
Project Title:	Enabling the Implementation of Georgia's Forest Sector Reform (ECO.Georgia)
Project/Activity Number:	20.2275.4-007.00/C3A1 20.2275.4-001.00/C1A2
Title of the assignment:	Identification and mapping municipal green spaces and capacity development for 8 municipal authorities and Department of Environmental Supervision (DES)

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 June 2028.

2. Description of the Assignment

2.1. Context

GIZ has been supporting the Ministry of Environmental Protection and Agriculture (MEPA), main implementing partners: its Biodiversity and Forestry Department (BFD), the National Forestry Agency (NFA), Department of the Environmental Supervision and Rural development Agency (RDA), as well as EIEC in different directions dealing with forest sector reform, with strong focus on introduction of close-to-nature Sustainable Forest Management into forestry practice.

In addition to ECO.Georgia's Component 1 ("Sustainable Forest Management") and Component 2 ("Market Development for Energy Efficiency and Alternative Fuels"), the third component funded by Swiss Agency for Development and Cooperation (SDC) aims to ensure a socially balanced transition to the new forest management approach, taking into account the needs of rural households (the "SDC project" hereafter). The overall goal of the SDC project entitled "Strengthening Livelihoods and Social Inclusion in Georgia's Forest Sector Reform" is to diversify the livelihood opportunities and strengthen local self-governance in forest management to increase incomes and reduce socio-economic disparities.

To ensure that municipal authorities and citizens have the relevant technical and human capacities to participate in the sustainable management of forests, the SDC project will develop and introduce municipal-level tools, practices, plans and necessary capacities for participatory sustainable forest management and conservation. Additionally, mechanisms at the local level to better protect the interests of adversely affected stakeholders will be developed, promoted and tested.

To address the current unsustainable forest management and harvest practices, the Government of Georgia (GoG) has initiated an extensive forest sector reform in 2013. A new Forest Code was approved in 2020. It is based on sustainable forest management (SFM) principles and puts wood-related commercial activities in state forests under the exclusive responsibility of public forest management bodies. Additionally, the New Forest Code introduces the principle of participatory forest management and the possibility for municipalities to manage forests of local importance themselves.

Despite the renewed forest legislation, there are green areas in the country that are not yet regulated by the relevant legislation. In particular, "green spaces" in the territory of municipalities, which is not managed by the forest management body, it has not status of forest and is not covered by forest legislation, regardless of whether it meets the definition of forest or not. There is currently no information regarding the location, borders and conditions, no clear methodology and guidelines on how municipalities should manage such areas. Their proper management is also relevant to the rest of the forest as it can be a reason of spreading fires or pests and diseases.

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

The objectives of the assignment for **wok packages 1 and 2** are to develop tool on the use of geospatial data, as well as identification of the green spaces, it includes:

- Methods how to identify green spaces
- Training materials mostly (but not only) for 8 municipal authorities
- Joint mapping of the green spaces in 8 municipalities

In addition, the assignment covers capacity building aspects for 8 municipal authorities.

The objective of the assignment planned under **work package 3** is to provide Gentle Introduction Course to Geographic Information Systems (GIS) to participants from Department of Environmental Supervision (DES) with a basic understanding of the theory of databases and GIS in general, and detail functional overview of the ArcGIS for Desktop software and spatial data management on basic level.

The course should begin with the review of the functionality of ArcGIS and with the introduction to databases. Later the course should be focused on teaching the practical use of GIS functionality: viewing the spatial and attribute data; organizing and managing data; editing data; symbolizing layers and final map design.

In particular, the consultants should fulfil the following tasks:

Work package 1 (007/C3A1)– Identification green spaces in 8 municipalities -22 WD

Definition of the green spaces:

- The area covered with woody species – a minimum area of land of 0.5 hectares and not less than 10 m in width, which is covered with one or more woody plant species and where the tree density is not less than 0.1 per unit area
- The area located within the municipality's territory (e.g., belongs to municipality, the Ministry of Economy or Road department etc.) that does not fall under a forest category and is likewise not managed by a forest management body

Task follows as:

1. Develop methods for the identification and mapping green spaces
2. Find out and document the materials for mapping green spaces
3. Joint (municipal authorities) identification and mapping green spaces; Maps should include following information:
 - Maps should be prepared separately for each municipality (1:25 000)
 - All the part of the green spaces within municipalities should have:
 - Area (hectares).
 - Dominant and sub-dominant tree/ bush species.
 - Condition (if possible)
 - Property of green spaces

