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FULLY DEVELOPED PROPSOSAL FOR SINGLE COUNTRY

PART I: PROJECT/PROGRAMME INFORMATION

Title of project:	Dairy Modernization and Market Access: Adaptive and climate-resilient pasture management (DiMMAdapt+)
Country:	Georgia
Thematic focal area:	Rural development
Type of implementing entity:	Multilateral Implementing Entity
Implementing entity:	International Fund for Agricultural Development
Executing entity:	Ministry of Environmental Protection and Agriculture (MEPA)
Amount of financing requested:	USD 9,846,766
Letter of endorsement signed:	Yes ☒ No ☐
Stage of Submission:	☒ This proposal has been submitted before as a concept note

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List of acronyms

AF	Adaptation Fund
APA	Agency for Protected Areas
ARDA	Agency of Rural Development and Agriculture
CARD	IFAD's Climate Adaptation in Rural Development Assessment Tool
DiMMA	Dairy Modernization and Market Access Project
DiMMAdapt	Dairy Modernization and Market Access: Adaptation Component
DiMMAdapt+	Dairy Modernization and Market Access: Adaptive and climate-resilient pasture management
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
GFA	Georgian Farmers Association
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IFAD	International Fund for Agricultural Development
LDN	Land Degradation Neutrality
MEPA	Ministry of Environmental Protection and Agriculture
NACRES	Centre for Biodiversity Research & Conservation
NAITS	National Animal Identification and Traceability System
NAPR	National Agency of Public Registry
NASLM	National Agency for Sustainable Land Management and Land Use Monitoring
NASP	National Agency for State Property
NDC	Georgia's Nationally Determined Contribution
NFA	National Food Agency
PRAGA	Participatory rangeland and grassland assessment
PUU	Pasture user union
RECC	Regional Environmental Centre for the Caucasus
SABUKO	Society for Nature Conservation
SECAP	Social, Environmental and Climate Assessment Procedures
UNCCD	United Nations Convention to Combat Desertification
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change

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A. Project background and context

1. Geography and climate

1. The agricultural sector in Georgia accounts for 7.0% of the gross domestic product (GDP) and employs 19% of the workforce in 2022 (GeoStat). Agriculture plays an important role in securing livelihoods and as a basis for the country's food security.

2. Its complex geology and climate determine the diversity of Georgia's landscapes: humid subtropical coastline, lowlands and wetlands, plains, semi-deserts, highlands, and mountains covered by forests and glaciers. Much of the landscape is mountainous, with 54% of the country at an altitude over 1,000 metres above sea level. Over 40% of the country is covered by forest, mainly in mountainous areas.

3. Georgia has a diverse climate, with two distinct climatic zones separating the east and west. On the west coast, along the Black Sea, the climate is humid and subtropical, with average annual temperatures of 14°C to 15° C and extremes from -15°C to 45°C. The east is more varied, with a dry subtropical climate in the plains and an alpine climate in the mountain regions. The Greater Caucasus Mountain Range plays an important role in Georgia's climate, protecting the country from the intrusion of colder air masses from the north. The Lesser Caucasus Mountains partially protect the region from the influence of dry and hot air masses from the south. The average annual temperature ranges from 11ºC to 13°C in the plains, and 2ºC to 7°C in the mountains, with a minimum of -25°C and -36°C, respectively. Annual rainfall in Georgia is 400 to 600 mm in the plains, and 800 to 1,200 mm in the mountains. Precipitation in western Georgia tends to be constant throughout the year, although it can be particularly heavy during the autumn months. The foothills and mountains experience cool, wet summers and snowy winters, with snow cover often exceeding 2 meters in many regions. Annual rainfall in eastern Georgia ranges from 400 to 1,600 mm, and is considerably less than in western Georgia.

4. Georgia is a country rich in biodiversity, most of which can be found in the forests, freshwater habitats, marine and coastal ecosystems and high altitude habitats. The mountain ranges with the predominant grasslands are very rich in species with many endemic to the region.

2. Socio-economic characteristics

5. **Unemployment is high in Georgia**. According to Geostat, 17.3% of the labour force was unemployed in 2022, with women at 14.6% and men at 19.3%. Migration to cities and abroad is largely driven by the lack of decent jobs and opportunities. The majority of those who migrate from Georgia are men aged 24-34.

