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# Capacity Needs Assessment and Capacity Strengthening Action Plan for Communities and Farmers of Kareli Municipality, Georgia

***Prepared within the framework of the GEF funded Project "Generating Economic and Environmental Benefits from Sustainable Land Management for Vulnerable Rural Communities of Georgia" (GEF Project ID: 9730)***

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# CAPACITY NEEDS ASSESSMENT AND CAPACITY STRENGTHENING ACTION PLAN FOR COMMUNITIES AND FARMERS OF KARELI MUNICIPALITY

Prepared for GEF Funded Project

**"Generating Economic and Environmental Benefits from Sustainable Land Management for Vulnerable Rural Communities of Georgia"**

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# Chapter 1: Introduction

The Ministry of Environmental Protection and Agriculture of Georgia (MEPA), through the United Nations Environment Programme (UNEP) and the Regional Environmental Centre for the Caucasus (REC Caucasus), is embarking on a project titled *"Generating Economic and Environmental Benefits from Sustainable Land Management for Vulnerable Rural Communities of Georgia"* (GEF ID 9730)[1].

This initially three-year project, which commenced in 2018 and was extended in 2022, is funded by the Global Environment Facility (GEF) and co-funded by the Recipient Government (MEPA), Kareli Municipality, UNEP, REC Caucasus, and other donor agencies.

Output 2.2.1, under the second component of the project, aims to build capacity among direct beneficiaries - communities and farmers - with an emphasis on traditional knowledge and potential. The goal is to enable them to better apply intensified agriculture practices and Sustainable Land Management/Climate-Smart Agriculture (SLM/CSA) methods using native seed materials.

UNEP serves as the GEF Implementing Agency for the project. The Regional Environmental Centre for the Caucasus (REC Caucasus) has been designated by MEPA as the Project Executing Agency, with responsibilities including support for capacity building efforts. Specifically, REC Caucasus is tasked with preparing capacity needs assessments and capacity strengthening action plans for four selected pilot municipalities, including Kareli Municipality.

Although communities and farmers are the direct beneficiaries of the capacity needs assessments and strengthening plans, their local-level needs are considered within a broader context. This is because these needs significantly influence the agenda - and therefore the capacity requirements - of municipal-level policymakers and managers.

Sustainable agriculture and natural resource management are foundational pillars for the well-being and prosperity of communities, not only in global contexts but also within specific localities like Kareli Municipality. Sustainable agriculture, characterized by eco-friendly farming techniques, minimal chemical usage, and soil health preservation, plays a vital role in ensuring current and future needs of communities. By implementing these practices, communities can safeguard the environment, enhance agricultural resilience, and tackle challenges such as climate change. Sustainable agriculture strikes a delicate balance between production and preservation, preserving biodiversity and ensuring the livelihoods of local farmers for generations to come.

Georgia has developed a number of national policy documents directly related to Sustainable Land Management (SLM) and Climate-Smart Agriculture (CSA). Notable among these policy instruments are the following:

- *Climate Change National Adaptation Plan for Georgia's Agriculture Sector*[2]

  The Climate Change National Adaptation Plan of 2017 for Georgia's Agriculture Sector outlines a range of recommended adaptation measures for wheat production. These include irrigation of arable land

[1] GEF funded Project *"Generating Economic and Environmental Benefits from Sustainable Land Management for Vulnerable Rural Communities of Georgia"* (GEF Project ID 9730).
*https://www.thegef.org/projects-operations/projects/9730*
[2] EIEC (2017). Climate Change National Adaptation Plan for Georgia's Agriculture Sector.
*https://faolex.fao.org/docs/pdf/geo209873.pdf*

in dry regions; semi-fallow land management; adherence to optimal sowing dates; shallow sowing depth; soil fertilization; soil compaction after sowing; snow retention on farmland using snow ploughs; and the cultivation of suitable forecrop for autumn wheat, such as legumes, silage maize, maize for green fodder, dredge maize sown in wide rows, annual legumes and grains, fodder crop mixtures, perennial grasses, and sunflowers. The Plan also promotes dryland wheat production through no-till farming practices and encourages the use of improved wheat varieties.

The Plan additionally notes that 12 of the 24 known wheat varieties are currently cultivated in Georgia, five of which are endemic and unique to the country. These include *Gvatsa Zanduri*, *Chelta Zanduri*, *Dika*, *Kolkhuri Asli*, and *Makha*. However, it does not elaborate on the significance of these native varieties in the context of climate-smart agriculture or identify specific adaptive measures involving the preservation and use of local (aboriginal) seed material.

Despite its strengths, the Plan's geographical and sectoral scope remains limited. It does not systematically address all agro-climatic zones - including those where project-targeted municipalities are located - nor does it provide detailed adaptation strategies for all major crops. In the case of wheat, for instance, the focus is largely confined to South-Eastern Georgia, the country's principal wheat-producing region with a semi-arid and arid climate, resulting in a fragmented and selective approach.

- *Agriculture and Rural Development Strategy of Georgia (2021-2027)* and its *Action Plan (2021-2023)*[3]

  In 2019, the Government of Georgia adopted the *Agriculture and Rural Development Strategy of Georgia for 2021–2027*, along with its corresponding Action Plan for 2021–2023. This comprehensive strategy replaces two previously separate policy documents: the *Agricultural Development Strategy of Georgia (2015–2020)* and the *Rural Development Strategy of Georgia (2017-2020)*.

  The integrated strategy is supposed to play a crucial role in promoting sustainable economic development and inclusive growth across the country. Among its strategic goals, Strategic Goal 2 focuses on the sustainable use of natural resources, preservation of ecosystems, and adaptation to climate change. While the strategy emphasizes these priorities - particularly through the dissemination of climate-smart and environmentally sustainable agricultural practices, the promotion of organic production (Strategic Objective 2.1), and the preservation of agrobiodiversity (Strategic Objective 2.5) - the 2021-2023 Action Plan lacks clearly defined activities specifically targeting climate-smart agriculture or the conservation of indigenous (aboriginal) crop-based agrobiodiversity.

  There are, however, limited exceptions. Under Strategic Objective 2, Activity 2.1.1 aims to identify and promote opportunities for climate change adaptation. This will be pursued through an assessment of the existing *Climate Change National Adaptation Plan for Georgia's Agriculture Sector (2017)*. Based on the results of this evaluation, a new national adaptation plan is expected to be developed in the period following 2023.

  The strategy also adopts a gender-sensitive approach to sectoral analysis, recognizing the disproportionate involvement of women in lower-income agricultural activities relative to men. It

[3] Government of Georgia (2019). Agriculture and Rural Development Strategy of Georgia 2021- 2027 // Approved by the Government of Georgia - Ordinance No.2665 of December, 2019.
*https://eu4georgia.eu/wp-content/uploads/Agriculture-and-Rural-Development-Strategy-of-Georgia-2021%E2%80%932027.pdf*

underscores the critical role of women in agricultural development while drawing attention to persistent gender disparities within agriculture and the broader economy.

- *Performance Monitoring Report for 2021 on the Implementation of the Agriculture and Rural Development Strategy of Georgia (2021–2027)* and its *Action Plan (2021-2023)*[4]

  In 2022, the Ministry of Environmental Protection and Agriculture of Georgia (MEPA) published the *Performance Monitoring Report for 2021* on the implementation of the *Agriculture and Rural Development Strategy of Georgia (2021–2027)* and its associated *Action Plan for 2021–2023*.

  According to the report, Activity 2.1.1 - an assessment of the existing *Climate Change National Adaptation Plan for Georgia's Agriculture Sector (2017)*, planned under Strategic Objective 2- was not carried out during the reporting period. The report, however, does not provide any justification or explanation for this non-performance.

  The absence of progress on this activity may be attributed to several plausible factors. One possible explanation is the limited availability of budgetary resources, which often constrains the implementation of technically demanding and inter-sectoral initiatives such as climate change adaptation planning. Another likely contributing factor is the reliance on international technical and financial assistance, which may not have materialized within the anticipated timeframe. The integration of climate-smart agricultural practices often requires specialized expertise, data-intensive analysis, and coordination across ministries and stakeholder groups - all of which may be difficult to achieve without sustained donor engagement and capacity support. It is therefore plausible that both budgetary constraints and delays in securing international cooperation contributed to the postponement of this activity.

These documents collectively reflect Georgia's policy commitment to promoting environmentally sustainable agricultural practices and enhancing resilience to climate change, particularly through the conservation and use of indigenous plant genetic resources.

Georgia has demonstrated clear determination to advance land management systems by undertaking a number of baseline activities, including acceding to and implementing relevant international agreements, and adopting related national policies such as the NEAP[5], NBSAP[6], NAP[7] of UNCCD[8], TNC[9] of UNFCCC[10], a new agricultural strategy and a new national forest policy.

Similarly, a capacity needs assessment shall be developed in particular pilot areas which were selected according to the highest level of vulnerability to climate change. The project area covers parts of Kakheti and Shida Kartli regions of Eastern Georgia where poor land management has been accelerated by human activities, causing

[4] MEPA (2022). Performance Monitoring Report for 2021: Agriculture and Rural Development Strategy of Georgia 2021-2027 and Action Plan 2021-2023.
*https://mepa.gov.ge*
[5] National Environmental Action Plan.
[6] National Biodiversity Strategy and Action Plan.
[7] National Action Plan.
[8] Unites Nations Convention to Combat Desertification.
[9] Third National Communication.
[10] United Nations Framework Convention on Climate Change.

widespread severe erosion. As such Kvareli, Sagarejo, Gori and Kareli have been selected as the Project pilot municipalities according to values and coefficients of vulnerability indicators for Georgia[11].

*The overall objective of the capacity needs assessment and capacity strengthening action plan* is to support *traditional knowledge and potential for application of intensified agriculture and SLM/CSA methods using native seed materials.*

The assessment is based on the following elements:

1. Evaluating the Existing Agricultural Practices in Communities;
2. Assess the Potential for Applying Intensified Agriculture and SLM/CSA Methods;
3. Utilizing Native Seed Materials for Intensified Agriculture and SLM/CSA Methods

The capacity needs assessment in Kareli stands as a pivotal initiative designed to comprehend and enhance the agricultural landscape in the whole Shida Kartli region. Through this assessment, several key objectives are pursued, ensuring a holistic approach to sustainable agriculture and natural resource management tailored to the unique needs of **Kareli Municipality**. As such, an action plan has been prepared, *inter alia*, to support the application of traditional knowledge and native seed materials.

Moreover, various processes have been conducted that comprised mainly of local stakeholder meetings and consultations involving representatives from local authorities, civil society, academia, research institutions, local non-governmental organizations (NGOs) and international organizations working at local level; a desk review of key reports, publications, websites, surveys for accurate information on traditional knowledge and native seed materials.

The Action Plan reflects a thorough understanding of the governance and regulatory frameworks that have been developed in Georgia and is firmly based in the extensive institutional and policy framework established within. The Action Plan guarantees that the problems at hand will be addressed in a coordinated and coherent manner. This alignment not only enhances the plan's effectiveness but additionally fosters synergy with governmental initiatives, reinforcing the collective commitment to sustainable development and progress in Georgia.

[11] 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 Agro-biodiversity 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*

# Chapter 2: Methodology

## 2.1. Capacity Needs Assessment Framework and Methodological Approach

The approach taken to needs assessment is both 'bottom-up' and 'top-down'. Because farmers are the ones who will implement adaptation initiatives, the needs assessment and resulting capacity strengthening plan should be largely driven by the support needs of communities, farmers and the extension/outreach people who work at the field-level. However, the Government of Georgia also wants to encourage changes in agricultural practices in line with its commitment to SLM/LDN national policies. Government is therefore required to lead as well as support.

A review of literature on capacity needs was conducted, and a wide range of local farmers, central and local government institutions and other stakeholders (see Annex 1: *Stakeholder Mapping Structure and Consulted Groups*) were consulted regarding capacity development needs.

Meetings were held in the pilot communities within the municipality to identify and prioritize these needs. The key questions addressed during these discussions included:

- What SLM/CSA agricultural methods and practices do the direct beneficiaries require, and which methods and practices do the central and local authorities of Georgia aim to promote?
- What are the barriers to adoption?
- How can these barriers be removed?
- What capacity is needed to remove the barriers?
- How much of this capacity already exists?
- How much of it will be provided by other projects?

A variety of analytical tools were employed during the assessment, many of which will continue to be relevant throughout the ongoing project. Case studies were analyzed to identify adaptation barriers and potential solutions. A checklist was used to screen policies for their impact on agricultural practices. Problem tree analysis helped to identify barriers to SLM/CSA, and institutional analysis was applied to examine local municipal structures.

***Approach to Supporting Capacity Development***

This assessment defines capacity development as a continuous process through which farmers, local communities and other directly related stakeholders acquire, strengthen, and sustain the abilities to set and achieve their own development goals. Recognizing that capacity development is not a one-time event but an iterative cycle of design, application, learning, and adaptation, this assessment uses a five-step process model that aligns with a typical community planning or development cycle.

By applying a process-oriented approach, this methodology ensures a structured but flexible way of supporting capacity development - avoiding rigid templates while promoting consistency, participation, and impact. It also helps create a shared understanding among all actors involved, including development practitioners, community leaders, and the farmers themselves.

The five steps of the capacity development process are:

- Engage farmers and community stakeholders in the capacity development process
- Assess existing capacity assets and needs within the community
- Design a capacity development response tailored to local contexts
- Implement capacity development activities on the ground
- Evaluate outcomes and learn from the process

***Capacity Needs Assessment***

To effectively support farmers, local communities and other directly related stakeholders at municipal level, it is essential to understand what capacities already exist and what additional capacities are needed to reach local development goals. This was the purpose of a capacity needs assessment.

The assessment involved comparing the capacities that were desired or needed with those that were already presented in farming households, community groups, and local institutions. This analysis helped to identify strengths, gaps, and opportunities, and informed the design of capacity development efforts that were relevant, locally owned, and sustainable. It also created a potential for monitoring and evaluating progress over time.

The methodology that had been used, was systematic and rigorous, yet designed to be flexible and context-sensitive, making it suitable for use in a wide range of rural and community settings. It facilitates inclusive discussions about the scale, scope, and objectives of the capacity needs assessment, as well as broader community development goals.

At its core is the Capacity Needs Assessment Framework, which was structured around three key dimensions:

***Capacity Needs Assessment Framework***

- ***Levels Points***
  Capacity exists at multiple levels within a rural context:
  - Enabling environment: such as local agricultural policies, land rights, market access, and climate conditions
  - Organizational level: including farmers' cooperatives, community-based organizations, and extension services
  - Individual farm/farmer level: including the knowledge, skills, and attitudes of farmers, community leaders, and local facilitators

This framework primarily emphasized the organizational and enabling environment levels, while remaining adaptable to also include individual-level analysis as appropriate.

- ***Core Capacity Issues***
  Drawing on experience from rural development and community engagement, four key capacity dimensions were commonly encountered:
  - Institutional arrangements (e.g., how local organizations and authorities' function)

- Leadership (e.g., the presence and development of strong local leaders or change agents)
- Knowledge (e.g., local farming practices, access to technical advice, and education)
- Accountability (e.g., transparency, inclusiveness, and responsiveness of local organizations)

These areas provide a basis for assessing capacity needs, though they could be adapted to reflect local realities and priorities.

- ***Functional and Technical Capacities***
  - ***Functional capacities*** are essential for organizing and delivering development efforts effectively. For farmers and communities, this included capacities to:
    - Engage with stakeholders (e.g., local authorities, NGOs, buyers)
    - Assess community needs and define shared visions
    - Develop action plans or local strategies
    - Mobilize resources, implement farming activities or community initiatives
    - Monitor and evaluate progress
  - ***Technical capacities*** refer to specific skills and knowledge needed for agriculture, natural resource management, market access, climate adaptation, and more. These vary based on the local farming systems and livelihoods.

The intersection of these three dimensions – level points, core issues, and capacities formed a cross-section used to guide data collection and analysis.