Work package 2 (007/C3A1) - Capacity development (8 target municipalities) – 20 WD (preparation, conduction and reporting)

Develop and agree on training modules, materials and schedules (most relevant modules for

municipalities should be selected and agreed in advance)

Training for municipal authorities

Participants for the training should be:

- At least 1 person from each municipality
- 1 person from APA (regional office)
- 1 person from local NGO

Training duration should be half a day (4,5 hours), distributed on 5 days per location

Location – Trainings should be conducted in municipality venues (No catering or lunch is required), **as follows:**

- **Ozurgeti** – trainings for the participants from Chokhatauri, Lanchkhuti and Ozurgeti should be conducted in Ozurgeti
- **Telavi** - trainings for the participants from Kvareli, Akhmeta and Telavi should be conducted in Telavi
- **Tianeti** - trainings for the participants from Tianeti
- **Dedoplistskaro** - trainings for the participants from Dedoplistskaro

Number of trainings - in total 5 days of trainings should be conducted per location.

Work package 3 (001/C1A2) – ArcGIS training for Department of Environmental Supervision (DES) 14 WD (preparation, conduction and reporting)

This work package aims to develop and conduct training course on developing basic Geographic Information Systems skills for the staff of Department of Environmental Supervision (DES). Training participants should develop a solid understanding of advanced theories and analytical methods in Geographic Information Science. They are also expected to strengthen their GIS skills through practical exercise working on the real data. Practical activities will familiarize training participants with GIS tools to the degree where participants completing the course should be able to conduct their own analysis using GIS and prepared the map and use GIS skills in spatial planning exercise.

Participants for the training should be:

- In total around 15 participants from DES (training should be conducted in two separate groups, 7-8 participants per group)
- Training duration should be **half a day (4,5 hours)**, distributed on 10 working days.

Location- Trainings should be conducted in Tbilisi, at the venue accommodated with GIS computers, provided by the company hired. No catering or lunch is required.

Training modules for work package 2 and work package 3:

The following topics preferably to be covered during the training session(s):

1. Review of ArcGIS software suite

- a. ArcGIS software products and applications
- b. Functionality of the software
- c. Examples
- d. User interface
- e. Navigating digital map
- f. Data query and selection

- 2. Data modeling principles; Displaying spatial data**
 - a. Introduction to relational databases
 - b. Main stages of planning and building information systems
 - c. Map layers and symbology
 - d. Working with field data types
 - e. Defining database structure
 - f. Symbolizing layers
 - g. Querying and selecting data
- 3. Working with geodatabases**
 - a. Types of spatial data
 - b. Data types (for attributive fields)
 - c. Creating geodatabase
 - d. Creating feature dataset
 - e. Creating feature classes
 - f. Creating stand alone tables
- 4. Editing spatial and attributive data**
 - a. Data and map
 - b. Introduction to ArcMap Editor toolbar
 - c. Using feature templates
 - d. Creating new features
 - e. Modifying existing features
 - f. Editing attributes
- 5. Working with tables**
 - a. Types of attributive data
 - b. Review of table editor in ArcMap
 - c. Sorting and querying data
 - d. Field Calculator
 - e. Joins and relates
 - f. Importing and exporting tables
- 6. Working with labels and annotation**
 - a. Introduction to map texts
 - b. Labels vs annotation
 - c. Adding labels to the map
 - d. Setting label display and placement properties
 - e. Creating and editing annotations
- 7. Map design**
 - a. Data view and layout view
 - b. Data frames
 - c. Page and print setup
 - d. Adding map design elements
 - e. Working with legend
 - f. Printing and exporting the map
- 8. Joining and relating tables; Using subtypes and domains**
 - a. Explaining joins and relates
 - b. Explaining subtypes and domains
 - c. Joining tables
 - d. Relating tables and Creating relation classes
 - e. Using default values
 - f. Creating subtype
 - g. Creating a coded value domain
 - h. Creating a range domain
- 9. Georeferencing and spatial adjustment**
 - a. Introduction to coordinate systems
 - b. Georeferencing vs spatial adjustment

- c. Preparing data for georeferencing
- d. Georeferencing an aerial image and topographic map sheet
- e. Spatial adjustment