6. **Poverty is still persistent**. Georgia was classified by the World Bank as upper-middle income country with GNI per capita US$ 5,620 in 2022. According to Geostat, poverty reached its highest level in country's history of 37.3% in 2010, then decreased to 22% in 2016 and further to 15.6% in 2022. Nevertheless, structural challenges persist, notably weak productivity and limited high-quality job creation. The Government of Georgia is assessing poverty level in country using two methods: i) Registered Poverty for assessing beneficiaries of social assistance programmes, ii) Relative Poverty based on median consumption.

7. **Poverty is more pronounced in rural areas**. Two thirds of all poor households live in rural areas, where every second household can be considered poor along the US$2.50/day international poverty line (in urban areas poverty is considerably lower, affecting one out of every four households). According to Geostat, 20.6% of rural households were below the absolute poverty line in 2022, compared to 12.3% in urban areas. The mean monthly income per household in rural areas was 92.2 GEL in 2015, making it 21 percent less compared to urban areas, where it was 1,142.3 GEL (Geostat data, 2015). The average income of those self-employed in agriculture (including in-kind consumption) is only around 20 percent of that of urban salaried workers.

8. **Poverty level has geographic characteristics in Georgia.** Different regions develop unequally, with Tbilisi, the capital, accounting for half of the country's GDP. The city-region's per capita output levels are almost twice the national average and more than three times that of the most lagging regions. However, poverty is not fully defined by administrative boundaries in Georgia. It is evident that poverty in general is lower in industrial (Kvemo Kartli) and services oriented regions (Adjara), than in agrarian (Mtskheta-Mtianeti). Poverty level is the lowest in Tbilisi and is highest in Shida Kartli and Mtskheta Mtianeti region. The latest official data gives a picture of a poverty level by region by tracking those who applied and were registered to be recipients of the Targeted Social Assistance (TSA) and on the actual recipients of the TSA by region. The Social Services Agency's data for 2016 and 2017 is in line with the poverty data by regions assessed by the World Bank in 2015.

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9. **There is a large variation of poverty level within the regions.** The large variation of the recipients of TSA by municipalities shows various level of poverty level within the regions. It can be seen, that the number of poor in one municipality can range from 5.3 percent to 32.6 percent in Imereti, from 5.5 percent to 46.8 percent in Samegrelo-Zemo Svaneti, and from 2.7 percent to 15 percent in Samtskhe-Javakheti.

10. **The demographic and employment factors of the household can affect poverty level of community**. The causes of poverty in rural areas include the level of education, labour market status and gender of the household head. According to the World Bank Poverty Assessment, the poor and bottom 40 are more likely: (i) to live in larger households with a greater number of dependents; (ii) to live in households headed by someone with less than secondary education; (iii) to be unemployed or economically inactive; (iv) to have household heads who are less likely to be in paid work and more likely to be self-employed (which is largely how subsistence farmers are classified); and (v) to live in households headed by women. Among those households where the head is unemployed, poverty rate is 24 percent as compared to 14 percent among households whose head is employed.

11. **Poor and extremely poor households in Georgia own limited land and livestock.** About 36 percent of poor households report no land ownership, and 50 percent of landless are extremely poor. Poor households in general do not hold cattle, and only 16,5 percent of those who live under poverty line have cattle, with no more than three heads.

12. **Gender inequalities** have a profound impact on women's engagement in various aspects, including property rights, decision-making, resource access, income control, asset ownership, and service utilization. These disparities not only impede women's potential but also curtail economic opportunities for entire households. In Georgia, women constitute a significant majority of farmers in regions that are highly vulnerable to climate change. Pastures in Georgia serve as a vital source of livestock feed, medicinal and culinary herbs, and also contribute to recreational activities and tourism. Within this context, women actively participate in agricultural activities, particularly in dairy farming and cheese-making, where they play crucial roles in ensuring household nutrition. Despite their contributions, women, especially those residing in rural areas, are frequently excluded from conservation, management, planning, and decision-making processes related to natural resources. This exclusion can be attributed to prevailing gender norms and limited inclusion and outreach efforts. Women encounter various structural barriers that hinder their participation in policy formulation. The project's gender-responsive approach, accompanied by specific actions and comprehensive analysis during the full design stage, aims to enhance the resilience of the pasture sector to climate change. Additionally, the project seeks to address the specific needs of vulnerable groups, including small farmers, rural communities, and women.

