TERMS OF REFERENCE

Service Provider for

Development of municipal integrated land-use plans for sustainable agriculture and rural development (with LDN as an essential component and potential impacts of different land-use options) and 8 pilot projects (two per municipality) on land restoration/ SLM and CSA practices

1. Project background

Land resources are the foundation for food security, sustainable livelihoods and economic growth in Georgia. Georgia has shown clear drive to combat land degradation and improve land management systems by moving forward with a number of baseline activities, including its accession and implementation of relevant international agreements and adoption of related policies and laws, including the NEAP, INDC, NBSAP, NAP of UNCCD, TNC of UNFCCC, a new agricultural strategy and a new national forest policy. To achieve the global vision of zero net loss of healthy and productive land, measures and action on the ground are needed. Georgia is one of 100 countries that committed to define national LDN targets and an implementation strategy. In a first step, land degradation hot spots and main degradation causes had been identified. Land degradation in Georgia can be characterized by the following aspects:

- Loss of natural vegetation and soil quality caused by overgrazing;
- Loss of agricultural productivity and soil due to inappropriate farming techniques;
- Reduction of area and quality of forests due to illegal extraction and inappropriate forest management;
- Loss of productive land due to urbanization and conversion into non-agricultural areas.

The process of setting up national targets and an implementation strategy for LDN in the frame of a so called 'National Target Setting Program' (TSP) started in Georgia in 2016. Cross-sectoral meetings yielded in a set of national LDN targets, which were submitted to the UNCCD Secretary by the Ministry of Environment and Natural Resources Protection of Georgia in September 2017.

The solution to the barriers identified above is the development of new sustainable land management systems at both the commune and farmer plot level that integrate climate smart agricultural production, food security and resilience and thereby contribute to Georgia's objectives for Land Degradation Neutrality. The introduced management systems should lead to increasing levels of production and productivity while also maintaining the ecological integrity of the land; respect land and resource carrying capacities and also improve land and resource conditions; and be both integrated (encompassing agriculture, forestry, water and livestock management) and adaptive (structured to adapt to evolving challenges, including climate change). The above-mentioned factors underline the critical importance of promoting better coordination of sustainable land management across different sectors on the basis of solid data, of improving the country's existing policy and financing framework related to the management of land resources, and of strengthening the capacity and skills of national and

local government institutions and other stakeholders to undertake SLM approaches, in order to overcome existing barriers to mainstreaming Landscape and Sustainable Land Management (L-SLM) activities.

<u>The overall objective of the project</u> is to develop and strengthen SLM practices and build capacity for their application for the protection of natural capital in Georgia.

Project Component:

- 1. Creating an enabling environment at municipal scale for achieving Land Degradation Neutrality (LDN) Country Voluntary target;
- 2. Pilot implementation of measures avoiding degradation, intensifying sustainable land management practices and land rehabilitation to improve ecosystem functions and services;
- 3. Knowledge Management and Capacity Building;

Outset situation

Desertification in eastern Georgia is accelerated by human activities, causing widespread severe erosion. Erosion and desertification have affected 300,000 ha of arable land and 700,000 ha of pasture land: the upland watershed ridges and most of the Kakheti ridge slope are overgrazed¹. Due to the climate and the topography, natural soil erosion takes place also on quite a large scale in Kakheti and Shida Kartli region.

The proposed project will contribute to implementation of Kakheti and Shida Kartli² Regional Strategies and Agriculture Development Strategy of Georgia (2017-2020)³. Both strategies underline decreasing of soil fertility due to the improper land management as acute problem for agriculture development and poverty reduction in rural communities.