***Process for Conducting a Capacity Needs Assessment***

The capacity needs assessment process consisted of three key steps, designed to promote inclusive participation and ownership among farmers and community stakeholders:

- ***Mobilize and Design***
  The process began by engaging key local stakeholders - farmers' groups, elders, community-based organizations, and local facilitators. A clear design was established using three guiding questions:
  - *Capacity for what?* (e.g., sustainable agriculture, food security, income generation)
  - *Capacity for whom?* (e.g., youth, women farmers, cooperatives)
  - *Capacity for why?* (e.g., to adapt to SLM and CSM agriculture methods, climate change, to access markets)
- ***Conduct the Assessment***
  Data on both existing and desired capacities were collected through participatory rural appraisals, interviews, and focus groups. This step ensured voices from diverse community members were heard.
- ***Summarize and Interpret Results***
  Findings were analyzed by comparing current capacities with desired ones. This gap analysis informed

the design of a capacity development response that builds on existing strengths and addresses the most pressing gaps, while providing a reference point for tracking future progress.

## 2.2. Entry Points

This sub-chapter delineates the principal thematic areas - referred to as *entry points* - that serve as foundational elements for building municipal-level institutional and community/farm-level capacities in sustainable agriculture and natural resource management. These entry points have been strategically identified to align with the objectives of Output 2.2.1 under the project. This component of the project specifically targets the empowerment of local actors - particularly farmers and rural communities - in the application of intensified agricultural practices and Sustainable Land Management (SLM) and Climate-Smart Agriculture (CSA) methodologies, leveraging traditional knowledge and native seed materials.

The rationale for defining these entry points is grounded in the observed environmental and socioeconomic vulnerabilities across pilot regions, notably within the Shida Kartli region and Kareli Municipality. These areas exhibit high susceptibility to land degradation, unsustainable land use, and climate-induced pressures, necessitating a multifaceted approach to sustainable development that integrates ecological resilience, productivity enhancement, and cultural continuity. Through comprehensive field assessments, stakeholder consultations, and institutional analyses, three interlinked thematic domains have been identified as having the greatest potential for catalytic and scalable impact in addressing these challenges:

- **Sustainable agriculture and natural resource management at the community level**, which emphasizes environmentally sound agricultural techniques, resource-efficient practices, and integrated ecosystem stewardship as critical mechanisms for securing food systems, rural livelihoods, and environmental integrity.
- **Traditional knowledge in sustainable agriculture**, recognizing the depth and relevance of indigenous agronomic practices and local ecological wisdom in shaping adaptive and culturally attuned solutions to modern agricultural and environmental challenges.
- **Utilization of native seed materials for intensified agriculture and SLM/CSA implementation**, highlighting the importance of conserving and deploying locally adapted genetic resources as a cornerstone of agricultural resilience, biodiversity conservation, and context-specific climate adaptation.

Each of these domains constitutes an actionable pathway for capacity development and institutional strengthening. Together, they offer a coherent framework for aligning local-level interventions with broader national and global commitments, including Georgia's obligations under the UNCCD, UNFCCC, and CBD frameworks, as well as national strategies such as the NEAP, NBSAP, and the new agricultural and forest policies.

Moreover, these entry points reflect the integrative nature of sustainable development, wherein ecological, social, and economic dimensions converge. They reinforce the need for context-specific, knowledge-based approaches that are grounded in both scientific evidence and traditional practices. The chapter therefore serves as a technical foundation for the design of targeted capacity-building actions and informed policy recommendations. It provides the analytical underpinning for subsequent interventions aimed at improving land governance, enhancing agricultural productivity, and ensuring long-term sustainability in vulnerable rural settings.

### 2.2.1. Sustainable Agriculture and Natural Resource Management in Communities

In the realm of sustainable development, the pivotal roles of sustainable agriculture and natural resource management cannot be overstated. These practices serve as foundational pillars, nurturing community well-being, environmental balance, and socioeconomic advancement. Amidst the formidable challenges posed by climate change, burgeoning population growth, and environmental degradation, the adoption of sustainable agriculture methodologies and responsible natural resource management becomes imperative. These measures play a decisive role in guaranteeing essential aspects of community life, including food security, economic stability, and overall quality of life.

Employing environmentally friendly farming techniques, diversifying crops, and implementing efficient water management strategies enhance agricultural productivity can ensure a consistent and reliable food supply for communities. Also, these practices actively contribute to environmental preservation. Responsible farming methods, such as organic farming and agroforestry, shield soil fertility, mitigate soil erosion, and minimize the use of harmful chemicals, thereby safeguarding biodiversity and the health of ecosystems. Sound management of water resources, reforestation initiatives, and the conservation of natural habitats significantly contribute to the preservation of ecological balance. Moreover, sustainable agriculture serves as a catalyst for economic stability within communities. They can generate income, foster employment opportunities, and enhance economic resilience.

### 2.2.2. Traditional Knowledge in Sustainable Agriculture

Traditions and wisdom that have been passed down through the generations by groups that have spent millennia adapting to their particular settings are embodied in traditional knowledge. The relevance of traditional knowledge in sustainable agriculture is enormous. It includes time-tested native agricultural systems, crop selection processes, pest control procedures, and approaches to managing natural resources. The integration of customary knowledge with contemporary farming methods advances agricultural biodiversity, fosters sustainable land use, and deepens our understanding of regional ecosystems. It also strengthens social cohesiveness by promoting a feeling of cultural heritage and group identity. Through the amalgamation of customary knowledge with modern scientific discoveries, societies can devise inventive, situation-specific approaches to sustainable agriculture.

### 2.2.3. Utilizing Native Seed Materials for Intensified Agriculture and SLM/CSA Methods

Native seeds, derived from locally adapted plant varieties, possess innate traits that enable them to thrive in specific climates, soils, and ecosystems, rendering them exceptionally well-suited for localized agricultural practices and as indispensable components, crucial for both intensified agriculture and the overarching goals of Sustainable Land Management (SLM) and Climate-Smart Agriculture (CSA). By integrating these native seed materials into agricultural techniques, farmers not only enhance agricultural productivity but also preserve vital genetic diversity. These seeds exhibit valuable characteristics such as drought resistance, pest tolerance, and disease resilience, making them invaluable assets in the face of dynamic environmental conditions.

This agricultural paradigm is based on the understanding of the multifarious importance of land. In order to preserve ecosystem services, human livelihoods, and general well-being, land acts as a storehouse for biophysical and socioeconomic products and services. But there are serious challenges to fertile land and the advantages it provides to human society worldwide due to the threat of desertification and land degradation. In order to address these issues, climate-smart agriculture (CSA) and sustainable land management (SLM) stand out as crucial pillars that serve as the foundation for sustainable agricultural development.

Sustainable Land Management, defined by the UN 1992 Rio Earth Summit, involves the careful use of land resources for diverse human needs such as agriculture, forestry, and conservation while ensuring the long-term socioeconomic and ecological functions of the land. These practices address degradation of water, soil, vegetation, and greenhouse gas emissions, all of which contribute to climate change. By conserving natural resources, reducing emissions, and storing carbon, SLM safeguards and enhances the diverse services provided by land, encompassing provisioning services (food, fodder, fiber, fuel, and freshwater), regulating services (climate and water quality regulation, pollination, and disease control), supporting services (nutrient and water cycling, soil and vegetation cover), and cultural services beneficial to society.

Moreover, SLM technologies are easily incorporated into Climate-Smart Agriculture (CSA), an integrated approach that manages landscapes, including fisheries, forests, livestock, and crops, to address the interrelated problems of climate change and food security. Three interrelated goals are pursued by CSA: lower emissions, greater resilience, and higher output. The attainment of these goals is contingent upon the unique national environments and capabilities, guided by precise information availability, synchronized policies, well-coordinated institutional frameworks, and adaptable financial incentives and processes. As the idea of CSA develops further, it becomes clear that there is no one-size-fits-all strategy for pursuing it, emphasizing the necessity of flexible and context-specific methods in a variety of international environments.

# Chapter 3: Overview of Opportunities and Constraints to Improve Quality of Intervention and Scale-up and Strengthen Successful SLM/CSA Practices in Kareli Municipality

## 3.1. General

Kareli Municipality (*formerly Kareli District*) is located in the Shida Kartli region. It borders Gori Municipality to the east, and Khashuri Municipality to the west.

The overall territory of Kareli municipality is 687.7 square kilometers (68,770 ha)[12].

Kareli Municipality consists of one city (Kareli) and 82 villages, which are organized into the following 18 administrative units (*formerly self-governing communities*): Kareli; Abisi; Agara; Avlevi; Akhalsopeli; Breti; Bebnisi; Bredza; Giganti; Dvani; Dirbi; Khvedureti; Zguderi; Kekhijvari; Mokhisi; Ruisi; Urbnisi; and Ptsa.

### *Governance*

*One-Tier System of Local Self-Government*. National legal system for municipalities (The Local Self-Government Code of 2014[13]) is based on the one-tire system of local self-government.

Abolition of the two-tire system of local self-government in 2005 and shifting to the one-tire system was implemented considering the existed for that time tax system, political culture and experience. However, conceptually, the one-tire system does not ensure the legal rights of local communities for making independent decisions on local (community) issues.

Around the late 1990s, during the start of the decentralization process in Georgia, there was no clear demarcation of responsibilities and mandate between the local self-government and central authorities. The three-level system included:

(i) two autonomous republics (*with elected parliaments and governments*) and nine regions (*without elected representative and/or their own executive bodies*);
(ii) five self-governing cities and 65 districts (*with elected representative bodies and executive branch*); and
(iii) more than 1,000 communities (*with elected representative bodies and own executive branches*) comprising small groups of villages and towns.

Communities operated within administrative directives reliant on financial transfers from the district Center for Agriculture. Prior to the early reforms, the majority of communities could not manage their own budget and were

[12] *Official Web-Page of Kakheti Region: https://shidakartli.gov.ge // GeoStat (2018). Results of the 2014 National Population Census in Georgia / Editors: Todradze Gogita, Paata Shavishvili. Tbilisi [in Georgian]: https://www.geostat.ge/media/20680/2014-wlis-aRweris-ZiriTadi-Sedegebi.pdf*

[13] Organic Law of Georgia "Local Self-Government Code" of 5 February 2014 / Legislative Herald of Georgia, 1958-IIs, Website, 19/02/2014 - *unofficial translation in English https://matsne.gov.ge/en/document/view/2244429?publication=32*

*Note:* This is the third edition of the law. The first organic law was adopted in 1997 and the second one was approved in 2005 and was in force until the adoption of the third one in 2014.

totally dependent on grants from the district, while all communal and public services were provided by the district administration.

Since the early 1990s, the government has undertaken a series of reforms to improve the municipal service delivery systems. The first phase of reforms culminated in 2005, with drastic shift to one-tire self-governance system.

As a result, *in 2005 lowest tier of local governments – more than 1,000 communities were totally eliminated and they were consolidated into 64 districts, which, in turn, were renamed from districts to municipalities*. In addition, five self-governing cities also were given status of municipalities.

Currently, after the reform of 2014, there are 64 municipalities, of which 5 are self-governing cities, incl. capital City of Tbilisi, and 59 former districts.

The new Self-Government Code of 2014 defines the responsibilities of self-governing bodies (*municipalities*), covering spatial-territorial planning and approval of urban planning documents, including the land-use master plan, the regulation plan for landscaping, and the regulation procedures for the use and landscaping of urban areas.

Municipalities are also responsible for the improvement of the municipal area and development of the relevant local engineering infrastructure, issuance of building permits, and supervision of construction within the municipal area.

Municipalities are allowed to have a land under municipal ownership. However, land has to be transferred to them by the central government (*from state ownership to municipal ownership*). Procedures for transfer are defined under the State Property Law of 2010[14].

Under article 107 of the Self-Government Code of 2014, Municipalities are not allowed to own land of certain national categories of protected areas (such as state strict nature reserves, national parks, nature monuments and sanctuaries).

The collection of income taxes is reassigned to the central government, while municipalities continue to collect property taxes; fees; charges; and income from rents, leases, or sale of public real estate. A newly created "equalization transfer" was introduced to equalize fiscal disparities between the rich and the poor municipalities, wherein the central government was authorized to expend a minimum of 70% of the income of a wealthy municipality in relatively poorer municipalities.

Municipal management in Georgia still shows relatively strong vertical but weak horizontal vectors. Less attention is paid to governance efficiency and enhanced services provision associated with local self-governance. It is expected that reformation of the self-governance system based on the new code of 2014 would gradually strengthen the role of local governments versus the central government, and would increase their credibility and trust among local citizens.

[14] Law of Georgia "On State Property" of 21 July, 2010 / Legislative Herald of Georgia, 3512, LHG, 48, 09/08/2010 / Consolidated version as of 04/05/2017 / *unofficial translation in English*
*https://matsne.gov.ge/en/document/view/112588?publication=29*

*Factors Impeding Local Communities Participation in Local Self-Government.* According to Georgian laws, citizens/communities registered in a concrete municipality have the right to participate in local self-government in connection with issues of local importance.

The second factor impedes broad public participation in self-government, since the range of issues of local importance is extremely small, based on the current legislation. There are almost no forests, agricultural or non-agricultural lands, pastures, watercourses and other natural resources of local significance in Georgia[15].

Elimination of more than 1,000 communities as lowest tier of local self-government bodies in 2005 and their consolidation under 64 districts (*currently renamed into "municipalities"*), as purely administrative units with only geographical significance, leaded to limitation of self-governance right at previously existed local self-governing community level.

From the perspective of local land and agricultural planning support, this represents a clear legal and administrative obstacle. Since local self-governing communities no longer legally exist as self-governing administrative entities, they are unable to legally own, manage, or administer community lands.

*Structure and Functions of Municipal Authorities*. As previously noted, municipalities in Georgia are autonomous, self-governing entities operating under the authority and responsibilities defined by the Local Self-Government Code of Georgia (2014).

Each municipality is headed by a Mayor, elected by universal suffrage for a four-year term. The Mayor serves as both the official head of the municipality and the head of the Municipal Administration (also referred to as the Municipal Government).

The legislative authority within a municipality is vested in the elected Municipal Council (Sakrebulo). Members of the Sakrebulo are also elected by direct vote for a four-year term. The Council is responsible for approving the municipal budget and statutory acts, as well as overseeing and monitoring the decisions and actions of the Mayor and the Municipal Administration.

Executive responsibilities are carried out by the Municipal Administration, which is appointed and led by the Mayor. The Administration includes two Deputy Mayors and a number of functional departments (services), which are further subdivided into divisions. The organizational structure and functional responsibilities of the Kareli Municipal Administration are presented in Annex 3. This annex illustrates the scope of the Administration's mandate, which includes only an indirect jurisdiction over agricultural issues - such as sustainable land management (SLM) and climate-smart agriculture (CSA) - primarily through its role in spatial planning. Notably, the current structure lacks a dedicated unit for agriculture or environmental matters. Thus, municipality does not have direct responsibilities related to agriculture and/or land degradation neither in terms of technical management, personnel management, planning and budgeting or in terms of supervising implementation of strategies, carrying out surveys and research and like.

[15] It should be noted that according to the transitional provision of the Local Self-Government Code (Article 165) the Government of Georgia shall have prepared until January 1, 2016 and submitted to the Parliament a draft law on determination of natural resources of local significance, including water and land resources, however, this has not been done yet. The only document in force in this sphere is governmental decree #105 of May 23, 2007 "On the Procedure for Determination of Forests of Local Significance" (https://matsne.gov.ge/ka/document/view/8464), but the document needs revision and amendment and cannot serve the abovementioned goals.

*Regional Authorities*. Regions in Georgia are established on a provisional basis and generally align with the country's historical provinces. They do not function as self-governing units. Rather, their primary role is to facilitate coordination between municipalities and the central government.

The central government, represented by the Cabinet of Ministers, appoints a State Representative (Governor) to each region. This official is directly appointed by the Prime Minister and operates with the support of the State Representative's Administration. The Governor's primary responsibility is to ensure effective communication and implementation of national policy at the regional level.

*Representation of Central Government Authorities at the Local Level in the Spheres of Environment and Agriculture*. Until June 1, 2019, the Ministry of Environmental Protection and Agriculture of Georgia (MEPA) maintained a presence at the municipal level through its territorial bodies, specifically:

- *Municipal Information-Consultative Agricultural Centers*, which were directly subordinated to MEPA.

At the regional level, MEPA was represented by:

- *Regional Agricultural Offices*, which were likewise directly subordinated to MEPA.

It is important to note that the Municipal Information-Consultative Agricultural Centers operated independently and were not subordinated to the Regional Agricultural Offices.