13. **Gender roles in agriculture, pasture and livestock management**. The social status of women in rural areas remains low and gender stereotypes persist, showing the rigid division of gender roles that includes decision-making in agricultural works and conservation activities. 57.7 percent of total households in Georgia are agricultural holdings, and women head 32.2 percent of all agricultural holdings (Geostat, 2021). The share of land operated by agricultural holdings indicate that men primarily hold positions as heads of large land-operating holdings (see figure below). In family farming, tasks are typically divided along gender lines. Men are primarily responsible for animal feeding and herding on pastures, while women dedicate more time to livestock, specifically in milking and milk processing and women's higher workload can be attributed to their intensive involvement in animal husbandry throughout the year.

***Figure 1**. Distribution of agricultural holdings by gender of the holder in percent (Source: Geostat)*

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14. Women's involvement in sustainable pasture management is vital for household income and food security. However, their contributions are often overlooked due to low social status and limited representation in decision-making and technical fields. To address this, it is important to recognize and enhance women's roles, increase their participation, and provide gender-responsive services in pasture and livestock management. This will promote gender equality and improve overall pasture management practices.

15. **Women have limited access to ownership of land and other property**. The lack of land registration limits women's access to governmental subsidies, credit and grant schemes because of lack of collateral. Funding schemes in rural areas are less accessible for women except when women are the target group. Women, including women-led households, have less access to pastures for subsistence or income generation, and less voice in their management.

16. **There is a significant gender pay gap, and women are overrepresented as unpaid workers**. Women are more likely to be involved in unpaid and informal work. The "invisible" nature of their work means that their roles relating to pasture management are underestimated. Women generally devote more time to livestock than men, although women are involved in milking and milk processing while men are mostly in charge of cattle maintenance (cattle feeding and cleaning) and pasturing. Moreover, 46.5% of women owned large cattle compared to 53.5% men, only slightly less[1]. They are considered knowledgeable in livestock health. These roles may be different in women-headed households. At the local level, women's role in livestock and pasture management may be underestimated with the risk that they are left out of relevant capacity development and decisions. Lack of time and inputs may deter women from seeking alternative income generating opportunities or employment that could help communities adopt adaptation measures on pasture lands.

17. **There is a gender gap in technical and professional expertise in agriculture and rural development**. Men are more represented in higher managerial positions and in technical subjects such as agriculture, engineering and construction, where very few women are represented. This may contribute to the challenge of making gender-responsive provisions in policy and law. And at the sub-national level fewer female extension workers and service providers may make it more challenging for women to access gender-responsive services in pasture and livestock management.

18. **Women have less access to new technologies than men**. Because men are seen as the decision-makers and those responsible for dealing with providers, women face barriers to accessing these resources. Women's time, drudgery and lack of access to inputs holds them back from engaging in pasture management.

19. **Women are underrepresented in cooperatives and associations, both as members and as chairpersons**. Women do not feel that they were welcome in municipal buildings or community decision making[2].

20. **Poor rural infrastructure, limited access to transport and modern energy supplies have a direct impact on women's time use in particular**. This exacerbates their challenges in participating in pasture management

    The gender assessment for a GEF-supported project on land degradation[3] found that both men and women emphasized the importance of sharing opinions and ideas regarding agricultural activities and felt that rural family life should be based on mutual decisions made by men and women together

3. Livestock and pasturelands

21. **Pasturelands and haylands cover around 1.7 million ha, which present 25% of the country's area**. They account for more than 50% of agricultural areas, according to the National Pastureland Management Policy Document from December 2022. According to a report from the World Bank (2020), pastureland is the most valuable natural resource in Georgia in terms of natural capita. The figure below shows the main locations of pastures in the country. Around 70% of the country's grasslands are located in its central and eastern part (mainly in Kakheti and Samtskhe-Javakheti). Many are natural pastures that have been grazed by livestock for centuries.

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[1] National Statistics Office of Georgia. 2018. Men and Women in Georgia. Table "Number of respondents owning an asset in 2015". Source: Geostat, pilot survey on measuring asset ownership and entrepreneurship from a gender perspective.
2 https://alcp.ge/assets/pdf/2022-09/1663248981_end_of_phase.pdf
3 Generating Economic and Environmental Benefits from Sustainable Land Management for Vulnerable Rural Communities of Georgia" project implemented by UNEP (GEF ID 9730).