The particular pilot areas and intervention measures were selected according to the Georgia's National Action Program to Combat Desertification (NAPCD)⁴ and the Georgia's Third National Communications to the UNFCCC⁵. Both policy documents define the municipalities

http://www.moa.gov.ge/Ge/Public/Strategy/8

¹ Environmental Performance Review: Georgia2016 / Environmental Performance Reviews Series No. 43, Georgia - Third Review // The United Nations Economic Commission for Europe (ECE) Environmental Performance Review Programme / United Nations, New York and Geneva, 2016. https://www.unece.org/fileadmin/DAM/env/epr/epr studies/ECE CEP 177.pdf

² Regional Development Strategy of ShidaKartli (*Khashuri, Kareli, Gori, Kaspi Municipalities*) Region 2014-2021 // Approved by the Government of Georgia- Ordinance #1364 of September 17, 2013. e http://www.mrdi.gov.ge/sites/default/files/shida-qartli-regional-development-strategy-2014-2024-0.pdf

³ Agriculture Development Strategy of Georgia 2015-2020 // Approved by the Government of Georgia - Ordinance #167 of February 11, 2015 / see Share of Agriculture in GDP in Table 1: Sown Area, Livestock Numbers, and Share of Agriculture in GDP 1990-2013.

⁴ Second National Action Program of Georgia to Combat Desertification 2014-2022 / Approved by the Government of Georgia- Decree #742 of December 29, 2014. https://www.rec-caucasus.org/files/publications/pub 1481807666.pdf

⁵ Third National Report of Georgia On the Implementation of the UN Convention to Combat Desertification (2006) / Ministry of Environment Protection and Natural Resources of Georgia, 2006. http://archive.unccd.int/cop/reports/centraleu/national/2006/georgia-eng.pdf

of Kvareli, Sagarejo, Gori and Kareli as most vulnerable to Climate Change and land degradation. The four most vulnerable municipalities in thisregion have been defined according to values and coefficients of vulnerability indicators for Georgia⁶. The communities of these municipalities have a limited portfolio of assets, including technical know-how to enable them to address the challenges of land degradation. There is, therefore, a poverty-SLM nexus that needs urgent interventions to support the avoidance, arrest and reversing of land degradation in the municipalities of Kvareli, Sagarejo, Gori and Kareli.

Gori Municipality: Covering an area of 232,720 ha⁷, the municipality consists of 1% urban, 56% cropland-grassland mosaic and 43% forest area. The agricultural land is 61,902 ha⁸ 22,293 ha of arable lands, 11,000 ha of perennial plantations, 1,988 ha of hayfields, and pastures covering 27,621 ha). According to 2014 general census, the population of Gori municipality is 125,692 of which 60,744 are male, and 64,948 are female. 48,143 people live in the city and 77,549 in villages. The number of households in the municipality is 38,284, of which 15,021 are in the city and 23,263 in villages. The main income of the 75% of the population is from agriculture. Important crops include wheat, barley, corn, and Lucerne. The horticultural sector is well developed in this municipality, with farmers grow apple, pear, peach, grapes.

In Gori municipality, 81,912 people's major income source is agriculture⁹. Arable land (14,790 ha) is the dominant agricultural land category followed by land under permanent crops (33.4%) and natural meadows and pastures (14.5%). Cereal (6,217), and maize (3,208 ha) are the major annual crops in Gori. A considerable area of arable land is used for cultivating vegetables (2,538 ha). 29.5% of the total arable land is uncultivated. Orchards (9,062 ha), and vineyards (255 ha) are major permanent crops in Gori. One of the main parameter supporting high land productivity under agricultural production is the provision of irrigation water.

Animal husbandry is the second largest sub-sector of agriculture after plant production. Animal husbandry uses the considerable part of the agricultural land, especially pastures and haylands, but also require a substantial area of arable land for fodder production. In Gori beekeeping is an important field of agriculture as well accounting 4,596 beehives.

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⁶ Assessment of Vulnerability Profile Indices for Georgia (2012) / by DrDarkoZnaor // Identification and Implementation of Adaption Response to Climate Change Impact for Conservation and Sustainable Use of Agrobiodiversity in Arid and Semi-arid Ecosystems of South Caucasus / Report was carried out with support from the REC Caucasus and was funded by European Commission under the "Environment and Sustainable Management of Natural Resources, Including Energy Programme", 2012. https://www.rec-caucasus.org/files/publications/pub_1481807488.pdf

⁷ Some northern territories of the Gori municipality are part of a self-proclaimed republic of South Ossetia (*currently under de-facto control of Russian Federation*) and have not been under control of the Georgian government since 2008.