As of June 1, 2019, both the Information-Consultative Agricultural Centers and the Regional Agricultural Offices were merged into the Agricultural and Rural Development Agency (ARDA), operating under the auspices of MEPA. This agency was later renamed the *Rural Development Agency (RDA)*. Following this reorganization, these centers became territorial units of the RDA.

At present, Agricultural Information-Consultative Centers - informally referred to as agricultural extension centers or services - are established in each municipality and are directly subordinated to the RDA. Their primary role is to provide agricultural extension services to farmers and to disseminate information on ongoing and planned agricultural and rural development programs. These centers offer a range of services, including in-office consultations, remote support, and on-site field visits. In addition, extension officers conduct rural outreach activities, including farmer training sessions and informational meetings.

In parallel, the RDA implements government-funded programs and projects initiated by MEPA. These initiatives are financed through the state budget and are aimed at fostering sustainable rural development and enhancing the link between rural and urban areas. The RDA's mission includes integrating traditional agricultural knowledge with modern innovations to support rural prosperity. Furthermore, the RDA is responsible for managing and developing the national farm and farmer registry system.

### *Interest Groups*

*Stakeholder Mapping and Interest Group Structure*. Sustainable land management (SLM) and climate-smart agriculture (CSA) are cross-cutting themes that require coordinated action among a wide range of stakeholders operating at local, regional, and national levels. These stakeholder groups represent diverse interests, responsibilities, and capacities, and play varying roles in shaping, implementing, and benefiting from SLM and CSA initiatives.

A detailed mapping of these stakeholders is presented in **Annex 1** (*see Annex 1. Stakeholder Mapping Structure and Consulted Groups - Kareli Municipality, Shida Kartli Region*). This mapping reflects the multi-level, multi-sectoral, and inclusive nature of the stakeholder ecosystem relevant to land governance and rural resilience in Georgia.

The key stakeholder categories include the following:

- *Local Authorities*

  Local government institutions, including municipal administrations and councils (Sakrebulo), are directly involved in land-use planning, agricultural service provision, and local development policy implementation. They serve as key partners in the localization of national SLM/CSA strategies and facilitate community engagement, public service delivery, and regulatory enforcement at the municipal level.

- *Regional Authorities*

  Regional governance structures, while not autonomous, play a critical coordination role between municipalities and central government institutions. The Office of the State Representative (Governor) facilitates regional-level integration of policy implementation and supports inter-municipal cooperation on land and agricultural issues.

- *Central Government Bodies*

  This group includes policymaking and territorial bodies of key line ministries and state agencies, such as:

  - The Ministry of Environmental Protection and Agriculture (MEPA);
  - The Rural Development Agency (RDA);
  - The National Agency for Sustainable Land Management and Land Use Monitoring (NASLM);
  - The Environmental Information and Education Centre (EIEC), among others.

These institutions are responsible for developing and overseeing the implementation of national frameworks on land degradation, sustainable agriculture, and environmental protection. Their regional and local branches serve as intermediaries between national policy and local execution.

- *Civil Society Organizations (CSOs)*

  Non-governmental organizations and community-based groups are essential in advocating for sustainable development, monitoring environmental impacts, and facilitating community-level engagement and capacity building.

  CSOs often bridge the gap between formal institutions and grassroots needs, ensuring the representation of vulnerable and marginalized populations.

- *Academic and Educational Institutions*

  Universities, research centers, and vocational colleges contribute significantly to the knowledge base required for SLM and CSA. They are involved in conducting scientific research, policy analysis, field trials, and offering technical training to both professionals and farmers. Their participation ensures that interventions are evidence-based and innovative.

- *Professional Associations*

  These include farmer associations, agronomist networks, and rural development groups. Such bodies provide collective representation for specific professional or sectoral interests, facilitate peer learning, and act as intermediaries in the dissemination of best practices, technologies, and financial or technical support opportunities.

- *Private Sector Actors*

  Businesses engaged in agriculture, agri-processing, land development, technology provision, and infrastructure development are crucial stakeholders. Their investment and innovation capacities are instrumental in promoting scalable, market-driven solutions that support the transition to sustainable agricultural practices.

- *Investment and Financial Institutions*

  Banks, microfinance institutions, donor agencies, and international development organizations provide critical financial resources and technical assistance to support SLM and CSA initiatives. Their involvement enables access to credit, investment in infrastructure, and long-term sustainability of interventions.

- *Local Communities, Farmers, and Rural Households*

  As both key beneficiaries and frontline implementers of SLM and CSA practices, local populations - especially smallholder farmers - are central stakeholders. Their indigenous knowledge, land-use decisions, and adaptive behaviors directly influence the success of sustainable land management initiatives. Ensuring their active participation in planning, decision-making, and implementation processes is essential for achieving inclusive and sustainable outcomes.

This multi-stakeholder structure reflects a holistic approach to land governance and climate-smart agricultural development in Kareli Municipality and the broader Shida Kartli Region. By involving a broad spectrum of actors - ranging from policymakers and scientists to farmers and private investors - the stakeholder mapping promotes inclusive dialogue, integrated planning, and co-ownership of sustainable land management goals. Such a collaborative framework is essential to addressing the complex and interrelated challenges of land degradation, climate change, and rural poverty.

*Multistakeholder Municipal Land Degradation (LD) Working Group of Kareli Municipality*. The Kareli Municipality Land Degradation Working Group was established in 2019 by order of the Mayor of Kareli Municipality as a multi-stakeholder advisory platform aimed at addressing the pressing issue of land degradation within the municipality. The formation of the group aligns with national and international efforts to promote sustainable land management (SLM) and climate-smart agriculture (CSA) as effective strategies for improving agricultural resilience, ensuring environmental sustainability, and enhancing rural livelihoods.

The establishment of the Working Group was catalyzed by a broader initiative supported by the Global Environment Facility (GEF) and the United Nations Environment Programme (UNEP), and implemented under the auspices of the Ministry of Environmental Protection and Agriculture of Georgia (MEPA) through the Regional Environmental Centre for the Caucasus (REC Caucasus).

Core Functions of the Working Group Include:

- Providing expert advice and recommendations to the Mayor of Kareli Municipality on land degradation issues;
- Identifying priority areas and strategic objectives for achieving land degradation neutrality (LDN);
- Supporting the planning and implementation of SLM and CSA measures;
- Facilitating stakeholder coordination for project implementation;
- Promoting awareness, capacity building, and knowledge exchange among local communities.

Crucially, the Working Group operates as a multi-stakeholder coordination platform at local (municipal) level, bringing together representatives from:

- Local government (municipal administration);
- Central government agencies and their municipal branches;
- The Office of the State Representative (Governor);
- Academic and research institutions;
- Non-governmental organizations;
- Subject-matter experts.

For more details see also Annex 2 (*Annex 2. Multistakeholder Municipal Land Degradation (LD) Working Group in Kareli Municipality*). This inclusive composition ensures that the Working Group benefits from a wide range of expertise, perspectives, and institutional mandates, enhancing both the relevance and effectiveness of its activities.

Through its work, the group plays a key role in integrating environmental sustainability into local governance and fostering cross-sectoral collaboration at the municipal level.

## 3.2. Population

Based on the information from National Statistics Office of Georgia (GeoStat), as of January 1, 2022, the population of Kareli Municipality is 40,300 people shows that 54% of the population living in one city and 82 villages organized in total in 18 administrative units of the municipality are men 46% and 54% women.

According to the National Statistics Office of Georgia (GeoStat)[16], as of January 1, 2022, the population of Kareli Municipality is 40,300. The municipality consists of one city and 82 villages (*including one township*), organized into 18 administrative units, where 75% of the population resides in rural areas and 25% in the urban areas.

The gender distribution is 46% men and 54% women.

[16] GeoStat (2022). Population of Georgia by Regions and Self-Governed Units in 1994-2022 (as of 1 January for each year). [online]: *https://www.geostat.ge/en/modules/categories/41/population*

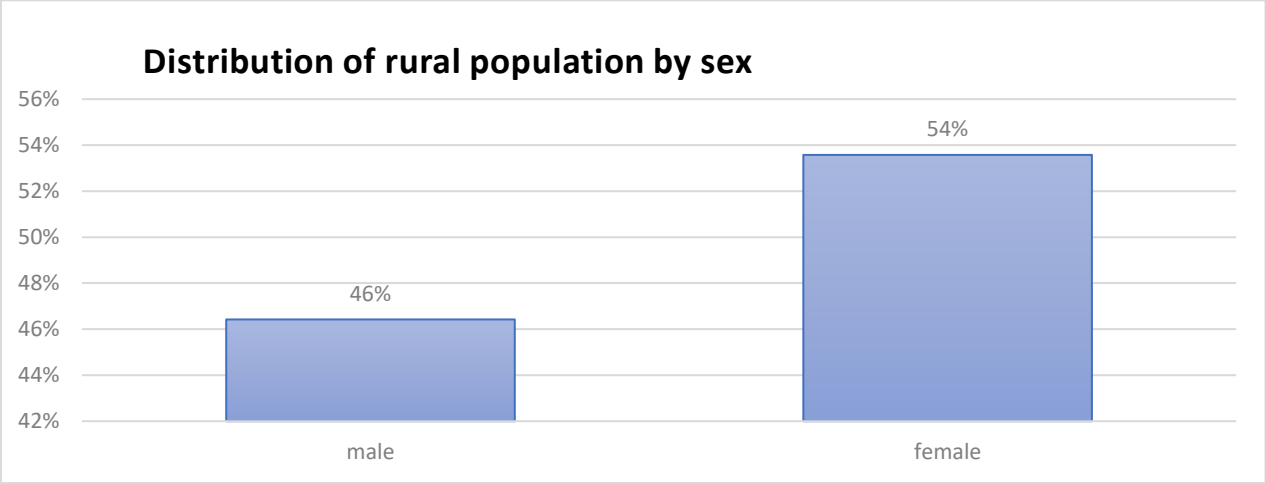



*Chart 1 Population of Kareli municipality. Source: The National Statistics Office of Georgia*

Shida Kartli is primarily a rural region, where the urbanization rate barely reaches 40 %, which is typically an indicator of non-industrial, developing regions. Despite this, it has a great location - it's close to the capital city, Tbilisi, and important transportation routes like the East-West highway and the South Caucasus main railroad pass through it.

The region also enjoys favorable natural conditions. The climate is moderate with warm temperatures and decent humidity, making it suitable for both living and economic activities. Shida Kartli has a dense network of rivers, mainly part of the Mtkvari Basin River, which provides water for the region. Situated between the Greater and Lesser Caucasus Mountains, the area has unique natural features typical of temperate zones. These features include different types of soils and diverse forests, plants, and animals due to the variation in altitude.

## 3.3. Land Cover

The agricultural landscape of the study area, which covers 58,536 hectares within a total extended study area[17] of 94,365 hectares – more than the officially stated size of the municipality (68,770 hectares) - is primarily characterized by diverse land uses.

Agricultural land constitutes the predominant land use, encompassing 53.6% of the total extended municipality study area. Within the total extended municipal study area, cropland, comprising 38.5% of the agricultural land (36,355 hectares), contrasts with 23.5% grassland (meadows, pastures, hayland, and grassland with shrubs) totalling 22,181 hectares. The 2014 agricultural census reports 17,798 hectares managed by agricultural holdings, dominated by arable land (12,386 hectares) and featuring natural meadows and pastures (2,826 hectares) and land with permanent crops/shrubs (2,585 hectares).

[17] The extended study area geographically includes those territories of the Kareli Municipality that are officially part of the municipality but have been under Russian occupation since the Russia-Georgia War of 2008 and are currently beyond the effective control of the Georgian state.

Animal husbandry plays a significant role, utilizing pastures, haylands, and arable land for fodder production. Notably, beekeeping is a thriving sector with 2,569 beehives. The municipality's agricultural profile reveals subsistence-oriented family farms, small land parcels, and limited machinery. Approximately 40% of holdings focus on commercial production, primarily in the crop sector, highlighting the municipality's emphasis on annual crops, including vegetables.

| Land cover | Area [ha] | Percentage of total extended municipal study area [%] |
|---|---|---|
| Forests in non-agricultural areas | 14,911 | 15.8 |
| Forests in agricultural/plain area | 33,832 | 35.9 |
| Cropland | 36,355 | 38.5 |
| Grassland, shrubs | 22,181 | 23.5 |
| Urban areas | 1,772 | 1.9 |
| Wetlands | 14 | 0.01 |
| Bare land | 211 | 0.22 |
| Total extended study area of the municipality | 94,365 | |
| Total area of agricultural land | 58,536 | |

*Table 1: Land Cover of Study Area in Kareli Municipality*[18]

## 3.4. Agriculture

Agriculture has historically been a significant sector in Georgia's economy, engaging approximately 42% of the population, with notable regional variations. Despite this substantial labor force involvement, the contribution of agriculture to the GDP remains relatively modest at around 9%. The agricultural landscape in Shida Kartli exhibits distinctive features:

- **Structure:** Shida Kartli boasts a total of 68,328 farms, with roughly 20,000 holdings cultivating more than 1 hectare of land. Among these larger farms, almost all, except 176, are family-owned. Family holdings, with an average size of approximately 2 hectares, contrast with agricultural enterprises averaging 40 hectares. Notably, this falls below the national average for agricultural enterprises in Georgia, which stands at 70 hectares for enterprises and 4 hectares for family holdings.
- **Perennials:** Recognized as a leading fruit-growing region in Georgia, Shida Kartli takes the lead in producing various fruit varieties. Renowned for its apple production, the region has emerged as the top pear producer in the country, yielding 2,700 tons of pears. Additionally, it holds the position of the largest cherry producer, the second-largest peach producer, ranks second in walnut production, and fourth in grape production.
- **Crops:** Wheat (3400 hectares sown) and barley (4900 hectares sown) take precedence as crucial annual crops, according to the 2019 agriculture report by Geostat. Despite their importance, the productivity per hectare is relatively low, standing at around 2 tons/hectare for wheat (compared to the national average

[18] Zollner, D., Kirchmeir, H., Fuchs, A. und Huber, M. 2021: Kareli Integrated Land Use Plan (ILUP Kareli) for sustainable agriculture and rural development with special emphasis on SLM, CSA and LDN. Part A – ILUP Kareli. Version 1.0. Klagenfurt, Tbilisi, Kreli.78 p. + documentation volume/ annex.

of 2.5 tons/hectare) and 1.3 tons/hectare for barley (compared to the national average of 2.2 tons/hectare).

- **Vegetables:** Shida Kartli, alongside Kvemo Kartli and Kakheti, holds a key position as one of the primary vegetable producers in Georgia. Covering 3,300 hectares or 27% of the total vegetable area in Georgia, the region demonstrates high productivity at 10.9 tons/hectare (compared to the national average of 8.8 tons/hectare). A diverse array of vegetables, including potatoes, beets, cabbage, carrots, onions, garlic, asparagus, peppers, eggplants, tomatoes, beans, and cabbage, is cultivated.
- **Livestock:** In contrast to crop and fruit production, livestock keeping plays a relatively minor role in Shida Kartli. The region is home to about 59 thousand bovine animals, representing less than 7% of the total cattle population in Georgia, with decreasing numbers. This trend is observed across all animal species, while poultry and pigs maintain a small but stable presence.

## 3.5. Water resources

The region under consideration lies within the expansive Kura River (Mtkwari) basin, a significant river system in Georgia. A GIS analysis found in Kareli Integrated Land Use Plan 2021[19], reveals that approximately 41.7% of the total agricultural lands, equating to 24,396 hectares, have the potential for irrigation or are remnants of the old and partially dismantled irrigation system. A significant proportion of agricultural holdings, precisely half, totalling 6,287 out of 12,046, are anticipated to have access to irrigation.