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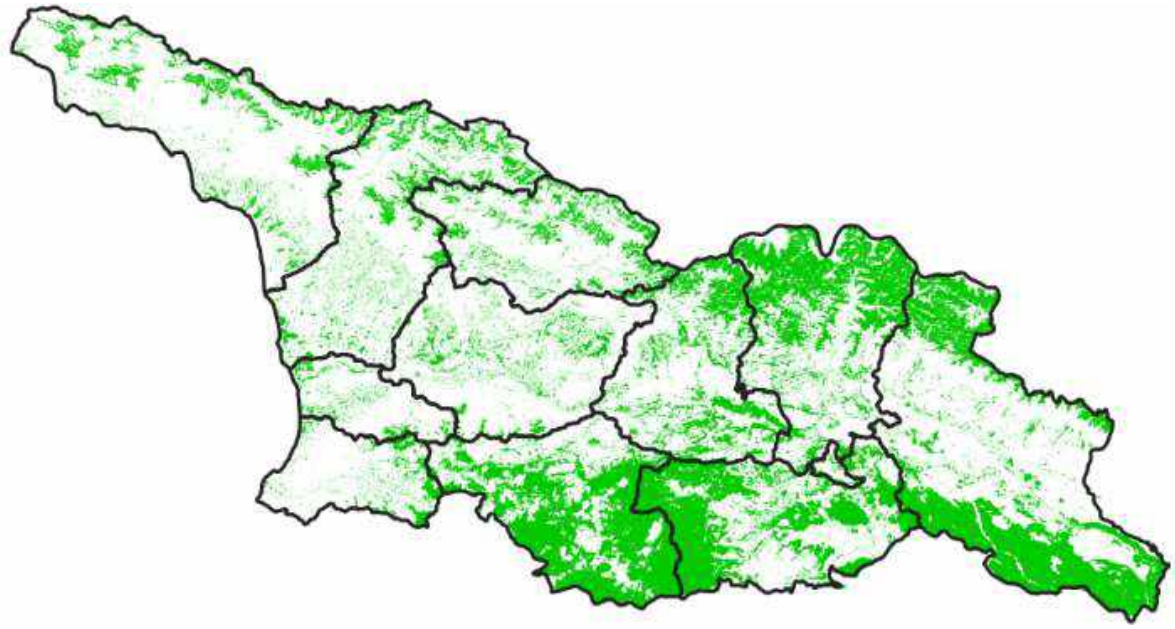

***Figure 2**. Pasturelands in Georgia (Source: Derived from a global map of land use/land cover produced by Impact Observatory, Microsoft, and Esri using Sentinel-2 imagery of the European Space Agency at 10m resolution)*

22. **Pastures are an integral part of the rural economy, providing food and income for many rural households**. Pastures provide a wide range of cheaply available forage that can be exploited at different times of the year by moving animals to locations with optimal ecological conditions in a given season. Their use greatly reduces the need to purchase fodder. According to the 2014 GeoStat agricultural census, there are 574,077 agricultural holdings with registered agricultural land, out of which 78,299 holdings use natural meadows and pastures. There are different types of livestock producers. They keep livestock for subsistence and savings, to diversify their income, or they are medium and large commercial and specialized enterprises. For rural communities, livestock production is of great economic importance, both for subsistence farming and as a source of income playing an important role in poverty reduction.

23. **Around 46% of households own livestock and the majority are smallholders**. Of the roughly 270,000 households holding cattle, 80% hold less than five head and only 5% hold ten or more. Of sheep owners, only 5% have more than 50 head. Many rely on pastures as a cheap fodder source to feed their animals. Geostat reports 928,600 cattle and 956,800 sheep and goats in 2021. The number of cattle is lower compared to the first decade of this century. The number of sheep and goats has increased (see figure 4).