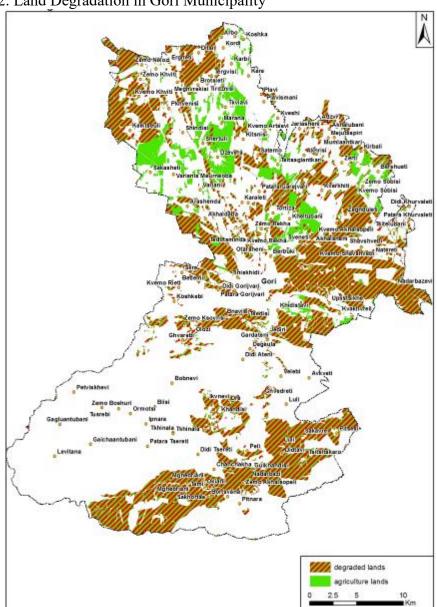
⁸ The agricultural land of *61,902* ha lays within an area of roughly 135,200 ha (*out of total232,720 ha*) of the Gori municipality that remains under direct control of the Georgian government.

⁹ Census of Agriculture 2014 / National Statistics Office of Georgia (GEOSTAT) / 28.04.2016. http://census.ge/files/results/agriculture/AG% 20Census% 20Release ENG.pdf

In Gori Municipality, key indicators of land degradation are listed below, and map 2 depicts land degradation patterns:

- Land productivity is severely reduced on approximately 20,000 ha agricultural land due to improper irrigation practices;
- About 1,000 ha of agricultural land is degraded due to man-made waterlogging;
- About 14,157 ha of Agricultural land is degraded because of water and wind erosion;
- 233 ha of agriculture land suffer from salinization.
- 30 years ago, 1,499 ha of the territory was covered by windbreaks, however, 80% has been lost.

Map 2. Land Degradation in Gori Municipality



Kareli Municipality: The municipality is situated in the centre part of Shida Kartli and covers 111,000 ha¹⁰. Agricultural lands in Kareli Municipality cover 36,407 ha¹¹, including 18,302 ha of arable lands, 4,678 ha of perennial plantations, 1,764 ha of hayfields and 11,762 ha of pastures. Forest area covers 26,746 ha. The population of Kareli municipality is 51,600, and the main economic activity of the municipality is horticulture. Agriculture provides 70% of the population's livelihood. Kareli is

¹⁰Some northern territories of the Kareli municipality are part of a self-proclaimed republic of South Ossetia (*currently under de-facto control of Russian Federation*) and have not been under control of the Georgian government since 2008.

¹¹The agricultural land of 36,407 ha lays within an area of roughly 66,800 ha (*out of total 111,000 ha*) of the Kareli municipality that remains under direct control of the Georgian government.

suffering from severe land degradation due to water and wind erosion (8,677 ha), and salinization (450 ha)12. 80% of windbreaks have been destroyed. Key crops include wheat, corn and barley. Horticulture plays an important role in the agriculture sector. Farmers grow apple, pear, and peach.

42,187 live in agricultural households (Agricultural Census of Georgia. Geostat, 2014) in Kareli. These households are main force involved in agricultural production consisting of 12,516 household holdings, which make-up 99.7% of agricultural holdings (12,548). Arable land (12,386 ha) is the dominant land category operated by agricultural holdings (69.6%), followed by natural meadows and pastures (15.9%), land under permanent crops (14.5%) and greenhouses (0.006%). The total land operated by agricultural holdings under annual crops occupy 9,618 ha, from which grain cereals are sown on 4,979 ha dominated by barley. A considerable area of arable land is used for cultivation of vegetables (2,059 ha) and beans, peas, oats, etc. (1,678 ha). Uncultivated land equals to 22.3% of the total arable land. Currently, in Kareli municipality, 7.2% of agricultural land operated by agricultural holdings (1,297 ha) is in need of irrigation water, which severely impacts the production capacity of those lands.