Despite these projections, the realized irrigated area appears notably lower. The agricultural census reports that only 3,612 hectares are currently under irrigation, with an additional 1,297 hectares deemed irrigable, bringing the total to 4,909 hectares. However, these figures exhibit substantial disparities and, in certain instances, conflicting information, necessitating further investigation and clarification.

| Hydrography and irrigation | Area [ha] | Length [km] | Percentage of municipality [%] | Area and percentage of agricultural land [ha and %] | | thereof cropland [ha and %] | | thereof grassland [ha and %] | |
|---|---|---|---|---|---|---|---|---|---|
| Irrigated areas (actual and potential) | 26,286 | | 24.1 | 24,396 | 41.7 | 19,026 | 52.3 | 5,370 | 24.2 |
| Lakes | 8 | | 0.01 | | | | | | |
| Canals | | 107 | | | | | | | |
| Total study area in the municipality | 94,365 | | | 58,536 | | | | | |

*Table 2: Hydrography and irrigation*[20]

[19] Zollner, D., Kirchmeir, H., Fuchs, A. und Huber, M. 2021: Kareli Integrated Land Use Plan (ILUP Kareli) for sustainable agriculture and rural development with special emphasis on SLM, CSA and LDN. Part A – ILUP Kareli. Version 1.0. Klagenfurt, Tbilisi, Kreli.78 p. + documentation volume/ annex.

[20] Zollner, D., Kirchmeir, H., Fuchs, A. und Huber, M. 2021: Kareli Integrated Land Use Plan (ILUP Kareli) for sustainable agriculture and rural development with special emphasis on SLM, CSA and LDN. Part A – ILUP Kareli. Version 1.0. Klagenfurt, Tbilisi, Kreli.78 p. + documentation volume/ annex.

### *Water supply and sewerage*

Access to water is particularly important for women considering the huge burden of responsibilities primarily in the village: household activities, water supply, sanitation and hygiene, and the welfare of the family. Lack of access to qualitative, constant water supply decreases women's quality of life and negatively affects their health conditions. The issue has become even more important amid the coronavirus pandemic.
In Kareli municipality, drinking water is supplied through the main pipeline to 56% of the villages, 59% of villages have an individual source of water supply. According to the representatives of the mayor of Kareli municipality, 92% of the water supply facilities in the villages are protected. The drinking water distribution system in some villages needs to be rehabilitated.
The distribution network of the villages is mainly arranged via polyethylene pipes, only one village (Dvani) was named, where the distribution network is arranged via polyethylene, cast iron and iron pipes.

### *Drinking Water*

Challenges related to the supply of continuous and quality drinking water have been identified in the villages of Kareli Municipality.
Water supply mode:

- 29% of the villages in Kareli Municipality receive water on a 24-hour schedule
- 29% of families in villages of Kareli Municipality are left without water supply
- 16% of the villages in Kareli Municipality are supplied with water on schedule.

The water supply schedule is varied. Especially noteworthy are those villages where water is supplied once every two or three days. E.g. Village Zemo Khvedureti - 60% of the population receive water 1-1.5 hours a day, the village of Dvani near the so-called administrative border - "there is no schedule, water is supplied as much as possible." In some villages the water supply schedule is organized - days and hours, in some cases the water schedule is unclear, which especially is a heavy burden for women - the largest water supply users.

### *Water quality*

Mainly (77%), water quality is periodically checked by Kareli Municipality, however, the mayor's representatives note that water is mainly chlorinated once a year. Water quality is not controlled in 23% of villages. No cases of drinking water poisoning have been reported in the municipality. 54% of the mayor's representatives assess water quality as good, while 46% assess it as normal. For example, in the village, Berdzenauli, drinking water is salty.

## 3.6. Wind erosion

Drawing on the GIS analysis found in Kareli Integrated Land Use Plan 2021[21], approximately 20% or 11,905 hectares of all agricultural land are identified as being at a high risk of wind erosion. This estimation aligns closely with the

[21] Zollner, D., Kirchmeir, H., Fuchs, A. und Huber, M. 2021: Kareli Integrated Land Use Plan (ILUP Kareli) for sustainable agriculture and rural development with special emphasis on SLM, CSA and LDN. Part A – ILUP Kareli. Version 1.0. Klagenfurt, Tbilisi, Kreli.78 p. + documentation volume/ annex.

assessments made by regional experts. In total, a potential 11,988 hectares of agricultural land face the severe threat of wind erosion. The project interprets these findings in terms of prevention and avoidance rather than focusing solely on the actual occurrence of wind erosion.

Notably, the removal of 80% of windbreaks, coupled with the impact of climate change and evolving thermal conditions, may have exacerbated the situation. Additional sources suggest that water and wind erosion together are anticipated to impact or degrade approximately 8,677 hectares of agricultural land.

## 3.7. Vulnerability to climate change

Georgia's Third National Communication to the UNFCCC, published at the end of 2015, revealed that during the last 50 years the average annual temperature in Georgia has demonstrated an increasing trend. During the last 25 years, the average annual temperature has increased by 0.4 - 0.5 $^0$C in East Georgia.

According to forecasts, warming will continue, and an increase in the average annual temperature up to +3.2 $^0$C is anticipated in the Eastern part of Georgia by 2100.

Analyses of climate change based on the two (A2, B2) world social-economic development scenarios, demonstrate that average annual temperature and the frequency and severity of droughts will increase in both target municipalities of Shida Kartli Region (Kareli and Gori) and Kvareli. All these municipalities are vulnerable to climate change impacts in terms of both economic productivity and functioning of natural ecosystems.

Meteorological records indicate that droughts, over the past decade, have transitioned to an annual occurrence, nearly doubling their duration. In Georgia, the heightened risk of natural hazards is attributed to diverse factors, spanning from climate change to unsuitable agricultural practices. Issues such as intensified evaporation leading to salinization, improved overwintering conditions for diseases, mineralization and depletion of soil organic matter, and an upsurge in wind erosion processes are closely intertwined with the impacts of climate change.

## 3.8. Socioeconomic Dimensions

*Households*

It is important to showcase, the division between heads of households as according to gender roles it is mostly the function is allocated to males. Couple with leading the households often financial means as well as various ownerships fall into male counterparts. Thus, adding onto the distribution gap between males and females.

There is no data about the overall number of households available in the municipality either on the webpage of the National Statistics Office of Georgia or at the disposal of the municipality.

Based on the survey carried out by the representatives of the City Hall according to a specially elaborated questionnaire shows that head of households of 67% are run by men.

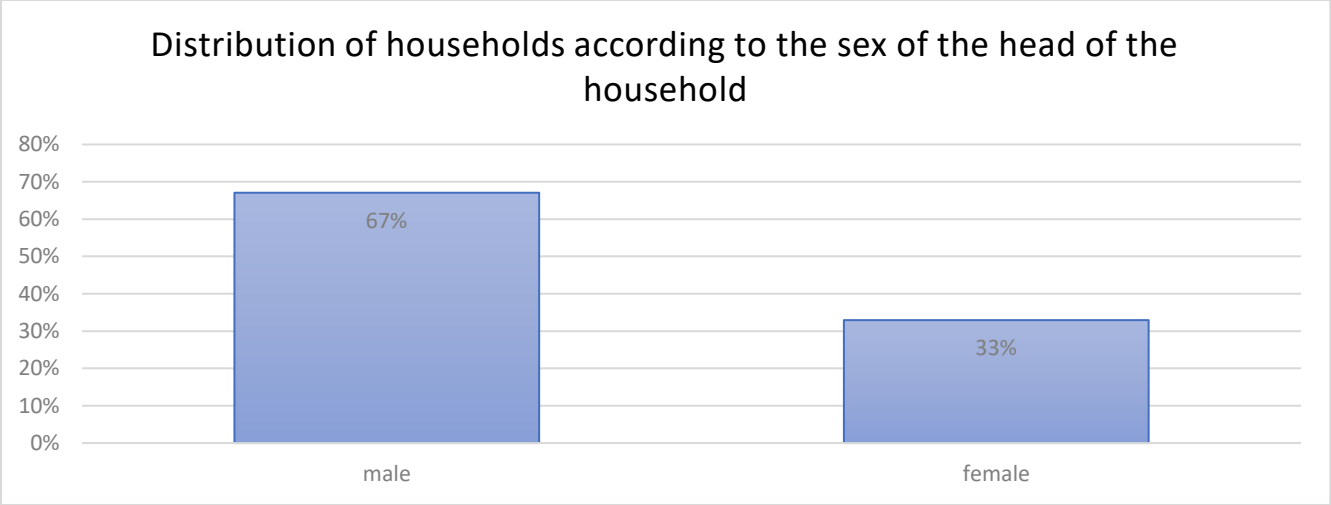



*Chart 2 Distribution of households according to the sex of the head of the household in Kareli Municipality*

### *Higher education*

Based on the information provided, there are a total of 3195 students on the elementary level (1638 boys, 1557 girls), 1541 on the basic level (782 boys, 759 girls), 1520 – on the secondary level (750 boys, 770 girls).

The share of women, with higher education in the villages of Kareli Municipality is 10% higher, than the share of men with higher education.

### *Jobs, income*

The main source of income for the population in Kareli Municipality is agriculture (42%), livestock and poultry (30%), cereal crops (10%) and others.

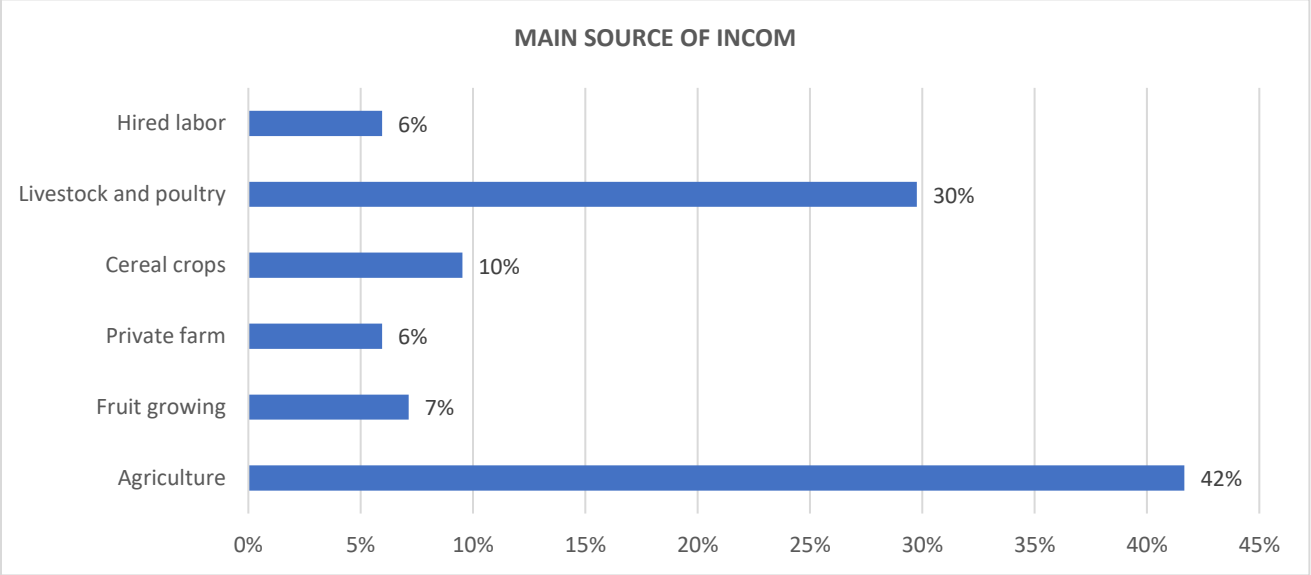



*Chart 3 Main source of income*

Livestock (39%), horticulture (31%), fruit growing (25%) are considered to be the most profitable type of agriculture in the villages of Kareli Municipality.

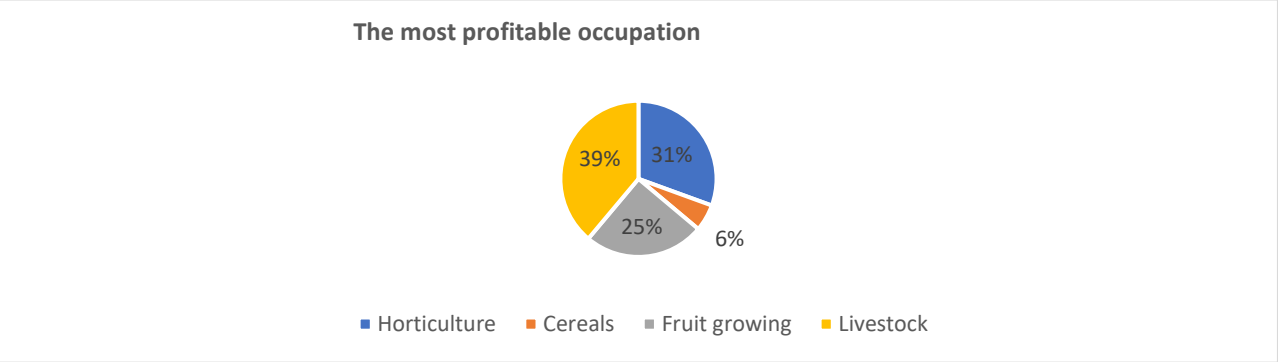



*Chart 4 The most profitable occupation*

According to the mayor's representatives, 58% of the villages have no other employment opportunities than agriculture, 16% of the villages have employment opportunities in the private sector, 16% in the public services (school, kindergarten), and 10% is self-employed. In the case of employment in the private sector, the most often named work places are – shop, pharmacy, bakery.

According to the mayor's representatives, the monthly income of people living in rural areas is quite low. It ranges from 50 to 800 GEL for men and 30 to 500 GEL for women. According to the information provided by the representatives of the City Hall, the income of men is slightly higher than the income of women by 27%. Given the fact that almost 100% of the mayor's representatives are men, their opinion may be subjective, and therefore the difference between male and female incomes may be even greater, given that, according to Geostat, the national gender pay gap in 2020 was 32.4%.

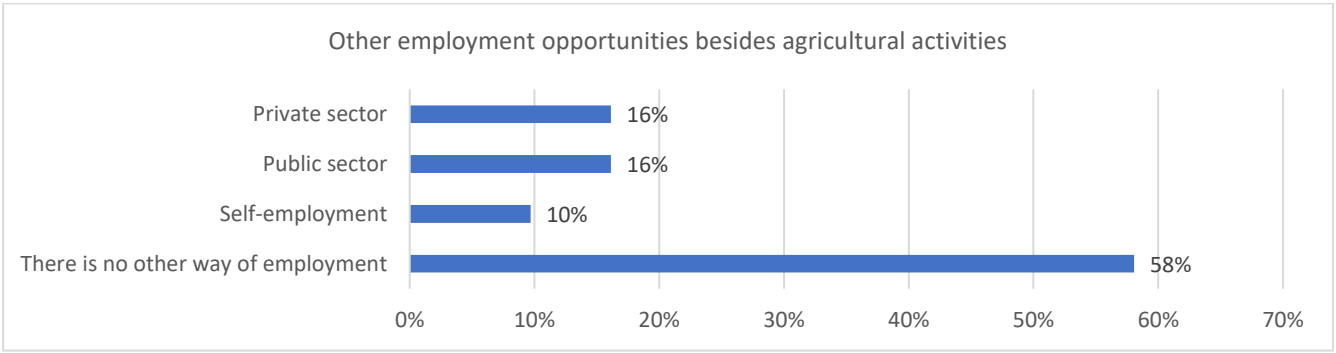



*Chart 5 Other employment opportunities besides agricultural activities*

## 3.9. Infrastructure and access to services

*Roads*

Proper road infrastructure is important for household development, income growth, access to services and socialization. For women, who typically have lower incomes, have less access to their own means of transportation. Moving on a faulty road causes discomfort as well as the need for additional financial resources. For low-income

families and women, most of the families are low-income in villages, it reduces women's mobility, development, access to services, and the well-being of themselves and their families. Defective road infrastructure is especially problematic for people with disabilities and families with young children, all of whom require wheelchair access.

