is needed for receiving robust data on the status and trends. Building on the acquired data from the first NFI, a re-assessment of the clusters assessed in 2019 and located in the project's target municipalities shall allow for analysing the changes with regards to timber stocks and forest degradation.

The subject of this tender is procurement of service of forest assessment that includes measuring forest features described in the attached field manual (Annex 1). The manual is based on the methodology applied for NFI field work from 2019 to 2021 and thereby ensures compatibility of the collected data with the existing dataset. Data-driven quantification of changes is crucial for identifying and evaluating the current forest conditions and dynamics and derive insights on the project's impacts as well as the theory of change.

2.2. Objective(s) of the assignment and work packages/tasks

The objective of the assignment is **to carry out forest assessment in Lanchkhuti, Chokhatauri, Ozurgeti and Tianeti municipalities** for estimation of forest degradation level in the above-mentioned municipalities.

Within this assignment, forest assessment shall be carried out on the National Forest Inventory plots in the above-mentioned municipalities according to the field manual to be

provided.

Number of sample plots to be assessed, and clusters they form by the municipalities, are as follows:

- Chokhatauri municipality – 40 clusters / 104 sample plots
- Lanchkhuti municipality – 19 clusters / 46 sample plots
- Ozurgeti municipality – 21 clusters / 52 sample plots
- Tianeti municipality – 42 clusters / 117 sample plots
- **In total -122 clusters / 319 sample plots**

Field data shall be collected using tablet computers with pre-installed special application. The tablet computers with the needed software will be provided by GIZ.

The contractor (members of field teams) will have to attend a mandatory training (lasting 1 week maximum) about forest assessment methodology for this assignment purposes. This training will be provided by GIZ.

The consultant shall fulfil the following tasks:

- **Work packages1 / Preparatory works**
 - Planning and preparation the activities required by this assignment (including fieldtrips).
 - Forming up to 5 (maximum) field teams for forest assessment, each consisting of 2 persons, out of which one is a field team leader.
- **Work package 2 / Field assessments**
 - Conducting fieldworks in Lanchkhuti, Chokhatauri, Ozurgeti and Tianeti municipalities for assessing of forest variables as described in the provided field manual. It is crucially important that assessments/measurements are done in accordance with the protocol described in the field manual.
 - Preparation of weekly technical reports (while fieldworks in progress) consisting of (at least) GPX-track files extracted from GPS devices and a file from tablets with results of measurements of past week. Report shall be submitted weekly (see dates below) according to **data submission guideline**, enclosed with this ToR (technical report submission will be explained in detail on the mandatory training by GIZ).
- **Work package 3 / Final reporting**
 - Preparation of the final report on the conducted forest assessment and implementation of work.

2.3. Outputs/deliverables

The main output of the assignment is **the results of forest inventory** carried in Lanchkhuti, Chokhatauri, Ozurgeti and Tianeti municipalities.

A full list of expected deliverables contains the following:

- **Output 1/Deliverable 1:** an outline how the assignment implementation is seen, including the set-up of field teams and a time plan, showing distribution of activities in the time.
- **Output 2/Deliverable 2:** technical weekly reports (during fieldworks) consisting of data files showing measurements results/values for the required variables of forest.

- Output 3/Deliverable 3: final report about implementation of activities.

2.4. Schedule and timeframe

| Outputs / deliverables | Deadline | Number of experts | Number of days per expert |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------|---------------------------|
| <ul style="list-style-type: none"> • Work package 1 Output 1/ Deliverable 1 | 14 calendar days after signing the contract | | |
| <ul style="list-style-type: none"> • Work package 2 Output 2/Deliverable 2 | End of September 2024 | | |
| <ul style="list-style-type: none"> • Work package 3 Output 3/Deliverable 3 | Within 10 calendar days after fieldworks are complete. | | |

3. Concept

In the tender, the tenderer is required to submit a technical proposal showing how the objectives defined in Chapter 2 are to be achieved and if applicable under consideration of further method-related requirements (technical-methodological concept).