Animal husbandry is the second field of agriculture after plant production in Kareli, which uses the considerable part of the agricultural land, especially pastures and hay lands, but also require a substantial area of arable land for fodder production. In Kareli beekeeping is an important field of agriculture as well accounting 2,569 beehives.

In Kareli Municipality:

- Land productivity is severely reduced on approximately 8,000 ha of agricultural land due to unsustainable irrigation practices;
- About 150 ha agricultural land is degraded due to waterlogging;
- About 8,677 ha of land is suffering from severe land degradation due to water and wind erosion, and 450 ha of land is salinized;
- 30 years ago, 601 ha of the territory was covered by windbreaks, similar to Gori, 80% has been destroyed.

¹² Regional Development Strategy of Shida Kartli (*Khashuri*, *Kareli*, *Gori*, *Kaspi Municipalities*) Region for 2014-2021 // Approved by the Government of Georgia - Ordinance #1364 of September 17, 2013. http://www.mrdi.gov.ge/sites/default/files/shida_qartli_regional_development_strategy_2014-2024_0.pdf

degraded lands

Map 3. Land degradation in Kareli Municipality

Sagarejo Municipality: Covering an area of 155,369 ha, the municipality is situated in the western part of the Kakheti region. The major land covers are cropland-grassland mosaic (71%) and forests (29%). The municipality has a population of 59,400, and the main economic income of the municipality is agriculture. Rangeland sums to 56,884 ha, of which 40% is degraded due to overgrazing, 400 ha of arable land is degraded because of water and wind erosion and salinization, about 70% of windbreaks have been destroyed. Wheat, seed corn and sunflower are mainly sown in Sagarejo. Internal irrigation networks have fully collapsed, which adversely affect productivity and agricultural production. 34% of agriculture lands are privately owned, 61% of lands are state-owned, and 5% is the municipality property. The comparative lack of perennial plants in Sagarejo district is also reflected in the structure of existing orchards. Apples, and hazelnuts, which have significant revenue and export potential, are not grown in the region anymore.

In Sagarejo Municipality 6,094 ha from total agricultural land is private, 38,288 ha belongs to the state (source: municipality of Sagarejo). Homestead areas in total covers 1,430 ha, of

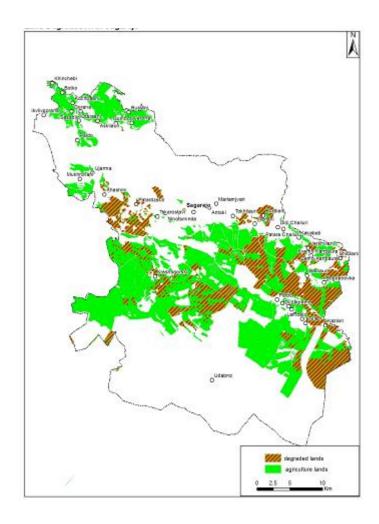
which 889 ha is arable, 447 ha under perennial crops, hayfields – 10 ha, pasture – 84 ha. 53,039 people live in agricultural households in Sagarejo (Agricultural Census of Georgia. GeoStat, 2014). These households are the main workforce of the agricultural production. There are 13,549 household holdings, which make-up 99.3% of the total number of agricultural holdings (13,639). Natural meadows and pastures (40,766 ha) is the dominant land category (64.2%), followed by arable land (19,450 ha). 16.6 % of arable land (3,229 ha) is under permanent crops and, 0.005% (1 ha) greenhouses. Total land operated by agricultural holdings under annual crops is around 11,711 ha. Cereals (9,428 ha) are the dominant crops in Sagarejo. Sunflower (788 ha), vegetables (442 ha) and fodder crops (366 ha) are the next major annual crops. Total agricultural land under permanent crops consists of vineyards (3,025 ha) followed by orchards (184 h). 58% of agricultural land operated by agricultural holdings (9,355 ha) is in need of irrigation water, which severely impacts production capacity of those lands.