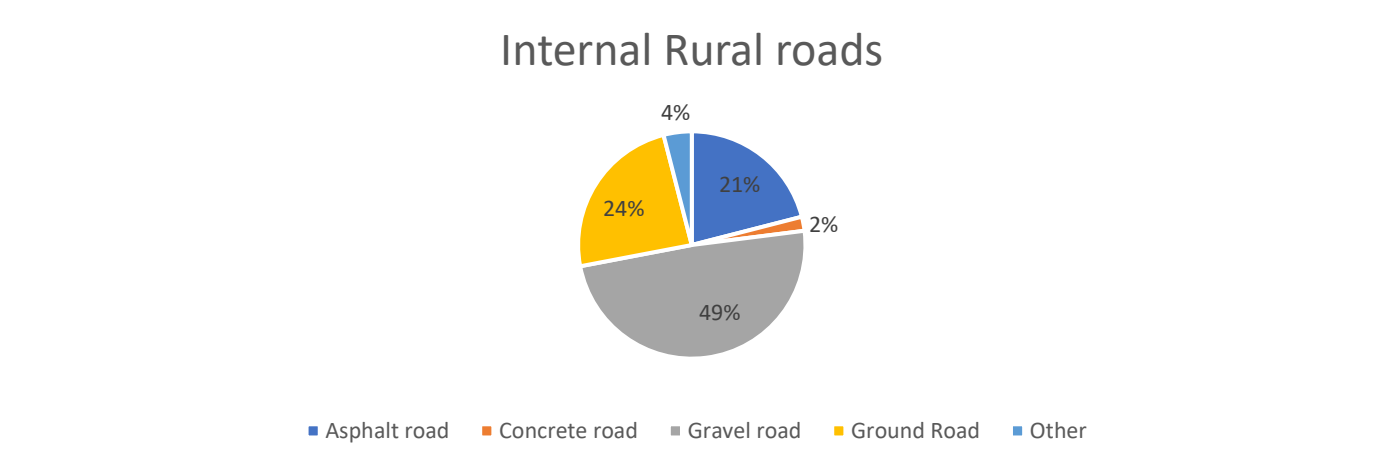



*Chart 6 Internal Rural roads*

The condition of the internal road infrastructure in the villages is mainly assessed quite negatively, as bad - 58% of the cases, very bad - in 11%, and only in 5% of villages rated as average.

*Drainage system* in Kareli municipality is ensured in 43% of the internal roads, it is partly ensured in 21% of the cases, while in other 36% there is hardly any drainage system on the roads of the villages. For those villages where it's already ensured, the main need is cleaning the drainage system.

### *Transport*

No municipal transport operates in Kareli municipality. The population mainly uses private transport – micro buses, buses or private vehicles to travel and access various services.

The private transport available at the municipality – micro buses, buses – serve only 67% of the villages, while no private transport is available in 33% of the villages.

## 3.10. Awareness level on trends of agricultural practices

Currently in the Shida Kartli region and Kareli specifically there is a loss of natural vegetation and soil quality caused by overgrazing, low awareness and lack of knowledge of local farmers and absence of regulations and management plans to ensure sustainable use of pasturelands.

Pasturelands deteriorate because of overgrazing, involving excessive or chaotic grazing practices. Overgrazing encourages the substitution of native vegetation with unappetizing or resistant plant species often referred to as "weeds," resulting in decreased species diversity.

During spring, flocks intensely graze newly sprouting annual forbs while neglecting less appealing grass and shrubs. This behavior impacts the composition and productivity of pastures. Land degradation and erosion, initially initiated during the Soviet era, have escalated to alarming levels in specific regions. Without prompt restoration efforts, these conditions might soon become irreversible.

In Shida Kartli, livestock-based activities face challenges, with most regions focusing on self-sufficiency rather than cash generation. Both factors limit the readiness of farmers to invest money or labor and venture in new sustainable practices.

Additionally, the lack of knowledge at various levels hampers the productivity of pasture-based agricultural sectors. There is a notable absence of an effective knowledge system to retain and convey expertise. Overgrazing in the country is primarily attributed to limited state control, rural poverty, few alternative livelihood opportunities, improper range management, and insufficient awareness among shepherds and livestock owners.

While privatization of arable land in Georgia is at an advanced stage, most Georgian pastures are owned by the state and are in fact pastured under a regime of free access. Management measures and investments on pasture-by-pasture users or the state/the municipality as the pasture owners are largely absent. Cadaster of pasturelands is not conducted, so pasturelands are not registered, fenced/marked and delineated.

## 3.11. Local capacity and preparedness

In agriculture, the most commonly used agricultural machinery is mowing (43%), while 57% of villages lack the equipment for cultivating the land.

Agronomist's service is not available in 96% of the villages, it is partly available in 5% of the villages and is available in 9% of the villages. Irrigation water is available in 50% of the villages, while in 21% of the villages it is party available, and in 29% of the villages it is not available at all.

39% of the villages have no access to news about modern technologies, they lack additional information and availability to improve their knowledge. 39% of the population receive the information from internet and television, 18% - from the rural consultancies available in the town and agronomists, 5% - have other sources of information.

## 3.12 Awareness on sustainable farming practices

*Insufficient knowledge and understanding of the importance of effective management of land and other resources and inadequate capacities to implement integrated and sustainable land and resource management:* Lack of awareness and knowledge concerning sustainable land and resource management is particularly poor among local authorities and local representatives of ministries. This relates both to the knowledge of the risks, how to manage these and particularly on knowing modern, sustainable land cultivation and irrigation technologies and sustainable

application of agricultural chemicals. The lack of information and knowledge is noticeable in the pasturelands management and cattle breeding. Consequently, the key stakeholders do not have the understanding and preparedness to undertake and set-in-place cost-effective sustainable land management measures.

The problem is aggravated by low levels of awareness and understanding among land users about the socio-economic and environmental impacts of land degradation and its relationship to poverty and decline in household incomes. Additionally, in the Kareli municipality there are very small family farms, a low degree of entrepreneurship, the lack of cooperative development, limited educational opportunities and the low use of agricultural inputs. Declining soil fertility and productivity of land, vulnerability to climate variability especially persistent droughts and other natural calamities are quite often accelerated by the inadequate behavior of farmers to adopt good land management practices, some of which seem to take long before benefits can be realized.

*Inadequate baseline information, policies, plans and finance at local scale to contribute to achieve sustainable practices relating to using native seeds:* Comprehensive land use plans at the national, regional and local levels, which ensure proper establishment of sustainable practices, are lacking. At present many municipalities (including those targeted by this project) do not have any land use planning processes or capacities. Moreover, planning and effective decision-making process to achieve land degradation neutrality at municipal level is extremely difficult if not impossible due to limited baseline information.

*The institutional and governance issues at municipal level are major barriers that hinder the adoption of sustainable land management practices*. Municipalities' weak land and land-use policies do not effectively protect land resources. This is also weakened by the poor capacity of the municipalities and lack of technical and financial resources coupled with a deficiency of political will, lack of cross-sectoral dialogue at local level and the same time lack of dialogue between local and national stakeholder groups for enforcement of related land policies.

There is a need to raise the local priority on the effective implementation of Sustainable Land Management Policy. This will also depend very much on the improvement of planning and implementation capacities of local institutions in charge of agriculture, land and land-use policy implementation. The absence of integrated sustainable land use plans at the local level is a major barrier that harms establishment of the sustainable land management system.

*The adoption of sustainable land management practices is also constrained by economic and financial factors*, which largely affect the levels of investment in SLM related activities. Low public and private investment present a serious constraint for the adoption of SLM in Georgia. Lack of economic evaluation of agricultural systems, practices, products, or policy scenarios against a comprehensive range of impacts and dependencies across the value chain is a barrier to understand the benefits of SLM practices in the long run.

*Limited experience and absence of identified best practices for sustainable land management interventions:* Extension services to support crop and livestock production is limited, thus there is little experience in Georgia in implementing practices such as the sustainable use of chemicals, modern irrigation and land cultivation technologies, and the use of agro-ecological techniques such as landscape planning, windbreaks, crop rotation, soil filtering, etc. One of the constraints is lack of expertise/low capacity of farmers and local communities to use

land more sustainably, enhancing productivity without degrading land resources, which can be partly attributed to low investment in new technologies and capacity building support from governmental or external resources.

## 3.13. Utilizing traditional farming methods for Intensified Agriculture and SLM/CSA

The vast majority of farmers tend to overlook and often disregard both existing and potential threats associated with climate change. Consequently, their agricultural practices are typically focused on the short term, revolving around individual agricultural seasons. However, there are isolated instances where a minority of farmers engage in unconventional activities. In some cases, these farmers undertake adaptive practices for current or anticipated climate change threats through farming methods, either without a comprehensive understanding or by adhering to traditional approaches. The following activities may be distinguished from farming ones:

1. One of the most prevalent adaptive strategies employed by farmers in their individual residential plots involves the creation of a "live fence" encircling the area to shield it from wind. Typically, a variety of fruit trees such as plum, pear, cherry, and wild plum are utilized for this purpose. The height does not exceed 3-4 meters and there is no danger of shading of crops (vine, various vegetables) grown on the plot. Farmers mostly try to use the fruit trees for protection purpose which will be used for food or for further processing (they produce confitures, jams, compotes, dry fruits, etc.)
2. A specific contemporary fruit garden spans a 4-hectare area and is cultivated with modern root plants, utilizing an advanced drip irrigation system. This technology significantly reduces water usage by 8-10 times compared to traditional methods. Unlike flooding irrigation, this system minimizes water erosion, as water is directly supplied to the plant root system. Additionally, there is minimal evaporation from the soil surface, emphasizing the importance of maintaining soil humidity, especially in arid conditions or windy areas. The drip irrigation system offers the advantage of concurrently supplying fruit trees with various fertilizers along with the water supply.
3. Provision plot, vineyard and fruit garden with the manure is widespread method. This practice significantly improves the condition of the soil; of course, it increases humus consistency, improves the capacity of the soil to maintain water and enriches soil with the macro and micro elements required for the crop.
4. In addition to those positive factors, farmers also pay attention to the organic fertilizer production practice. As a rule, the manure is left outdoor close to the cattle shed and “burning” is going on for 2-3 years. But at the same time, the deposit washes it out systematically and pollutes adjacent areas.

Certainly, the farming activity delineated above lacks any discernible fragmentation or systematic organization over the long term. This absence of structure constitutes the foundational source of economic challenges faced by farmers. Throughout agricultural seasons, local farmers endeavour to maximize profits while minimizing costs. However, they often overlook the threats posed by climate change and lack awareness of the contemporary agricultural technologies that have been adopted in the field.

# Chapter 4: Summarizing Strengths and Weaknesses

## 4.1. Key Barriers to Sustainable Land Management (SLM) and Climate-Smart Agriculture (CSA)

*Local-Level Barriers*

One of the most commonly cited local-level barriers to SLM and CSA adoption is the limited awareness and understanding among both farmers and the staff of the Agricultural Extension (Information-Consultation) Centre in the target municipality. This knowledge gap represents a first-order barrier. However, once basic awareness is raised, second-order challenges often emerge. For instance, farmers who become informed about SLM/CSA approaches - including the use of intensified agricultural practices in combination with native seed varieties - may then face more complex constraints such as limited technical expertise, high labor requirements, and significant financial costs associated with implementation.

Structural barriers, including lack of access to capital, limited credit opportunities, and poor infrastructure, were also identified as widespread and persistent. Another notable challenge is disbelief toward the effectiveness of SLM/CSA methods. However, this disbelief appears to be more prevalent among municipal-level actors rather than among farmers themselves, especially in pilot-site areas where pilot activities have been implemented. Farmers involved in these pilot sites were generally more optimistic with and receptive to SLM/CSA techniques.

A particularly significant barrier is the weak capacity of the municipal extension service[22]. The ability of extension workers to support farmers in integrating traditional knowledge with modern SLM/CSA practices - including the use of native seed materials and intensified agriculture - is severely constrained. Key issues include insufficient staffing, lack of transportation for outreach, and limited technical knowledge.

In addition to farmer-level support, targeted capacity-building is urgently needed for municipal extension workers and also for staff from the regional agricultural office[23]. These actors, as territorial representatives of the national Rural Development Agency (RDA), are responsible for direct engagement with farmers. Early project phases largely overlooked these administrative levels - a common shortcoming in externally funded projects, which often prioritize field-level interventions within central government systems while bypassing critical municipal and regional structures.

A substantial disconnect persists between farmers and the municipal extension service. This gap is both physical - due to the limited number of extension staff and poor transportation infrastructure - and conceptual, reflecting a lack of mutual understanding. For example, during site visits to SLM/CSA pilot locations, farmers inquired which interventions local officials deemed most effective. The responses, which downplayed core SLM/CSA practices such as minimum tillage, permanent soil cover, and stubble burning prevention, contrasted starkly with farmers' own assessments of these practices as among the most beneficial for improving productivity.

This highlights the pressing need to more actively involve municipal-level extension personnel in the monitoring,

[22] Municipal Agricultural Information-Consultation Centre of the Rural Development Agency (RDA) of the Ministry of Environmental Protection and Agriculture of Georgia (MEPA).

[23] Regional Agricultural Office of the Rural Development Agency (RDA) of the Ministry of Environmental Protection and Agriculture of Georgia (MEPA).

training, and knowledge exchange processes being piloted within the municipality.

The capacity needs assessment involved in-depth discussions with farmers at approximately one-fourth of the pilot sites in the municipality. These discussions revealed that the nature of barriers is highly context-specific, varying by type of intervention - whether wheat rotation, no-tillage practices, or the use of native seed varieties. This suggests that capacity development efforts must be tailored on a case-by-case basis. While some barriers can be addressed locally, others require broader support from municipal and regional institutions.

At the municipal level, key constraints to effective SLM/CSA implementation include:

- Insufficient Resources: A lack of operational funding, essential equipment, and materials.
- Inadequate Technical Expertise: Limited access to specialists in critical areas such as integrated pest management, disease control, and irrigation technologies. Most expertise in these areas currently comes from international sources, underscoring the need to strengthen national-level capacity within universities, research institutions, and government agencies.
- Logistical Constraints: The low number of extension staff and their restricted mobility result in minimal outreach. Large portions of agriculturally productive areas are either inaccessible by vehicle or become unreachable during the rainy season, rendering traditional communication channels ineffective.

Moreover, many staff members possess outdated knowledge and are poorly equipped to provide guidance on emerging topics such as SLM and CSA. The prevailing extension model remains top-down and instructor-led, lacking alignment with the participatory, demand-driven approaches required for sustainable and context-appropriate small-holder farming solutions.

A significant overhaul of the municipal extension service is therefore recommended. This includes adopting participatory methods and shifting the role of extension workers from instructors to facilitators who engage directly with smallholder farmers, agricultural cooperatives, agro-enterprises, and civil society organizations. However, while reforming municipal and regional extension systems is crucial, such systemic changes fall beyond the scope of the current project.

### *Capacity Development Needs from the Perspective of National Decision Makers*

The previous section outlined capacity development needs from the standpoint of local actors, including farmers, cooperatives, and municipal institutions. This section examines the needs identified by national-level stakeholders, including departments within the Ministry of Environmental Protection and Agriculture (MEPA) - specifically the Hydromelioration and Land Management Department (HLMD), the Environment and Climate Change Department (ECCD), and the Biodiversity and Forest Policy Department (BFPD) - as well as the national-level Rural Development Agency (RDA).

To effectively manage SLM and CSA at the national level, a range of capacities must be developed in alignment with core governance functions. This requires first defining the key activities to be undertaken and then identifying the capacities needed to implement them. These include:

- A clearly defined policy framework that articulates statutory responsibilities for SLM/CSA management.
- Effective policy instruments (e.g., subsidies, credit schemes, property rights, extension services, and social

safety nets) to influence farmer behavior.

- Political backing and sustained ministerial support.
- Capacity to monitor and demonstrate on-the-ground results to secure continued political and financial support.
- Stable funding for operations, including the ability to mobilize international climate finance and land degradation-related grants.
- The authority to influence cross-sectoral policies and engage other government departments.
- Functional extension and outreach systems, with devolved responsibilities as needed.
- Robust delivery mechanisms, including performance monitoring systems to guide implementation and measure outcomes.
- Enhanced technical expertise and managerial skills related to SLM/CSA.
- Strong linkages to national and international centers of expertise.

Although Georgia has taken steps toward integrating climate change adaptation into agriculture through its 2017 National Adaptation Plan for the Agriculture Sector, SLM and CSA remain insufficiently mainstreamed. The policy is embedded within the broader 2021–2027 Agriculture and Rural Development Strategy and is not widely known or operationalized. There is a clear need to develop a standalone policy on SLM and CSA that provides more targeted and actionable guidance.

Importantly, while SLM/CSA practices in smallholder crop production are relatively well understood, much less is known about their application in other sub-sectors, such as livestock and horticulture. These sectors are economically significant and present both vulnerabilities and opportunities in the context of climate change. The lack of knowledge in these areas further underscores the need for targeted research and tailored capacity development efforts.