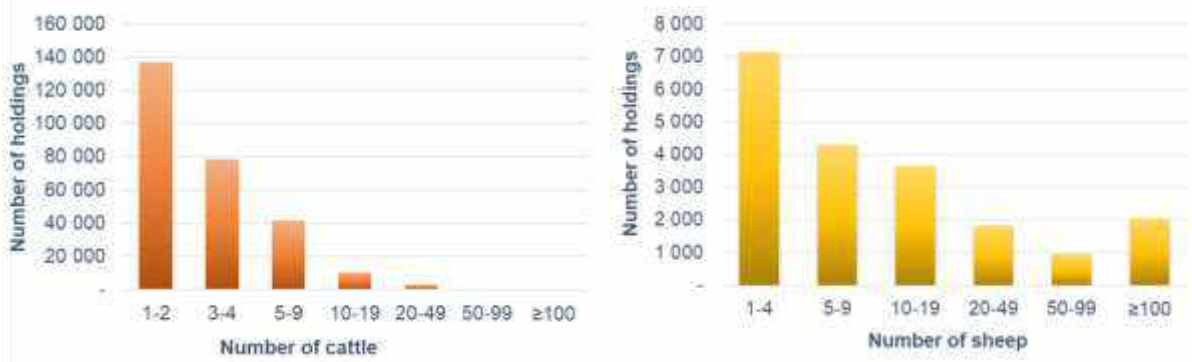

***Figure 3**. Livestock ownership distribution (Source: Geostat 2014)*

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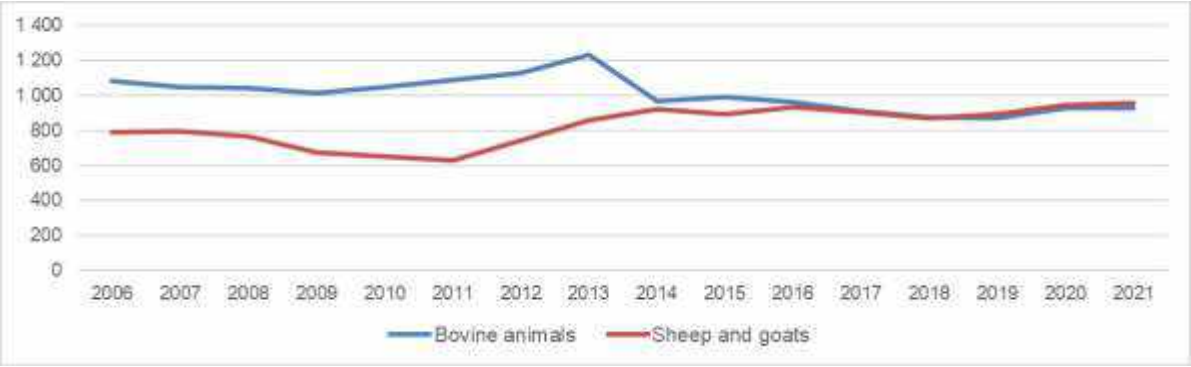

***Figure 4**. Number of bovine and small ruminants (thousand heads) in Georgia from 2006 to 2021 (Source: Geostat)*

24. **Georgia's diverse topography holds a variety of pasture vegetation types**. The Fourth National Communication to the UNFCCC from 2021 lists 25 grassland habitats that are found in Georgia, using EUNIS, a comprehensive pan-European system for habitat identification system. Pastures in Georgia's mountainous landscape can be classified in different ways. The Communication divides pastures into four basic types:

    - **High mountain meadows** around found above 1600 meters altitude. They are divided into typical high mountain meadows, subalpine meadows and alpine meadows;
    - **Low mountain and valley meadows** are found in west and east Georgia's foothills and valleys;
    - **Steppes** are found in east Georgia in the driest areas of Kakheti and Shida Kartli; and
    - **Semi-deserts** are found in the Eldari plain and valleys of Kvemo Kartli, as well as, on the plains of Shiraki and Alazani at between 200-800 meters above sea level.

25. **Approximately 10% of pastures are located in protected areas**. This figure found in National Pastureland Management Policy Document[4] could be even be higher at 17%[5]. Pastures found in managed reserves, national parks, natural monuments, nature reserves or protected landscapes are managed by the Agency of Protected Areas (APA). These pastures are important grazing areas. Examples include the alpine summer pastures of the Tusheti protected areas and the steppe winter pastures of the Vashlovani national park. Several national parks (such as the Tusheti protected areas, the Vashlovani national park and the Chachuna managed reserve) have established pasture management plans and systems to give users access to pastures and regulate grazing to ensure that conservation objectives are met while the resource is used sustainably.

26. **Few pastures are located in forest areas**. Forests cover about 40% of the country and are managed by forest funds of the National Forestry Agency. Management plans exist for a quarter of the forest area. There are few grazing lands (less than 2% of all grazing lands). Most are very small plots. Grazing in forests is not allowed, but it is common. It is one of the causes of forest degradation as it hinders forest regeneration. Restricting grazing and other forest uses, such as timber extraction, is difficult because rural people depend on the resource.

27. **Around 20% of pastures are in Emerald sites**. According to the Emerald Network Barometer, there are 66 Emerald Network sites in Georgia, covering more than 12,900 km^2 or 18.5 % of the country's territory. The Emerald Network is a network of areas of special conservation interest. It was established by the Council of Europe as part of its work under the Bern Convention that aims to conserve Europe's wildlife and natural habitats with specific protection measures. The majority of Emerald Network sites in Georgia that hold pastures do not have management plans.