Animal husbandry is another field of agriculture in Sagarejo, which uses the biggest part of the agricultural land, especially pastures and haylands. Animal husbandry also requires a considerable amount of the arable area for fodder production. Beekeeping and honey production is also important agricultural production in Sagarejo.

In Sagarejo Municipality:

- On approximately 60% of agricultural land productivity is declined due to unsustainable irrigation practices;
- Up to 47,000 ha of lands have high salinity and sodicity issues;
- About 300 ha agricultural land is degraded due to waterlogging;
- 40% of pasturelands is degraded due to overgrazing;
- 30 years ago, 300 ha of the territory was covered by windbreaks, 70% has been destroyed.

Map 4. Land degradation in Sagarejo Municipality



Kvareli Municipality: Situated on the eastern border of Georgia, covering 96,500 ha, with 35% grassland-cropland mosaic and 65% forest area. The municipality is sparsely populated with 37,658 people. The municipality's land is severely degraded because of water erosion. Land degradation is affecting the community of Kvareli because 80% of the population depends on agriculture in the municipality. Agriculture is predominantly viticulture in Kvareli municipality. The old vineyards are very sparse, and their productivity is low (2-2.5 t/ha).

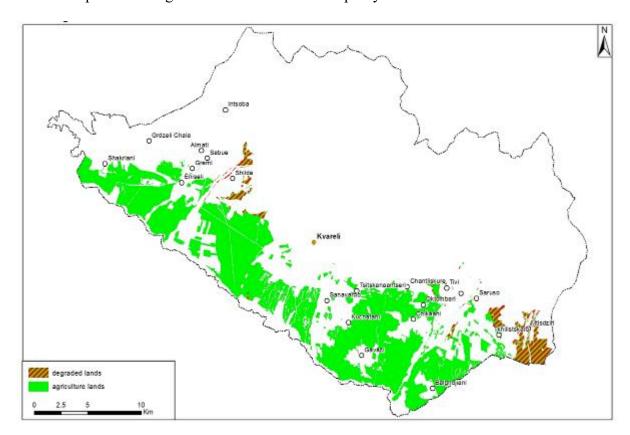
The number of population living in agricultural households is equal to 30,500 (Agricultural Census of Georgia. GeoStat, 2014) in Kvareli Municipality. These households are the main workforce of agricultural production. Total land operated by agricultural holdings under annual crops occupy 7,005 ha. Cereal production (5,420 ha) is the major annual crop. Total agricultural land under permanent crops consists of vineyards (4,502 ha), followed by orchards (1,635 ha) and berries (64 ha). Only 5 ha of land is occupied by nurseries of perennial crops. Currently, nearly half of the holdings (4,525 ha agricultural land) are in need of irrigation water.

Animal husbandry is the second major field of agriculture, which use considerable agricultural land, especially pastures and hay-lands, but also require arable land for fodder production. Kvareli municipality leads in beekeeping and honey production in Georgia with 11,078 beehives.

In Kvareli Municipality:

- Approximately 500 ha agricultural land is degraded due to waterlogging;
- Up to 10,000 ha of pastures and meadows are degraded due to overgrazing;
- About 1,000 ha of arable land is degraded due to impoverishment/depletion of soils.
- 60 ha of windbreaks has been left, whereas 300 ha of the territory was covered by windbreaks 30 years ago.

Map 5. Land degradation in Kvareli Municipality



1. Objective and scope of the assignment

RECC will hire a service provider (hereinafter referred to as the "Consultant") to prepare integrated land-use plans(4 ILUPs¹³) for sustainable agriculture and rural development and to support in elaboration of at least 16 pilot project proposals on land restoration and SLM practices to meet sustainable/green agriculture and SLM/CSA requirements in municipalities of Gori, Kareli, Kvareli and Sagarejo

Specific Objective of the Assignment

The consultant will be responsible for:

- SO1 Drafting of integrated land-use plan for sustainable agriculture and rural development municipalities of Gori, Kareli, Kvareli and Sagarejo with application of participatory planning approach;
- **SO2** Developing at least concepts for 8 pilot projects (two per municipality) on land restoration taking into account integrated land-use plans for sustainable agriculture and rural development and plans for local urgent measures.
- SO3 Development at least concepts for 8 pilot projects (two per municipality) on SLM practices to meet sustainable agriculture and SLM/CSA requirements for necessary changes (incl. supply with native seeds and related technology/ equipment).