### *Overall Conclusion*

The project plays a vital role in generating and disseminating knowledge that was previously scarce within the country. It shares insights derived from pilot interventions and aims to consolidate lessons learned into a publication at the end of the project cycle, in accordance with the knowledge-sharing commitments set out in the original project document.

One of the project's main strengths lies in its deep engagement with farmers and local communities. By collaborating directly with a range of stakeholders, the project has achieved promising initial results - such as the first signs of increased agricultural productivity and reduced soil erosion - which are already being replicated across pilot sites.

The initiative also promotes income-generating activities through improved land-use practices and the reintroduction of traditional, native crop varieties. These efforts are contributing to transformative changes in land management at the local level. Because they deliver visible, short-term benefits, the interventions enjoy strong buy-in from local actors.

The project also supports national goals related to Land Degradation Neutrality (LDN) and carbon sequestration. However, realizing the full benefits of restored land use and ecosystem resilience will require sustained commitment and long-term investment beyond the current project timeframe.

In conclusion, the capacity needs assessment confirms that technical knowledge, institutional capabilities, and financial resources remain insufficient at both local and municipal levels. As such, the long-term sustainability and scalability of SLM and CSA practices across other regions of Georgia will depend heavily on continued external support, both technical and financial.

## 4.2. Strengths and Weaknesses

To consolidate the findings presented in the preceding chapters, the table below outlines the key strengths and weaknesses of Kareli Municipality in relation to the implementation of Sustainable Land Management (SLM) and Climate-Smart Agriculture (CSA) practices.

This comparative analysis highlights both the opportunities and constraints that may influence the successful adoption of these approaches at the local level.

A core objective of the capacity needs assessment in Kareli Municipality is to undertake a comprehensive evaluation of current agricultural practices within the community. This includes an analysis of the techniques, methods, and technologies employed by local farmers.

By examining existing practices, the assessment seeks to identify both the strengths and the limitations of the local agricultural sector. Such an understanding is essential for designing targeted, evidence-based interventions that aim to enhance sustainability, resilience, and productivity in the agricultural landscape of the municipality.

*Table 3: Kareli strengths and weaknesses*[24]

| Strengths | Weaknesses |
|---|---|
| Traditional flower production and spices has proved to be a successful practice | Land productivity is severely reduced due to unsustainable irrigation practises |
| Favourable conditions for wine, fruits and vegetables due to good microclimate | Degraded land due to waterlogging, landslides and overgrazed pastures |
| Capacity for fish farming or bee keeping | Erosion problems (wind, water), wrong irrigation caused water erosion |
| Wheat, corn and barley are well situated crops | Market problem |
| Existence of grassland and pastures, haylands for fodder production | Unable to use productive land in the northern part (no control by Georgia) |

[24] Zollner, D., Kirchmeir, H., Fuchs, A. und Huber, M. 2021: Kareli Integrated Land Use Plan (ILUP Kareli) for sustainable agriculture and rural development with special emphasis on SLM, CSA and LDN. Part A – ILUP Kareli. Version 1.0. Klagenfurt, Tbilisi, Kreli.78 p. + documentation volume/ annex.

| | |
|---|---|
| Favourable geographical location (proximity to the largest market of Georgia – Tbilisi) | Plot structures quite small |
| Important transversal road and train Infrastructure | Irrigation system is demolished, old, of high-cost or inefficient |
| Agriculture established as a traditional sector | Windbreaks are cut to a high degree leading to more wind erosion |
| Suitable agricultural and climatic conditions and favourable soils, including a large area of irrigable lands | Lack of sustainable management practices (lack of intercropping, crop rotation does not exist anymore) |
| | Natural disasters (hail, drought, hurricane etc) are more frequent |
| | Local seeds available in small quantities only, high losses and a large amount of low-quality wheat |
| | Wrong distribution of property (lands), land use is not systematized |
| | Economic pressure and focus on productivity issues (arable land enjoys higher valuation than pastures, tendencies to change into arable land, partly vice versa in remote areas) |
| | Little ecological awareness, few visionary and comprehensive statements |
| | Financial hardship to invest into new approaches (e.g. orchards) |

# Chapter 5: Formulating the Capacity Assessment Response

## 5.1. Key Components

The development of the Capacity Strengthening Action Plan was guided by three key components:

(a) An evaluation of existing agricultural practices within local communities;

(b) An assessment of the potential for implementing intensified agriculture alongside Sustainable Land Management (SLM) and Climate-Smart Agriculture (CSA) methods;

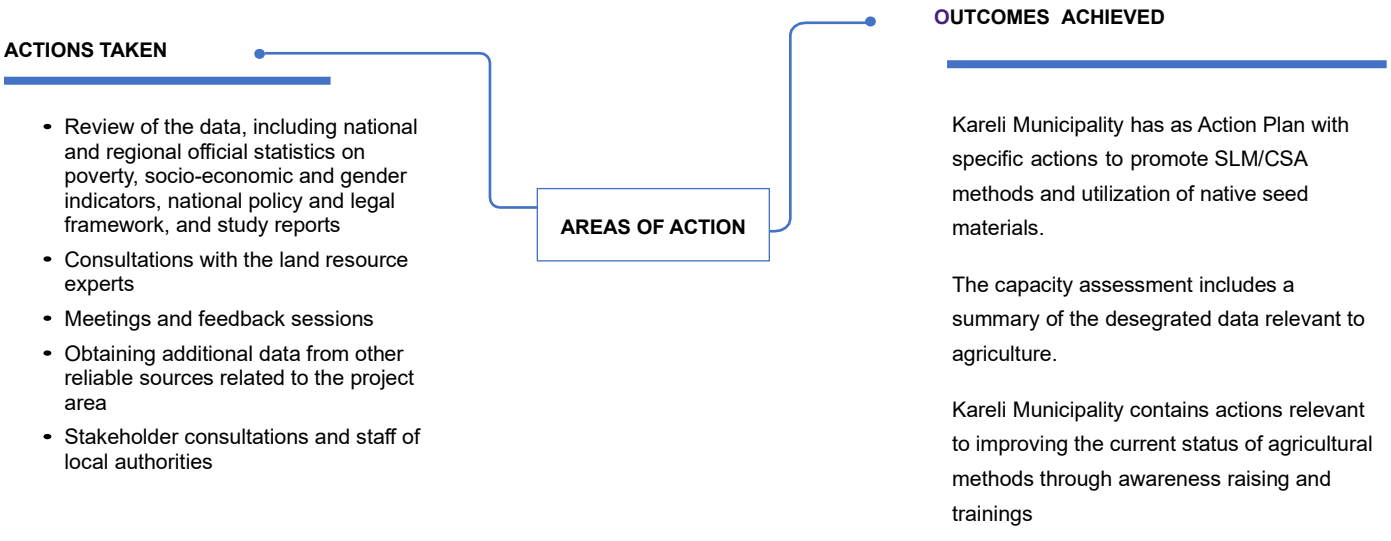
(c) An exploration of the use of native seed materials to support both intensified agriculture and SLM/CSA strategies.

The formulation process involved a detailed analysis of local agro-ecological conditions, including climate patterns, soil quality, topography, and the availability of water resources. This analysis aimed to recommend practices that would enhance agricultural productivity while minimizing adverse environmental impacts. A central element of the approach was the integration of indigenous knowledge systems into contemporary agricultural frameworks. In particular, the use of native seed materials was emphasized due to their importance in promoting biodiversity, enhancing climate resilience, and contributing to long-term food security.

To determine appropriate actions and priorities, a mixed-methods approach was applied. This included an extensive literature review of existing research and relevant projects, quantitative and qualitative data analysis, direct field observations, awareness-raising workshops, and a national-level multi-stakeholder consultation process. By triangulating these sources of information, the project was able to develop a robust understanding of the capacity gaps and opportunities across the municipality. However, it is important to acknowledge several methodological limitations encountered during the data collection and analysis stages. The availability and consistency of datasets were often limited, with information being heterogeneous, incomplete, or outdated. These challenges have influenced the precision and reliability of certain findings, highlighting the need for ongoing data improvement efforts to support future planning and monitoring.

In summary, this chapter outlines the strategic approach used to develop a context-specific, evidence-based response to the identified capacity needs. It serves as the foundation for the subsequent action plan and provides the rationale for the proposed interventions.

*Diagram: Methodological Approach for Formulating the Capacity Assessment Response*



## 5.2. Capacity Development Priorities for Kareli Municipality

The project *"Generating Economic and Environmental Benefits from Sustainable Land Management for Vulnerable Rural Communities of Georgia"* plans to implement a range of capacity development activities in Kareli Municipality, supported by both GEF funding and national co-financing. These activities are expected to benefit approximately:

(a) 150 local farmers, including 100 owners of the existing project pilot sites, community members, members of local agricultural cooperatives, and representatives of local and regional agricultural enterprises interested in improving soil fertility, enhancing climate resilience, and adopting sustainable land use practices;

(b) 10 technical staff from municipal and regional agricultural extension centers and local government administrations, including 7 staff from the Kareli Municipal Extension Center. This group also includes agricultural machinery service providers and operators engaged in land preparation and seeding, who support farmer training and the dissemination of sustainable agricultural practices;

(c) 20 representatives of local environmental NGOs and CSOs promoting soil and water conservation, as well as members of the mass media.

In total, it is anticipated that approximately 180 direct beneficiaries will be involved in capacity development activities in Kareli Municipality.

The capacity development assessment conducted for Kareli Municipality identified the following priority areas for advancing Sustainable Land Management (SLM) and Climate-Smart Agriculture (CSA):

**1. Strengthening and Modernizing Agricultural Practices through SLM and CSA Approaches**

- Promote the transition from conventional to sustainable land management and climate-smart agricultural practices.
- Design and implement local pilot initiatives at the farm level to create enabling conditions for the adoption of sustainable farming techniques.
- Conduct training programs to encourage the uptake of sustainable agricultural practices, such as crop rotation, organic farming, and conservation agriculture.
- Provide technical training and resources for the adoption of efficient irrigation systems, including drip irrigation, to enhance water use efficiency.

**2. Enhancing the Use of Native Seed Materials and Traditional Agricultural Knowledge**

- Organize workshops and training sessions to raise awareness of the benefits and application methods of native seed materials.
- Promote crop diversification as a strategy to build resilience against the adverse impacts of climate change.
- Support value addition at the farm level through processing of agricultural products (e.g., production of jams, compotes, dried fruits).
- Collaborate with local communities to integrate traditional knowledge into modern agricultural practices, particularly in relation to native seed use.

**3. Improving Economic and Institutional Support for Farmers and Rural Communities**

- Advocate for the establishment and mainstreaming of subsidy programs that prioritize SLM and environmentally sustainable production systems.

- Strengthen existing financial support mechanisms, including credit facilities, agricultural insurance schemes, and donor-funded programs, to enable the adoption of sustainable practices.
- Promote the development of market mechanisms that accommodate the specific needs of family farms and support their integration into agri-food value chains.
- Facilitate knowledge-sharing and awareness-raising sessions to promote the economic benefits of adopting modern and sustainable agricultural practices.

**4. Enhancing Awareness, Collaboration, and Community Engagement**

- Strengthen agricultural education systems by developing curricula that include regular educational programs for students and continuous learning opportunities for farmers, with a focus on climate change awareness.
- Enhance the capacity of municipal agricultural extension service centers by establishing demonstration plots and peer-learning networks to facilitate the exchange of best practices.
- Advocate for gender-responsive approaches in agricultural policy development and implementation, ensuring equitable participation and benefits for all community members.

**5. Improving Access to and Knowledge of Agricultural Technologies**

- Reorient agricultural technology development towards sustainable intensification, emphasizing productivity and environmental sustainability over mass production.
- Establish professional agricultural machinery cooperatives to enable shared access to advanced equipment and specialized services, thereby improving efficiency and reducing costs for smallholder farmers.

# Chapter 6: Capacity Strengthening Action Plan

## 6.1. Structure of the Capacity Strengthening Action Plan

The Capacity Strengthening Action Plan has been developed based on the capacity gaps identified through a comprehensive capacity assessment process. This assessment was informed by multiple sources, including stakeholder consultations, field visits, awareness-raising workshops, and relevant insights gathered from ongoing and past development projects in the region. The participatory and multi-stakeholder nature of the assessment process ensures that the proposed interventions are both context-specific and grounded in local realities.

The primary objective of the Action Plan is to support sustainable improvements in agricultural practices across Kareli Municipality. It seeks to enhance the capacity of local communities - particularly farmers - to actively engage in decision-making processes and to adopt environmentally sound, economically viable, and socially inclusive approaches to agricultural development.

The Plan places a particular emphasis on Sustainable Land Management (SLM) and Climate-Smart Agriculture (CSA) techniques, which are essential for building climate resilience and improving productivity. Moreover, the Plan recognizes the value of traditional ecological knowledge and the use of native seed materials as critical components of sustainable agriculture. It thus proposes a hybrid approach that integrates modern science-based methods with indigenous practices, aiming to enhance productivity while minimizing environmental degradation.

The Action Plan adopts a results-oriented framework with clearly defined objectives, each accompanied by measurable indicators - both qualitative and quantitative - that will guide the monitoring and evaluation (M&E) process.

These indicators will allow for the tracking of progress over time and ensure that the intended outcomes are being achieved. Each objective is supported by specific actions, expected outputs, and clearly designated institutional responsibilities. Lead agencies and strategic partners are identified for each action, and their roles are aligned with existing policies, sectoral programs, and operational plans to ensure institutional coherence and policy alignment.

Furthermore, the Plan provides a structured roadmap for integrating traditional agricultural knowledge into contemporary farming systems. It includes strategies to promote the conservation and use of native seed varieties, which are often better adapted to local climatic conditions and can contribute to food security and biodiversity conservation. By fostering a holistic and culturally sensitive approach, the Plan aims to build resilient rural communities capable of adapting to environmental and socio-economic changes.

In summary, this Action Plan serves as a strategic tool to guide capacity strengthening initiatives in Kareli Municipality. It lays the groundwork for implementing intensified and sustainable agricultural practices that are inclusive, knowledge-based, and environmentally responsible.