28. **Pastures are divided into winter and summer pastures based on their seasonal use**. Winter pastures are present in the Kolkheti lowlands and on the Iori plateau, while summer pastures are found in the high mountains, especially in the subalpine and alpine zones. The figure below shows the main locations of winter and summer pastures. Summer pastures cover about 1.3 million hectares and the

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[4] National Pastureland Management Policy Document, endorsed by the Ministry of Environmental Protection and Agriculture (MEPA) and developed by REC Caucasus under the Global Environment Facility (GEF) funded FAO Project "Achieving Land Degradation Neutrality Targets of Georgia through Restoration and Sustainable Management of Degraded Pasturelands", December 2022.

[5] Own calculations by overlaying the GIS layer of protected layers with a land use map from Impact Observatory, Microsoft, and Esri using Sentinel-2 imagery of the European Space Agency at 10m resolution

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rest being winter pastures. A significant part of the winter pastures in Georgia are classified as steppe and semi-desert.

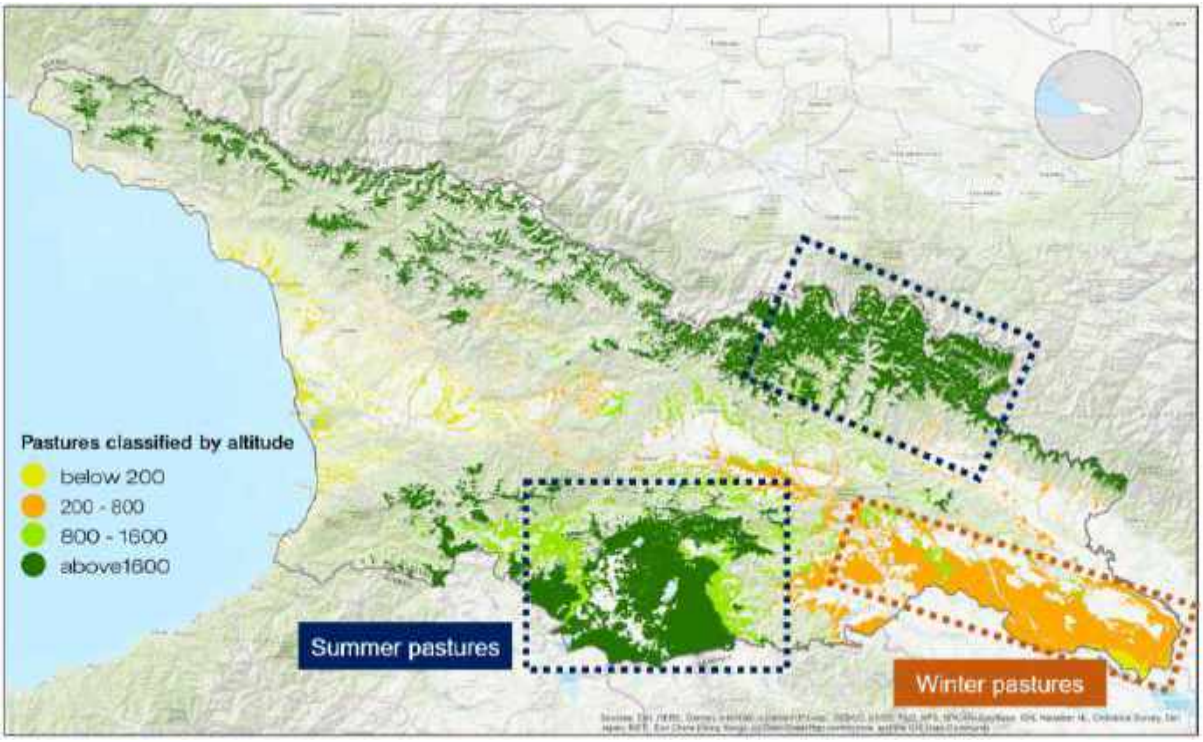

***Figure 5**. Overview map showing pastures classified according to their altitude and the main locations of summer and winter pastures (Source: Own visualization using the digital elevation model of USGS EarthExplorer, and a global map of land use/land cover produced by Impact Observatory, Microsoft, and Esri using Sentinel-2 imagery of the European Space Agency at 10m resolution)*

29. **There are four types of grazing systems**. The National Pastureland Management Policy Document distinguishes between four livestock production systems with different grazing approaches, as described in the following and graphically displayed in figure 6:

    A. **Sedentary grazing on village pastures**. Many small livestock owners graze their animals around their villages. These animals come back to their owner's house each evening. Village pastures are found across the country. Usually, they are herded collectively in multi-owner herds with families shepherding on a rota basis. Areas grazed include fenced meadows within the settlement, uncultivated arable land, fields in the fall and winter after harvest, and roadsides. Cattle are stall-fed for much of the winter. This type of farming is extensive. Care of animals is minimal and productivity is low. In most cases, the average milk yield is 6-8 litres per day. Most livestock are kept for subsistence and they may not be the main source of livelihood for the household.