Planned activities are as follows:

The following work steps are needed within the assignment:

Step 1. Drafting of integrated land-use plan for sustainable agriculture and rural development municipalities of Gori, Kareli, Kvareli and Sagarejo

The following tasks may be included in this first step of planning:

- *Define the planning area.* Determine and map its location, size, boundaries, access and centres of population.
- *Contact the people involved.* Before any decisions are taken, representatives of the farmers and other land users likely to be affected by the plan should be contacted and their views obtained. Make sure that all groups of people are contacted, including women's organizations,

¹³ All the maps and necessary GIS support will be provided by REC Caucasus.

ethnic minorities, pastoralists as well as cultivators. d resources, e.g. through the collection of minor forest products.

- *Acquire basic information about the area.* The kinds of information needed are outlined in Basic information about the area (annex. 1).
- *Establish the goals*. Bottom-up, participatory planning should apply for defining the goal of ILUP. The goals may arise from local land management/agriculture development problems (e.g. low land productivity and crop yields, fodder shortages) or from national policy and development priorities (e.g. LDN targets).
- *Identify the problems and opportunities*. Map and Illustration of the present land-use situation. Identify the problems that the plan is intended to tackle and the opportunities for improvement.
- *Identify constraints to implementation*. Identification of constraints to the implementation of the proposed plan of legal, economic, institutional, social or environmental character.
- Set the scope of the plan. How much is the plan supposed to cover? Will other plans still be in effect? For example, will roads or other basic services be covered by the plan?
- *Set the planning period.* It could be three or five years or longer, and may be broken down into phases for review and revision.
- *Decide operational questions*. These include the funding of the planning operation, the authority and organization of the team, facilities, cooperation with other agencies, record-keeping and reporting arrangements, key people who can help or who need to be informed and the plan's production schedule.

Annex1a

Outline of Basic information about the area

- Land resources. Climate, hydrology, geology, landforms, soils, vegetation (including forest and pasture resources), fauna, pests and diseases. Sources include topographic base maps, air photographs and satellite imagery, existing surveys and departmental records. (See Natural resource surveys, p. 78)
- *Present land use*. Surveys and departmental records of land use, farming systems, forestry, production levels and trends.
- *Present infrastructure*. Transport, communication and services to agriculture, livestock management and forestry.
- *Population*. Numbers, demographic trends, location of settlements, the role of women, ethnic groups, class structure, leadership.

- Land tenure. Legal and traditional ownership and user rights for land, trees and grazing; forest reserves, national parks.
- Social structure and traditional practices. Land use is tied up with the history and culture of the people and has usually evolved over a long period. Understanding the present situation is a prerequisite for devising improvements.
- Government. Administrative structure and key authorities; services provided and demands placed upon them. Ask representatives of the various agencies active in the area to brief the planning team.
- Legislation. Laws and regulations that affect land use; traditional law and custom; whether laws are enforced.
- *Non-governmental organizations (NGOs)*. Find out about NGOs in the planning area, for example farming and marketing cooperatives, that may have roles in planning or implementing a land-use plan.
- *Commercial organizations*. Contact any commercial organizations, e.g. mining companies, whose interests may be affected

Step 2 and 3. Elaboration of at least 16 pilot project proposals on land restoration and SLM practices to meet sustainable/green agriculture and SLM/CSA

- Identifying and mapping of hot spot areas, describing land use challenges and ideas for implementation of field interventions, such as land restoration, sustainable land management or climate smart agriculture practices, covering 20 000 ha in municipalities of Gori, Kareli, Kvareli and Sagarejo. The exercise should be implemented taking into consideration the following three documents:
 - o Integrated Land Use Plans (ILUPs);
 - Urgent Measures for each municipality 14;
 - o The tentative list of field activities (see Annex 1b).
- Field trips and meetings/interviews with local stakeholders (local authorities and farmers) in municipalities of Gori, Kareli, Kvareli and Sagarejo facilitation of work to select at last 20communities/hot spots for implementation of pilot (micro) projects in the in municipalities of Gori, Kareli, Kvareli and Sagarejo;
- Preparation of at least 16 pilot (micro) project proposals.