## 6.2. Capacity Strengthening Action Plan for Communities and Farmers to Support the Application of Intensified Agriculture, SLM/CSA Methods, and Traditional Knowledge, Including the Use of Native Seed Materials in Kareli Municipality

| Objective | Activity | Indicators | Responsibility |
|---|---|---|---|
| 1. Establish, improve and evolve the current agriculture practices to use to Sustainable Land Management and Climate-Smart Agriculture | 1.1. Develop and implement programs to create conditions that enable farmers to adopt sustainable agricultural practices.<br>1.2. Implement training programs to encourage farmers to adopt sustainable agricultural methods, such as crop rotation and organic farming.<br>1.3. Provide training and resources for the adoption of modern irrigation systems, such as drip irrigation, to improve water efficiency. | 1. Alignment of local agricultural policies with sustainable farming practices through policy analysis and assessment of policy changes or adaptations promoting sustainability.<br>2. Percentage increase in the adoption of sustainable agricultural practices.<br>3. At-least 2 training programs throughout the year programs to encourage farmers to adopt sustainable agricultural methods.<br>4. At-least 2 field visiting's with experts providing training on modern irrigation systems.<br>5. Multiple focus group discussions assessing farmers' awareness. | Capacity Building Expert<br>Project Team<br>Kareli Municipal Administration<br>Agricultural Extension Services at Regional and Municipal Levels:<br>• RDA's Shida Kartli Regional Office<br>• RDA's Agricultural Extension (*Informational-Consultation*) Centre of Kareli Municipality |

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| 2. Adopt new or improve existing traditional agricultural practices to employ native seed materials | 2.1. Organize training sessions and workshops for local farmers to educate them on the benefits and techniques of using native seed materials.<br><br>2.2. Promote crop diversification to enhance resilience against climate change impacts.<br><br>2.3. Support farmers in adding value to their produce through processing (e.g., jams, compotes, dry fruits),<br><br>2.4. Collaborate with local communities to incorporate their traditional knowledge into modern agricultural practices, emphasizing the use of native seeds. | 1. Organize at-least 3 training sessions and workshops for local farmers to educate them on the benefits and techniques of using native seed materials.<br>2. Pre and post-training assessments related to training sessions.<br>3. Multiple focus group discussions assessing farmers' awareness.<br>4. Improved understanding among farmers about the role of crop diversification in climate resilience.<br>5. Percentage increase in the number of crop types grown.<br>6. Successful creation of value-added products by local farmers.<br>7. Active involvement of local communities in collaborative efforts measured through feedback from community leaders and stakeholders. | Capacity Building Expert<br><br>Project Team<br><br>Kareli Municipal Administration<br><br>Agricultural Extension Services at Regional and Municipal Levels:<br><br>• RDA's Shida Kartli Regional Office<br><br>• RDA's Agricultural Extension (*Informational-Consultation*) Centre of Kareli Municipality |

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| 3. Improve economic and institutional factors of local community and farmers | 3.1. Advocate for a subsidy system and work with relevant authorities to mainstream subsidies, giving priority to sustainable land management practices and environmentally friendly production<br><br>3.2. Strengthen existing financial support systems, including credit, insurance, and donation programs, to facilitate the adoption of sustainable practices.<br><br>3.3. Advocate for the development of a market mechanism that accommodates the specific needs of family farms, ensuring their participation in agri-food chains.<br><br>3.4. Facilitate knowledge-sharing sessions on modern and sustainable agricultural practices, emphasizing their benefits for long-term economic stability. | 1. At-least 1 collaborative effort and engagement with relevant government authorities for changes in subsidy systems.<br>2. Increased financial literacy among farmers regarding support systems through workshops and knowledge sharing sessions<br>3. Improved access as well as implementation of credit, insurance, and donation programs<br>4. Increased awareness among family farms about opportunities for market inclusion through facilitation of collaborative meetings with various stakeholders. | Capacity Building Expert<br><br>Project Team<br><br>Kareli Municipal Administration<br><br>Agricultural Extension Services at Regional and Municipal Levels:<br><br>• RDA's Shida Kartli Regional Office<br><br>• RDA's Agricultural Extension (*Informational-Consultation*) Centre of Kareli Municipality |

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|---|---|---|---|
| 4. Enhance awareness, collaboration and community engagement | 4.1. Establish an agricultural education system that provides regular awareness-raising programs and training opportunities for farmers and the potential threats of climate change.<br>4.2. Strengthen agricultural research and service centers, including the establishment of demonstration plots and peer learning networks for sharing best practices<br>4.3. Advocate for the mainstreaming of gender-balanced approaches in all agricultural policies and implementations. | 1. Establish at-least 1 demonstration farm showcasing successful implementation of sustainable practices to inspire and guide local farmers.<br>2. Facilitate multiple community-based forums for farmers to share experiences, challenges, and success stories.<br>3. Pre- and post-awareness assessments related to increased awareness among farmers about climate change threats.<br>4. Facilitate educational programs early on in schools and in local community for regular awareness-raising and training opportunities.<br>5. Count of campaigns advocating for gender-balanced policies in agriculture. | Capacity Building Expert<br>Project Team<br>Kareli Municipal Administration<br>Agricultural Extension Services at Regional and Municipal Levels:<br>• RDA's Shida Kartli Regional Office<br>• RDA's Agricultural Extension (*Informational-Consultation*) Centre of Kareli Municipality |

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| 5. Facilitate access and improve knowledge related to technology for local community and farmers | 5.1. (Re)orient the agricultural technology development sector to prioritize sustainable production and increased productivity as alternatives to mass production.<br><br>5.1. Establish professional agricultural machinery cooperatives to facilitate the efficient use of expensive technologies and specialized services. | 1. Count of workshops or training sessions conducted for sustainable technology development.<br>2. Create opportunities for effective functioning of agricultural machinery cooperatives and gain feedback from cooperative members. | Capacity Building Expert<br><br>Project Team<br><br>Kareli Municipal Administration<br><br>Agricultural Extension Services at Regional and Municipal Levels:<br><br>• RDA's Shida Kartli Regional Office<br><br>• RDA's Agricultural Extension (*Informational-Consultation*) Centre of Kareli Municipality |

## *Supplementary Component of the Capacity Strengthening Action Plan: Key Training Needs*

| Key Training themes | Description | Target Groups |
|---|---|---|
| Practical understanding of the SLM/CSA approach | The SLM (Sustainable Land Management) and CSA (Climate-Smart Agriculture) approaches are undoubtedly attractive and compelling in principle. However, their practical application across diverse agro-ecological zones and highly heterogeneous farming systems, conditions, and socio-economic contexts still demands demonstrable success stories.<br><br>Effectively informing farmers and policymakers - and supporting efforts to scale up these approaches - will depend on how well the concepts of SLM and CSA are understood and implemented in practice. This requires ongoing two-way learning and adaptive feedback mechanisms among researchers, practitioners, farmers, and policymakers.<br><br>Moreover, there remain significant gaps in applying design thinking to the development and implementation of SLM and CSA strategies. | Farmers and household members<br><br>Ccommunity leaders<br><br>Farmer cooperatives and individual agricultural entrepreneurs<br><br>Locally engaged agricultural enterprises staff<br><br>Municipal extension staff (RDA) and Regional agricultural office staff (RDA) |
| Capacity building on the elaboration of effective SLM and CSA context-specific policies | Building institutional and technical capacity to formulate effective, context-specific policies for Sustainable Land Management (SLM) and Climate-Smart Agriculture (CSA) at **local (municipal)** and **regional** levels is critical to accelerating the adoption of CSA practices, technologies, and SLM tools.<br><br>These subnational policies - tailored to specific agro-ecological, socio-economic, and institutional contexts - are essential for creating enabling environments that support sustainable and resilient agricultural systems. National strategies must be complemented by grounded, localized approaches to ensure relevance and effectiveness on the ground. | Municipal extension staff (RDA)<br><br>Regional agricultural office staff (RDA) |

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| Enhance the capacity of local government officials, extension agents, and institutional stakeholders to support SLM and CSA implementation in Shida Kartli. Topics include effective information dissemination, resource coordination, market access facilitation, and climate risk management strategies such as insurance. | To effectively implement Sustainable Land Management (SLM) and Climate-Smart Agriculture (CSA) tailored to the needs of each municipality in the Shida Kartli Region, it is essential to strengthen coordination among institutions at the local, municipal, regional, and national levels.<br><br>This training will target local government officials, extension agents, and relevant institutional stakeholders. It will focus on enhancing their capacity to disseminate information effectively, mobilize and coordinate resources, organize market access for smallholder farmers, and design risk management tools such as climate-related insurance. Strengthening these institutional functions is key to ensuring that SLM and CSA innovations are accessible, practical, and supportive - rather than burdensome - for smallholder farmers. | Municipal administration staff<br><br>Municipal extension staff (RDA)<br><br>Regional agricultural office staff (RDA) |

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| Local Knowledge Systems (LKS) on Sustainable Land Use and Management and Climate-Smart Agriculture (CSA) | Local knowledge systems (LKS) - including indigenous practices, traditional ecological knowledge, and community-based land use strategies - are essential for promoting sustainable land management and climate-resilient agriculture. Yet, these systems are often undervalued or insufficiently integrated into formal planning and agricultural development efforts. This training targets local extension workers, municipal agricultural officers, community leaders, farmer cooperatives, civil society organizations, and students of vocational colleges. It aims to build their capacity to identify, document, and apply local knowledge in support of sustainable land use planning and CSA practices. Participants will be introduced to participatory knowledge mapping methods, tools for bridging local and scientific knowledge, and strategies to scale up successful community-driven practices while preserving cultural integrity. By strengthening the understanding and application of local knowledge, the training will enhance the contextual relevance, acceptance, and long-term impact of SLM and CSA initiatives within local communities. | Local extension workers, municipal agricultural officers, community leaders, farmer cooperatives, civil society organizations, and students of vocational colleges |
| Native Plant Seeds Use for Sustainable Crop Production | This training will focus on the importance and benefits of using native (aboriginal) plants, particularly native seeds, for sustainable crop production. Native plants, such as indigenous varieties of wheat and other cereals, are naturally resilient to climate change impacts, pests, and diseases, making them a valuable resource for enhancing agricultural sustainability. By promoting the use of these locally adapted crops, farmers can increase the resilience of their systems to environmental stressors and reduce their reliance on external inputs such as synthetic fertilizers and pesticides. Participants will learn how to identify and select native plant varieties, including traditional grains and cereals, that are well-suited to their local environment. The training will also cover best practices for planting, cultivating, and harvesting these crops, while maintaining soil health and biodiversity. Special attention will be given to the ways native plants can be integrated into existing agricultural systems. | Farmers, local agricultural extension workers, students of vocational agricultural colleges, and members of farmer cooperatives. |

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| No-Till Farming System | This training introduces participants to the principles and practical application of No-Till Farming - an essential component of conservation agriculture that eliminates or significantly reduces soil disturbance during crop production. By avoiding plowing and instead planting directly into undisturbed soil, no-till systems help preserve soil structure, increase organic matter, improve moisture retention, and reduce erosion and fuel costs. The training will cover the agronomic, environmental, and economic benefits of no-till practices, including their role in climate-smart agriculture and land degradation neutrality. Participants will gain insights into necessary equipment (such as direct seeders), residue management, integrated weed control, and crop rotation strategies. Real-life examples and case studies will be used to demonstrate successful adoption in similar agro-ecological contexts. Practical guidance will be provided on how to transition from conventional tillage to no-till systems, addressing common challenges and misconceptions. | Wheat and other cereal crop farmers interested in improving soil fertility and climate resilience; Community leaders; Agricultural cooperatives; Local extension service workers; Machinery service providers and operators involved in seeding and land preparation; Representatives of local environmental NGOs or CSOs promoting soil and water conservation |
| Crop Diversification, Crop Rotation Systems, and the Climate-Resilience Potential of Underutilized Crop Species | Neglected and underutilized crops, often better adapted to local agricultural systems and climates, are increasingly recognized for their potential to mitigate the adverse effects of climate change. These crops, when integrated into crop diversification and crop rotation systems, contribute significantly to soil health, pest control, and overall climate resilience. While crop rotation offers a strategic approach to reducing the risks of soil depletion and pest cycles, combining it with neglected and underutilized species enhances the sustainability and biodiversity of farming systems.<br><br>However, knowledge about these crops and practices remains limited among local farmers, agricultural staff, and students. This training aims to bridge that gap by focusing on how neglected and underutilized crops can be integrated into crop rotation systems, creating more resilient and adaptable farming systems. Participants will learn the benefits of | Farmers, along with agricultural extension workers, agricultural vocational college students, and community leaders. |

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| | combining crop diversification with rotation practices, improving soil fertility, reducing vulnerability to climate impacts, and increasing food security. | |
| Conservation and Enhancement of Biodiversity and Ecosystem Services at Farm Level | Many farmers and land users are unaware of the critical ecosystem services biodiversity provides, leading to its mismanagement. This training aims to raise awareness and build capacity on the conservation and sustainable use of biodiversity in agriculture. Participants will learn how biodiversity supports productivity, resilience, and long-term sustainability in farming systems. | Farmers, community leaders, agricultural cooperatives, municipal extension staff |
| Climate Information Services and Real-Time Agricultural Data | With the increasing frequency of extreme weather events and climate variability, it is vital for stakeholders to access and utilize timely and accurate climate information. This training will enhance understanding of climate risk management and real-time data use in agriculture to support informed decision-making. | Municipal and regional extension staff, central extension office (RDA) staff |
| Integrated Crop–Livestock Farming Systems | Many past initiatives have overlooked the integration of crops and livestock, despite its benefits for productivity, resilience, and resource efficiency. This training will support the development of integrated crop-livestock systems, including capacity-building across the value chain to promote sustainable agricultural intensification. | Farmers, agricultural cooperatives, local agricultural enterprises |
| Agricultural Waste Recycling Solutions | Agricultural waste, if not properly managed, contributes to environmental degradation. This training introduces eco-friendly, economically viable recycling options - such as composting, mushroom cultivation, and feed production - to enhance sustainability, improve livelihoods, and reduce pollution. | Farmers, community leaders, municipal extension staff |
| Affordable Renewable Energy/ Biogas Production for Rural Areas | Biogas and other renewable energy options can significantly reduce dependence on forests and non-renewable fuels in rural areas. This training will build technical and practical skills for cost-effective renewable energy solutions, focusing on small-scale biogas systems. | Farmers, community leaders, municipal extension staff |

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| Permagarden Farming Techniques for Climate Resilience | Permagardening promotes resilience to climate change by combining crop diversity, soil health, and water efficiency. This training introduces practical, low-cost permagarden approaches suitable for smallholder farmers working with limited resources. | Farmers, municipal extension staff |
| Efficient Use of Inputs through Microdosing and Micro-Irrigation | Inefficient use of water and fertilizers results in economic losses and environmental harm. This training focuses on microdosing and micro-irrigation techniques to improve input efficiency, reduce waste, and increase yields. | Farmers, agricultural cooperatives, local and regional agricultural enterprises, municipal extension staff |
| Biotechnology Applications in Climate-Smart Agriculture (CSA) | Biotechnology holds great potential to improve agricultural productivity and resilience. This training will explore scientific and ethical aspects of biotechnology in CSA, including genetic improvements, pest resistance, and enhanced nutrition. | Municipal and regional extension staff, students of vocational colleges |
| GIS and remote sensing in SLM/CSA | Geospatial technologies like GIS and remote sensing can revolutionize sustainable land management and climate-smart agriculture.<br>This training builds capacity in spatial data analysis to support land-use planning, precision farming, and monitoring of land degradation. | Municipal and regional extension staff, vocational college students |
| Design thinking and Digital Technologies for SLM and CSA | Digital innovation and user-cantered design are essential for advancing SLM and CSA. This training equips participants with skills in app development and digital tools to solve real-world agricultural and environmental challenges. | Vocational college students |
| Climate-Smart Post-Harvest Processing and Storage techniques | Post-harvest losses undermine food security and farmer income. This training provides knowledge on climate-smart post-harvest techniques, including storage, processing, and value addition, to reduce losses and increase resilience. | Farmers, agricultural cooperatives, local and regional agricultural enterprises, municipal extension staff |
| Statistical Downscaling and Climate Modelling | Accurate local-level climate projections are critical for CSA planning. This advanced training focuses on converting global and satellite data into location-specific information through statistical downscaling and climate modelling. | Vocational college students, experts in line ministries & other institutions |

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| Promotion of Locally Adapted Crop Varieties | Locally adapted and climate-resilient crop varieties are key to sustainable agriculture. This training aims to promote knowledge-sharing on breeding, selecting, and disseminating suitable varieties for different agro-ecological zones. | Farmers, agricultural cooperatives, local and regional agricultural enterprises, municipal extension staff |
| Biofertilizers and Biopesticides for Low-Input Farming | In low-input farming areas like in Kareli municipality, promoting the use of biofertilizers and biopesticides can improve soil fertility and reduce chemical dependency. This training introduces affordable, sustainable alternatives for smallholder farmers. | Farmers, agricultural cooperatives, local and regional agricultural enterprises, municipal extension staff |
| Climate Finance for SLM and CSA | Funding opportunities for SLM and CSA initiatives need to be disseminated. Inadequate knowledge on financial opportunities for CSA projects | Farmers, agricultural cooperatives, local and regional agricultural enterprises, municipal extension staff |
| Strengthening the Academia –Policy Nexus for SLM and CSA | Bridging the gap between science and policy is essential for effective climate-smart strategies. This training promotes collaboration between academia, policymakers, and practitioners to ensure evidence-based SLM/CSA policies. | Vocational college students, researchers, policy analysts |
| Aligning SLM and CSA with Development Agendas | Integrating CSA and SLM into national and international development frameworks enhances impact and sustainability. This training emphasizes aligning agricultural practices with SDGs and local development priorities. | Farmers, Local environmental NGOs/CSOs promoting soil and water conservation development practitioners |
| Media Engagement in Promoting SLM and CSA | Media plays a powerful role in shaping public understanding and support for sustainable agriculture. This training builds capacity among media professionals to effectively communicate SLM and CSA issues to diverse audiences. | Local, regional, and national media representatives |