10. Quality control of data using Topology rules

- a. Introduction to geodatabase topology
- b. Review of topology rules
- c. Review of Topology toolbar and Error Inspector
- d. Creating geodatabase topology
- e. Using topology rules
- f. Checking topology and correcting topological errors

2.3. Outputs/deliverables

Expected outputs are:

1. Report on the identification green spaces is developed, including maps, description of the methods and the materials **-working package 1**
2. ArcGIS training modules are developed as prescribed above and training is conducted for 8 municipal authorities, report is provided in template provided by GIZ– **working package 2**
3. ArcGIS training modules are developed as prescribed above, and training is conducted for Department of Environmental Supervision (DES), report is provided in template provided by GIZ **-working package 3**

2.4. Schedule and timeframe

	Deadline	Number of experts	Number of days per expert
<ul style="list-style-type: none"> • Output 1 • Output 2 • Output 3 	Latest July 2023 June 2023 June 2023	NA	NA
<ul style="list-style-type: none"> • Expert 1 – identification greenspaces in 8 municipalities 		1	22
<ul style="list-style-type: none"> • Expert 2 -Trainer on ArcGIS for municipalities 		1	20
<ul style="list-style-type: none"> • Expert 3 - Trainer on ArcGIS for DES 		1	14
Travel expenses		Number of experts	Number of days/nights per experts
<ul style="list-style-type: none"> • Overnight allowance in country of assignment 		1 (expert 2)	20 (5 nights per location)
<ul style="list-style-type: none"> • Travel costs (train, private vehicle) 		1 (expert 2)	8
<ul style="list-style-type: none"> • Training venue accommodated with GIS computers for WP 3 up to 10 days 			

3. Company and Experts' profiles

Company – Experience of the company

- (1.1): 3 years of experience in providing a wide range of services in geoinformation systems formation, geodatabase management, sectoral systems and user-oriented

software development by carrying out expert research and evaluations, spatial modelling and analysis.

- (1.2): Experience of GIS projects implementation in Georgia

Expert 1: Specialist with experience in working ArcGIS

- General qualification (5.1.1): 5 years of experience working in the field of GIS/Remote sensing
- Language skills (5.1.4): Sufficient level of written and oral English is required

Expert 2: Specialist with experience in conducting ArcGIS trainings

- General qualification (5.2.1): 5 years of experience working in the field of GIS/Remote sensing
- Specific Qualification (5.2.2): Teaching experience in the field of GIS/Remote sensing
- Language skills (5.2.4): Sufficient level of written and oral English is required

Expert 3: Specialist with experience in conducting ArcGIS trainings

- General qualification (5.3.1): 5 years of experience working in the field of GIS/Remote sensing
- Specific Qualification (5.3.2): Teaching experience in the field of GIS/Remote sensing
- Language skills (5.3.4): Sufficient level of written and oral English is required

Two trainers (Expert 2 and 3) are required due to the parallel trainings in different locations.

4. Timing and duration

Between May -October 2023 (including administrative procedures)

5. Place of assignment

Tbilisi and 8 municipalities, Georgia

6. Reporting

- The consultant shall report to Advisors of ECO.Georgia
- The consultant is expected to work very closely with local government
- The consultant is expected to work very closely with Ministry of Environmental Protection and Agriculture -Department of Environmental Supervision
- The consultant is expected to coordinate very closely with relevant staff members of the Project
- Reports and materials requested under **working package 1**, should be delivered in English and in Georgian
- Reports on conducted trainings under **working packages 2 and 3** must be delivered in English. Report should also consist of developed training modules.

7. Other provisions

7.1 Tender Procedure

The technical evaluation will take place in accordance with the assessment grid. As the grid indicated, the tenderer shall make a technical proposal. Technical proposal should consist of the following parts (2.):

- interpretation of the objectives and ToR (2.1)
- strategy (technical concept/alternative concepts) for the implementation reflecting other alternatives (2.1)
- a work plan and time schedule in a visual form (2.2)

Along with the technical proposal, tenderer shall provide CVs of proposed experts meeting the requirements listed in Art. 3.

7.2 Budgeting and payment

Travel expenses shall be included in the financial proposal.

Please calculate your price bid based exactly on 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.

Payments can be made in two instalments. The contractor can issue an interim invoice upon submission of deliverables 1 for which maximum of 22 working days can be claimed.

Final payments can be effected after provision of Output 2-3 / Deliverable 2-3