    B. **Seasonal transhumant systems to high altitude nearby summer pastures**. Animals are moved up to nearby pastures in higher altitudes in the summer months. Nearby highland summer pastures are used from May through September. These migrations concern mostly juvenile and non-milking cattle, but possibly milking cattle as well. Near-village summer pastures are used from May through September, mostly by farmers having 5 to 20 head of cattle. Here, cattle and sheep are herded collectively in herds and flocks consisting of animals owned by multiple households. In winter, cattle are kept in barns for 4 to 5 months, fed mostly on hay and crop residues.

    C. **Long-distance transhumant systems using remote summer and winter pastures**. Transhumance presents a flexible and climatically adopted utilization of natural grasslands. Herders guide their animals, mostly sheep, to alpine pastures in summer from May, and spend the winter (from October) on steppe-like pastures in the lowlands in the eastern part of the country. According to the National Food Agency, the vast majority of sheep, over 900,000 animals, are kept this way. Livestock migration tracks cover around 12,000 km but coverage with appropriate infrastructure and veterinary control stations is only partial. Figure 7 lays out the main long-distance stock routes in Georgia. This system concerns mostly very large

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livestock producers, but stock belonging to smaller farms may be added to the flocks of large producers. Summer and winter pastures may be leased jointly by several livestock owners.

D. **Intensive livestock producers**. This system concerns medium and large livestock producers who use privately owned pastures, and produce quality feed on arable land. They use high performing cattle breeds under intensive and semi-intensive meat and dairy production models. These kinds of farm generally own more than 20 head of cattle and are market-oriented as farmers produce milk and meat for further processing and sell it to processing plants. They mainly use their own pastures with adequate infrastructure such as fencing. The number of such farms is still very small, but in future it is expected to increase both in terms of the number of farmers and the volume of production.

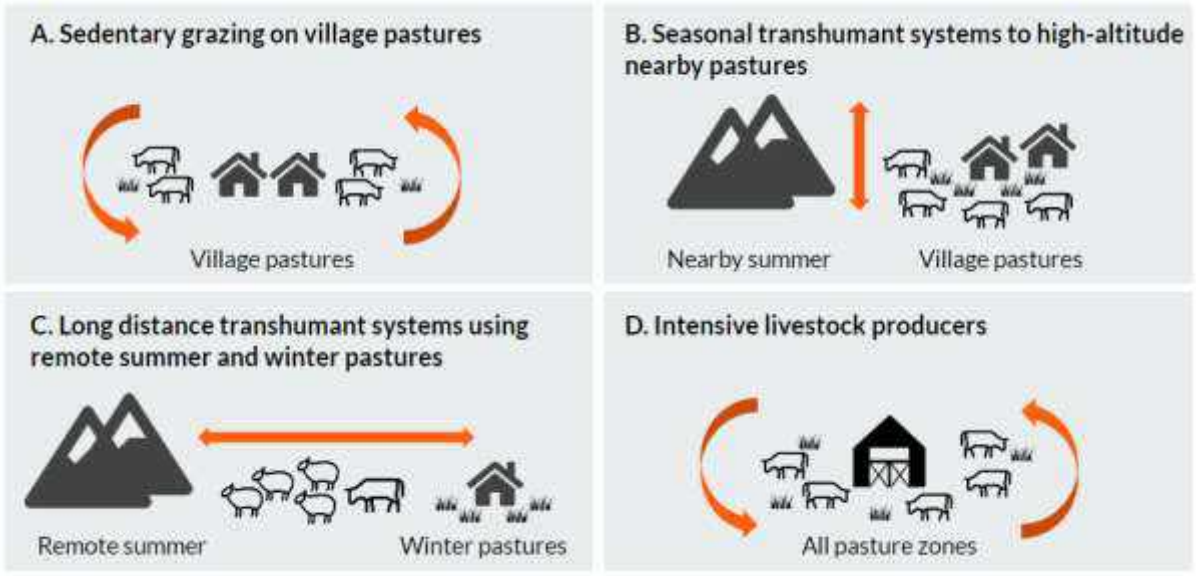

***Figure 6**. Grazing systems in Georgia (Source: Authors)*

30. Based on grazing systems found in Georgia the pastureland policy document distinguishes four types of pasture uses – referred to as pasture zones. There are four types of **pasture zones**:

- Village pastures;
- Nearby summer pastures;
- Remote summer pastures; and
- Winter pastures.