## Annex 1. Stakeholder Mapping Structure and Consulted Groups - Kareli Municipality, Shida Kartli Region

| ***Stakeholder Group*** | ***Scope*** | ***Entity*** | ***Contact Level*** |
|---|---|---|---|
| ***Local Authorities*** | | | |
| Local Self-Governments | Kareli Municipality | Kareli Municipality Legislative Branch | Sakrebulo ('*Elected Assembly*') of Kareli Municipality |
| | | | Sakrebulo's Standing Commission on Property Management, Natural Resources, Agricultural and Land Issues |
| | | | Sakrebulo's Standing Commission on Spatial-Planning and Infrastructure |
| | | | Municipal Gender Council (*established by Sakrebulo of Kareli Municipality*) |
| | | Kareli Municipality Executive Branch | Mayor [Head] of Kareli Municipality (*elected directly by all municipal residents for 4-year term*) |
| | | | Administration [Government] of Kareli Municipality ('*Meria*') |
| | | | Representatives of Administration of Kareli Municipality at Administrative Units (*former 'Communities'*) Level |

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| ***Regional Authorities*** | | | |
| Regional Administrations | Shida Kartli Region | Administration of State Representative/Governor in Shida Kartli Region | State Representative (Governor) in Shida Kartli Region (*appointed by the Prime Minister of Georgia*) |
| | | | Regional Projects Coordination Service of the Administration in Shida Kartli Region |
| ***Policy Making and Territorial Bodies of the Central Government Line Ministries and Agencies*** | | | |
| Executive Branch<br><br>(Central Government) | Ministry of Environmental Protection and Agriculture (MEPA) and its subordinated Agencies | Ministry of Environmental Protection and Agriculture (MEPA) | *Policy Makers:*<br>• Hydromelioration and Land Management Department (HLMD) / Land Management Division *// UNCCD National Focal Point for Georgia*<br>• Environment and Climate Change Department (ECCD) *// GEF Operational Focal Point in Georgia/ UNFCCC National Focal Point for Georgia*<br>• Biodiversity and Forest [Policy] Department (BFPD) *// CBD Convention National Focal Point for Georgia* |
| | | Rural Development Agency (RDA) | Agricultural Extension Services at Regional and Municipal Levels: |

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| | | | • RDA's Shida Kartli Regional Office<br>• RDA's Agricultural Extension (*Informational-Consultation*) Centre of Kareli Municipality |
| | | National Agency for Sustainable Land Management and Land Use Monitoring (NASLM) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |
| | | Protected Areas Agency (APA) | APA Territorial Administrations:<br>• APA's Territorial Administrations within Shida Kartli Region |
| | | National Forest Agency (NFA) | Territorial Offices:<br>• NFA's Shida Kartli Regional Office |
| | | Scientific-Research Center of Agriculture (SRCA) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |
| | | National Agency of Food (NAF) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |
| | | Environmental Information and Education Centre (EIEC) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |
| | | National Environmental Agency (NEA) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |

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| | | National Wine Agency (NWA) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |
| | | Environmental Supervision Department (ESD) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |
| | | Territorial Water Users Organization (WUO) | Kareli Municipal Branch |
| | Ministry of Economy and Sustainable Development (MESD) | Spatial and Urban Development Agency (SUDA) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |
| | | National Agency of State Property (NASP) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |
| | | Georgian National Tourism Administration (GNTA) | Administration's Task Unit responsible for oversight of the Shida Kartli Region |
| | | National Agency of Mineral Resources (NAMR) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |
| | Ministry of Culture, Sport and Youth (MCSY) | National Agency for Cultural Heritage Preservation (NACHP) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |
| | Ministry of Education and Sciences of Georgia (MES) | National Center for Educational Research (NCER) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |

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| | Ministry of Justice (MoJ) | National Agency of Public Registry (NAPR) | Agency's Task Unit responsible for oversight of the Shida Kartli Region |
| | Ministry of Regional Development and Infrastructure (MRDI) | Ministry of Regional Development and Infrastructure (MRDI) | Local-self Government Development and Policy Department (LGDPD) |
| | | Municipal Development Fund of Georgia (MDF) | Fund's Task Unit responsible for oversight of the Shida Kartli Region |
| | Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Affairs of Georgia (MoH) | National Center for Disease Control and Public Health (NCDC) | Center's Task Unit responsible for oversight of the Shida Kartli Region |
| | Ministry of Finances of Georgia (MoF) | Ministry of Finances of Georgia (MoF) | Budgetary Planning Department |
| Civil Society | NGOs<br>(National Level) | National Associations on Self-Governnace and Community Development | National Association of Local Authorities of Georgia (NALAG) |
| | | | Center for Strategic Research and Development of Georgia (CSRDG) |
| | | Central Environmental NGOs | Center for Biodiversity Conservation and Research (NACRES) |
| | | | Biological Farming Association ELKANA |
| | | | Greens Movement of Georgia - Friends of the Earth Georgia (GMG-FoE Georgia) |

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| | Local NGOs/CSOs (Regional and Local Levels) | Regional, Local and Community based Organizations | Kareli Local Action Group (Kareli LAG) |
| | | | Shida Kartli Destination Management Organization – Visit Shida Kartli (DMO Visit Shida Kartli) |
| Academia and Education | High Educational and Research Institutions | Gori State University (GoriUni) | *www.gu.edu.ge/en* |
| | | Georgian Agrarian University (AgriUni) | *agruni.edu.ge/en* |
| | | Institute of Geography of the Tbilisi State University (TSU) | *vbig.ge/en* |
| | Vocational Educational Institutions | Kareli Professional Educational Center | *kpec.ge/ge* |
| Professional Associations | National Level | National Farmers Association of Georgia (NFA) | *The Association's Project Officers engaged in activities implemented in the Shida Kartli Region* |
| | | Georgian Wheat Association (GWA) | *The Association's Project Officers engaged in activities implemented in the Shida Kartli Region* |
| | | Women Farmers Association of Georgia (WFA) | *The Association's Project Officers engaged in activities implemented in the Shida Kartli Region* |
| | | Beekeepers Association of Georgia (NBA) | *The Association's Project Officers engaged in activities implemented in the Shida Kartli Region* |
| | | Georgian Seeds and Saplings Association (GEOSSA) | *The Association's Project Officers engaged in activities implemented in the Shida Kartli Region* |

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| | Regional and Local Levels | Cherry Growers Assossiation of Shida Kartli | *The Association's Task Officers* |
| Private Sector | Regional and local Levels (*Legal Persons*) | Agricultural Enterprises[25] | Ltd. Agro-Farm 2020 (Village Kekhijvari) [*Business Specialization: Mix Farming since 2020*]<br><br>Ltd. Agro-Grado (Village Kvenatkotsa) [*Business Specialization: Mix Farming since 2016*]<br><br>Cooperative RK Vashlis Bagebi (Village Samtsevrisi) [*Business Specialization: Fruit Growing since 2016*] |
| | Local Level (*Entrepreneurs*) | Local Agricultural Farms: Individual Farmers as Crop-Producing Entrepreneurs [26] | Individual Entrepreneur / Farmer: Besik Baliashvili (Village Ruisi) [Business Specialization: Mix Farming and Intensive Fruit Cultivation since 2018] -<br>Project Beneficiary<br><br>Individual Entrepreneur / Farmer: Durmishkhan Edilashvili (Village Breti) [Business Specialization: Fruit Cultivation since 2019] |
| | | Local Agricultural Farms Producing Livestock Production | *Number of Farms* |
| | | Local Agrotourism Companies (*Farm Based*) | *Number of Companies* |

[25] An agricultural enterprise is a holding that can be operated only by a legal entity - such as a limited liability company, general partnership, limited partnership, joint stock company, or cooperative (including agricultural cooperative) - established in Georgia under national law.

[26] An entrepreneur may be a natural person or a legal entity engaged in an undertaking, which refers to an organized system for conducting business activities. An *Individual Entrepreneur*, however, is specifically a natural person and is not considered a legal entity.

Agricultural activities conducted by natural persons are not regarded as business activities unless at least five permanent employees are involved, excluding family members of the owner. In such cases, to carry out the activities legally, the natural person must register in the legal form of an *Individual Entrepreneur*.

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| Investment and Financial Institutions | International | Caucasus Nature Fund (CNF) | *Project Officers engaged in activities implemented in the Shida Kartli Region* |
| | | The European Neighbourhood Programme for Agriculture and Rural Development (ENPARD)[27] | *Project Officers engaged in activities implemented in the Shida Kartli Region* |
| | | The USAID-funded 'Zrda' Activity in Georgia[28] | *Project Officers engaged in activities implemented in the Shida Kartli Region* |
| | | BMU/ GIZ-Caucasus Programme | *Project Officers engaged in activities implemented in the Shida Kartli Region* |
| | | UNDP-Georgia | *Project Officers engaged in activities implemented in the Shida Kartli Region* |
| | | FAO-Georgia | *Project Officers engaged in activities implemented in the Shida Kartli Region* |
| | | IFAD (AMMAR/DiMMA Georgia) | *Project Officers engaged in activities implemented in the Shida Kartli Region* |

[27] *The European Neighbourhood Programme for Agriculture and Rural Development (ENPARD)* was launched in Georgia with the goal of reinvigorating the agricultural and rural sectors in the country by supporting the Government's Agriculture Sector Strategy, strengthening small farmers' organizations, and enabling sustainable rural development. ENPARD is composed of a variety of aid modalities, from direct budget support to the Government to technical assistance and small grants to NGOs. The total budget for ENPARD in Georgia for 2021-2024 is estimated at US$ 40 million.

[28] ZRDA is a five-year program designed to promote inclusive and sustainable economic growth in target regions by improving micro, small, and medium sized enterprise (MSME) growth; increase productivity of rural households; facilitate market linkages between producers and buyers; and promote local economic development by establishing and strengthening networks. Zrda targets communities in proximity to the administrative boundary lines and communities with ethnic minority popula-tions. The Zrda activity is working in 81 communities within five regions of Georgia to create at least 2,400 jobs, increase sales for at least 860 MSMEs, boost incomes of 13,200 households, and generate measurable improvements in community resilience. ZRDA supports gender mainstreaming, in order for women, men, boys and girls to participate and benefit from development efforts.

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| | National | Preferential Agrocredit Program[29] | *Beneficiaries from Kareli Municipality* |
| | | Agroleasing Program[30] | *Beneficiaries from Kareli Municipality* |
| | | Produce in Georgia Program[31] | *Beneficiaries from Kareli Municipality* |
| | | Plant The Future Program[32] | *Beneficiaries from Kareli Municipality* |
| Local Population and Framers/Households | Rural Settlers | Medium (3-5 ha) and Large (>5 ha) Landowners | Medium and Large Agricultural (incl. pastures) Landowners/Households |
| | | Small Holders (1-2 ha) | Farmers/Households producing for self-consumption |

29 Preferential Agrocredit Program was initiated by the MEPA and is supported by the central state budget funds. The purpose of the Program is to improve the processes of primary agricultural production, processing, storage and sale by providing the legal and natural entities with cheap, affordable long-term and preferential funds. Estimated allocations[29] under the above *Preferential Agrocredit Program* for 2021-2024 will be UD$ 12 million in total.

30 Agroleasing Program is managed by the MEPA and is supported by the central state budget funds. The program serves for the development of the agricultural products' added value generating infrastructure. Preferential agroleasing are benefited by the companies, involved in creation of the agricultural products (modern farms, greenhouse, etc.) or engaged in any form of processing of agricultural products (storage, packaging, recycling), or producing packaging materials for the agricultural products, as well as the companies, which have approved the state co-financing within scopes of the co-financing Program. Estimated allocations[30] under the above *Agroleasing Program* for 2021-2024 will be UD$ 5 million in total.

31 The Agricultural component of the program 'Produce in Georgia' is jointly implemented by the Ministry of Economy and Sustainable Development (MESD) and the Ministry of Environment Protection and Agriculture of Georgia (MEPA) and is supported by the central state budget funds. This includes co-financing of agricultural primary production and processing by the state, inter alia, for high-technology greenhouses of vegetables, berries, herbs and mushrooms; production of seedlings and saplings; gardens, vineyards, plantations of perennial crops; processing fruits, berries, vegetables, mushrooms, citrus etc. Estimated allocations for agricultural part of the above *Produce in Georgia Program* for 2021-2024 will be UD$ 40 million in total.

32 Plant The Future Program is managed by the MEPA and is supported by the central state budget funds. Co-financing will be carried out in two separate components of the program: a) component of co-financing perennial gardens (hereinafter referred to as 'gardens' component') and b) co-financing component of the nursery gardens. One of the objectives of the program is support of the local, high-quality, phytosanitary clean planting material (seedlings) production, which will make possible for individuals interested in creating modern, intensive cultivated gardens, offer cheap, local materials for planting compare to imported ones. Estimated allocations under the above Plant The Future *Program* for 2021-2024 will be UD$ 25 million in total.

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| | | | Farmers/Households producing for both self-consumption and sell |
| | | | Farmers/Households producing for sell |

## Annex 2. Comoposition of Multistakeholder Municipal Land Degradation (LD) Working Group in Kareli Municipality, Shida Kartli Region

| n/n | Name | Status in the LD Working Group | Organization | Title |
|---|---|---|---|---|
| 1 | MATSONADZE Natia, Ms. | Head | Municipal Administration [Local Government] - also known as 'Meria', Municipality of Kareli | Deputy Mayor |
| 2 | JOJISHVILI Aleksi (Alex), Mr. | Deputy Head | Municipal Administration [Local Government] - also known as 'Meria', Municipality of Kareli | Head of Economic Development Service |
| 3 | CHOCHISHVILI Ketevan, Ms. | Secretary | Municipal Administration [Local Government] - also known as 'Meria', Municipality of Kareli | Senior Specialist of Legal Service |
| 4 | ARDEMANASHVILI Ioseb (Josef), Mr. | Member | Municipal Administration [Local Government] - also known as 'Meria', Municipality of Kareli | Senior Specialist of Supervision Service |
| 5 | GOGICHASHVILI Gocha, Mr. | Member | Municipal Administration [Local Government] - also known as 'Meria', Municipality of Kareli | Senior Specialist of Economic Development Service |
| 6 | KHATASHVILI Mikheil, Mr. | Invited Member | Municipal Council ('Sakrebulo'), Municipality of Kareli | Council Representative |
| 7 | CHIKOVANI Nino, Ms. | Invited Member | Ministry of Environmental Protection and Agriculture of Georgia (MEPA) | UNCCD National Focal Point<br><br>Head of Land Resources Protection Office,<br>Environment and Climate Change Department |
| 8 | BARBAKADZE Zaza, Mr. | Invited Member | Agricultural and Rural Development Agency (ARDA), Ministry of Environmental Protection and Agriculture of Georgia (MEPA) | Senior Specialist of Kareli Information-Consultative Center for Agriculture |

## Annex 3. Structure of the Municipal Administration (Local Government)- Kareli Municipality, Shida Kartli Region

*According to the Statute of Kareli Municipal Administration - as of January 1, 2022*[33]

**Mayor [Head] of Kareli Municipality**

**First Deputy Mayor [Head] of Municipality**

**Deputy Mayor [Head] of Municipality**

**Administrative Service**

a) Records Management Division
b) Public Relations Division
c) Human Resources Management Division;
d) Procurement Division;
e) Technical Maintenance Division;

**Financial and Budgetary Service**

a) Budget Planning and Analysis Division;
b) Budget Expenditures Monitoring Division;
c) Accounting Division;

**Legal Service**

a) Legal Division;

**Supervision Service**

a) Fee Control Division;
b) Unauthorized Activities Control Division;
c) Infrastructure Project Planning Monitoring Division;

**Economic Development Service**

a) Treasury Division;

[33] Statute of Kareli Municipal Administration (Government) (2017) // Approved by the Decree of Kareli Municipal Council [*Sakrebulo*] of November 16, 2017 No.28 on Approval of Statute for Kareli Municipal Administration (Government) / (Legislative Herald of Georgia, matsne.gov.ge, 010260030.35.144.016296, Publication date: 16/11/2017) – *Georgian version https://matsne.gov.ge/ka/document/view/3854427?publication=0*

b) Transport and External Advertising Division;

c) International Relations Division;

d) Infrastructure Development and Amenities Division;

**Social and Health Care Service**

a) Health Care Division;

b) Social Security Division;

**Education, Culture and Sports Service**

a) Education Division;

b) Youth Division;

c) Culture Division;

d) Sports Division;

**Military Registering and Mobilization Service**

**Internal Audit Service**

a) Monitoring and Control Division;

b) Internal Audit Division;

c) Inspection and Analytical Division;

***18 reprеserntatives of Municipal Government in 18 administrative-territorial units (former self-governed communities) of Kareli municipality.***