The technical proposal will be evaluated in accordance with the assessment grid which consists of followings:

(2.1) Concept

- interpretation of the objective /assignment (2.1)
- strategy for the implementation reflecting other alternatives (2.1)
- cooperation during the implementation (stakeholders in the implementation, reference projects etc.) (2.1)
- a work plan in a visual form (2.1)

The bidder shall suggest a price per single sample plot which shall include all the related costs (accommodation, travel, etc). Overall budget shall be estimated considering the total number of sample plots mentioned above in Chapter 2.2

4. Company and Experts' profiles

Company

Experience of the company

(1.1): Technical experience in forest/woody plant inventory/quality assessment (e.g. NFI).

(1.2): Regional Experience and knowledge of Georgia's forestry sector.

Strategy: the bidder is required to consider the tasks to be performed with reference to the objectives of the services put out to tender (see Chapter 1). Following this, the bidder presents and justifies the strategy with which it intends to provide the services for which it is responsible (see Chapter 2).

The bidder is required to describe the **key processes** for the services for which it is responsible and create a schedule (draft work plan) that describes how the services according to Chapter 2 are to be provided. In particular, the bidder is required to describe the necessary work steps and, if applicable, take account of the milestones and contributions of other actors in accordance with Chapter 2.

The bidder is required to draw up a personnel assignment plan with explanatory notes that lists all the experts proposed in the bid; the plan includes information on assignment dates and locations of the individual members of the team complete with the allocation of work steps as set out in the schedule.

Personnel concept

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

The CVs of the personnel proposed meeting the requirements below 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.

It is possible that an individual expert fulfils more than one qualification requirement described below and the expert pools are formed accordingly.

Coordinator

Tasks of the coordinator:

- Overall responsibility for the project implementation (quality and deadlines),
- Coordinating and ensuring communication with GIZ, partners and others involved in the project,
- Personnel management, planning and steering assignments
- Technical backstopping and quality assurance,
- Regular reporting in accordance with deadlines.

Qualifications of the coordinator:

(5.1.1) General qualification: Education / training: Master's degree or equivalent in environmental studies.

(5.1.2) Specific qualification: Professional experience: 3 years' experience in coordination of forestry-related projects.

(5.1.3) Regional experience / knowledge of country: 5 years of experience in projects in the Caucasus region and 3 year of work experience in Georgia, related to the forest sector.

(5.1.4) Linguistic skills (state language): Excellent business language skills in English and Georgian

Expert pool 1: Field Team Leaders (as per suggested concept but maximum 5)

Tasks of the Field Team Leaders:

- Coordination of field works on-the-site
- Planning on-the-site to ensure efficient navigation and accessing sample plots
- Ensuring accuracy and proper quality of measurements and data entry
- Submitting weekly technical reports to GIZ in the frequency and deadlines defined in this ToR.

Qualifications of the Field Team Leaders:

(5.2.1) General qualification: Education/training: University degree in forestry/botany.

(5.2.2) Specific qualification: Professional experience: 3 years' experience in forest management and/or forest/woody plant inventory

(5.2.3) Regional experience / knowledge of country: working experience in Georgia

Expert pool 2: Field Assistants (number equivalent to field team leaders)

Tasks of the Field Assistants:

- Assisting Field Team Leader during field works.

Qualifications of the Field Assistants:

(5.3.1) General qualification: Education/training: University degree in forestry/botany or enrolled student of forestry/botany/nature management faculty.

(5.3.2) Specific qualification: Professional experience: working experience in forest management and/or forest/woody plant inventory or related field.

5. Timing and duration

From **May 2024** to **November 2024**

6. Place of assignment

The assignment (forest assessment) shall be carried out in Lanchkhuti, Chokhatauri, Ozurgeti and Tianeti municipalities of Georgia.

7. Reporting

- Weekly technical reports shall be submitted on weekly basis. Submission details/dates will be agreed in advance before fieldtrip (weekly reporting will be one of the topics of the above-mentioned mandatory training),
- The final report is to be prepared according to the GIZ template to be provided by the project;
- All documents shall be delivered electronically (text files) in English and in Georgian;
- The contractor shall report to Head of Component 1 of ECO.Georgia project.
- The contractor is expected to coordinate very closely with ECO.Georgia's advisors for general and ToR-related questions.