¹⁴ The urgent measures for each municipality will comprise of a whole range of interventions to avoid, reduce or reverse land degradation - based on LDN municipal strategies and integrated land-use plans for sustainable agriculture and rural development.

Annex1b Tentative List of field activities included in the project proposal

Restoration activities

The following restoration activities will be implemented in all pilot municipalities in hot-spot areas which will be identified based on municipal LDN vulnerability profiles, municipal land degradation strategies, municipal integrated land-use plans for sustainable agriculture and rural development and municipal plans for local urgent measures:

Restoration activities	Sagarejo Municipality (ha)	Kvareli Municipality (ha)	Gori Municipality (ha)	Kareli Municipality (ha)	Total (ha)
Rehabilitation/restoration of degraded windbreaks and/or forests adjacent to degraded agricultural lands	30	5	20	15	70
Application of CSM practices (e.g., reduced tillage or no-tillage practices)	1,000	1,000	1,500	1,130	4,630
Measures to reduce soil salinization	300	100	200	200	800
Measures to rehabilitate natural vegetation cover on degraded pasture lands and to improve degraded parts of sheep migration corridors	2,000	500	1,000	1,000	4,500
Total	3,330	1,605	2,720	2,345	10,000

The above restoration activities will be supported jointly by direct GEF financing (through implementation of 8 pilot projects) and co-financing sources (through implementation of co-financing activities).

SLM and CSA activities

The following SLM and CSA activities (priority supportive activities to meet sustainable agriculture and SLM/CSA requirements) will be implemented in all pilot municipalities in hot-spot areas which will be identified based on municipal LDN vulnerability profiles, municipal land degradation strategies, municipal integrated land-use plans for sustainable agriculture and rural development, municipal plans for local urgent measures and survey on sustainable agriculture and SLM/CSA technologies:

	Sagarejo	Kvareli	Gori	Kareli	
SLM and CSA activities	Municipality	Municipality	Municipality	Municipality	Total
	(ha)	(ha)	(ha)	(ha)	(ha)

Supporting of sustainable grazing management practices (implementation of pasture rotation systems)	300	400	500	400	1,600
Adoption of sustainable cropping practices (crop rotation)	200	100	150	250	700
Application of organic farming	2000	20	2,510	2,000	5,900
Adoption of sustainable/smart agricultural practices (application of climate resilient native crop and plant species, agrobiodiversity and nonmonocultural methods, biological pest control methods)	400	500	400	500	1,800
Total	2,450	1,020	3,560	2,970	10,000

The above SLM practices related activities will be supported jointly by direct GEF financing (through implementation of 8 pilot projects) and co-financing sources (through implementation of co-financing activities).

Implementation time schedule

The duration of the assignment is 14 months plus 12-month follow up period.

Consultant will be responsible for implementation of the following deliverables:

Reporting Obligations

Consultant is responsible for the following Reports submission:

Report Index	Name of Report	Report Submission deadlines	Payment Schedule
R1	4 Integrated land-use plans for sustainable agriculture and rural development municipalities of Gori, Kareli, Kvareli and Sagarejo;	January 2020	40% of the total contract amount

R2	At least 8 pilot projects (two per municipality) on land restoration – taking into account integrated land-use plans for sustainable agriculture and rural development and plans for local urgent measures.	30% of the total contract amount
R3	At least 8 pilot projects (two per municipality) on SLM practices to meet sustainable agriculture and SLM/CSA requirements for necessary changes (incl. supply with native seeds and related technology/ equipment).	30% of the total contract amount