8. Other provisions

8.1 Budgeting and payment

Payments can be effected as follows:

- Interim payment can be agreed upon request after delivery of assessment of certain sample plots.
- Final payment will be effected after all deliverables, stipulated in the Chapter 2.4 have been submitted and accepted by GIZ/ECO.Georgia project (see Chapter 8.2 below).

Travel expenses will be included in the contract.

8.2 Equipment

Equipment for field teams (see field manual) will be provided by GIZ, handing over will be documented by both parties. Damage or loss of equipment will have to be reported to GIZ and taken care of by the service provider.

8.3 Acceptance of results and control

Forest inventory results will be checked by ECO.Georgia's field control team and decision upon acceptance will be made respectively.

Based on submitted weekly technical reports, ECO.Georgia's team will check data. Data check includes desk check as well as field control of randomly selected sample plots where forest features will be re-measured by ECO.Georgia's field control team to ensure that measurements accomplished by the contractor have been done in accordance with the required methodology.

Contractor's field teams shall take measurements only if an iron pole, marking the centre of the sample plot has been found. If it is not possible to find the iron pole (but the plot is still accessible), then no measurement shall be taken. Such cases shall be reported to GIZ. If GIZ field control team finds the pole after checking, the contractor shall re-visit the plot and take measurements there.

Field assessment will be considered "ACCEPTED" based on the submitted data and deviation levels for selected variables or group of variables.

A list of variables / variable groups with possible levels of deviations is given in the table below.

If 12 minor deviation and/or 6 average deviation and/or 2 major deviation and/or 1 unacceptable deviation (or any combination of those) are revealed by the field control team, the work will not be accepted. In such case the contractor is obliged to re-assess unaccepted sample plots.

| Variable | Minor deviation | Average deviation | Major deviation | Unacceptable |
|------------------------------------------------------------|-----------------|-------------------|-----------------|--------------|
| Sample plot centre (iron pole) cannot be identified/found. | | | | X |

| | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------|---------------------------------------------------------------------|--------------------|
| Horizontal distance from the sample plot centre to the tree (m.) and appropriate azimuth. | | | Not possible to clearly identify the tree. | |
| Measuring Diameter at Breast Height (DBH) 8 - 15 cm (DBH) 15.1 - 30 cm (DBH) 30.1 - 65 cm (DBH) 65.1 and more (DBH) | 4-5 mm. 6-7 mm. 8-9 mm. 10-11 mm. | 6-7 mm. 8-9 mm. 10-11 mm. 12-13 mm. | 8 mm and more 10 mm and more 12 mm and more 14 mm and more | |
| Regeneration quantity | 10-15% | 15.1%-20% | 20.1% and more | |
| Even a single mistake which results in omitting a measurable tree and/or measuring an extra tree | | | | X |
| Mistake in tree species | | | | X |
| Categorical variables to be measured on sample plot (crown closure, height class of regeneration, % of ground coverage etc) | Disputable issues | Unprecise but not inconsistent. | Fully inconsistent | |
| Assessment of nominal categories measurable on sample plots – e.g. ground cover type, landscape features etc) | Disputable issues | | Fully inconsistent | |
| Incorrect measure of a variable (e.g. tree class, slopover plots, layer etc) which will result in useless dataset from the given plot. | | Disputable issues | | Fully inconsistent |
| Incomplete assessment of a sample plot (e.g. some variables are missing, photos are not taken etc) | | | | X |

Remuneration per sample plot will be paid in the following way:

- If measurement taken properly (with the first visit to a sample plot or after re-visiting it due to different reasons) and results accepted by ECO.Georgia's team – 100 % of sample plot prise will be paid.
- If, despite field teams' efforts a sample plot could not be reached due to objective reasons (e.g. landslides) and ECO.Georgia's team confirms it after accessibility checking – 20% of suggested price will be paid per sample plot.

9. Annex

Annex I – Field Manual (2024 adapted version)

10. Requirements on the format of the bid

Please calculate your price bid in line with the costing requirements. The specifications for pricing are defined in the attached price schedule which is required to be used for the preparation of the financial offer.