***Table 1**. Main characteristics of grazing systems in Georgia*

	A. Sedentary grazing around villages	**B. Nearby transhumance**	**C. Long-distance transhumance**	**D. Intensive producers**
Pasture users	Mostly small livestock owners	Mostly small and medium livestock owners	Large and small livestock producers	Large farms (>20 head of cattle)
Pasture zone(s)	Village pastures	Village and nearby summer pastures	Winter and remote summer pastures	Mostly village pastures
Livestock	Mostly cattle	Mostly cattle	Mostly sheep	Cattle
Grazing	Mostly collective herding	Mostly collective herding	Mostly individual	Individual
Mobility	Grazing in the vicinity of villages	Seasonal transhumance to higher altitudes	Seasonal long-distance transhumance	Grazing in the vicinity of sheds

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Location	Country-wide	Around high-altitude pastures in central Georgia	Winter: Eastern Georgia Summer: High-altitude pastures in central Georgia	Country-wide

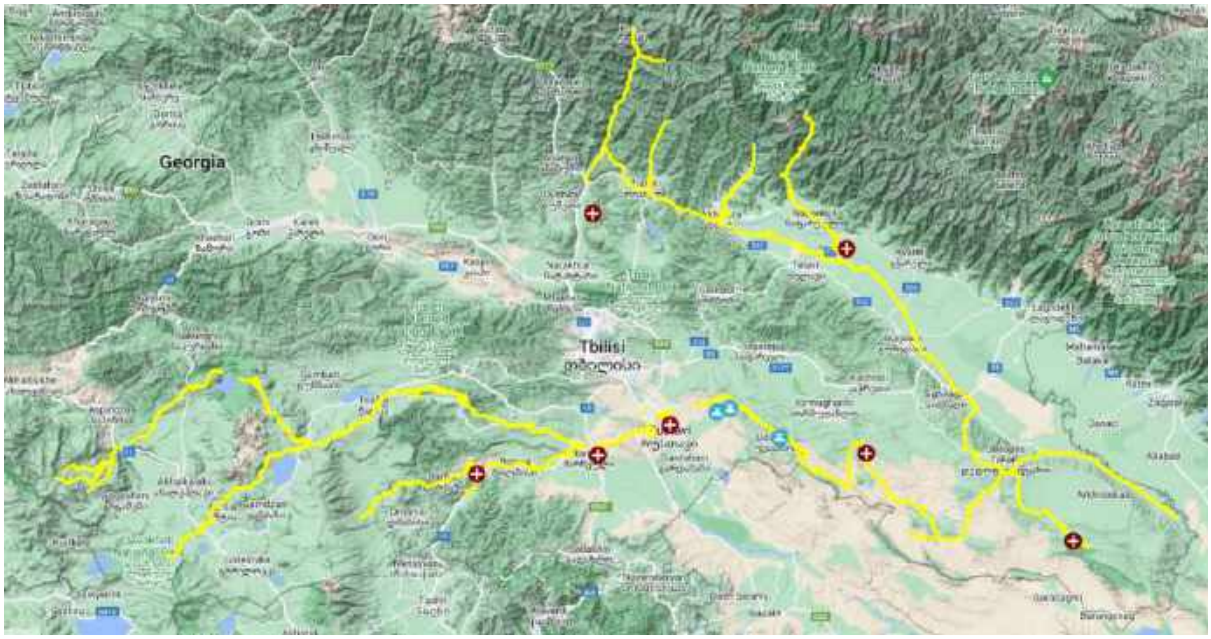

***Figure 7**. Main transhumance livestock routes in Georgia leading from winter pastures in the East to summer pastures in the north and west (Source: National Food Agency)*

4. Pasture ownership, usage and legislation

31. **The vast majority of pastures are under state ownership**. Although there are no reliable statistics on the registration and ownership on pastures (an estimated 66% of pasturelands are unaccounted for), the majority of pastures are state-owned. There is a lack of basic data on pastures. There is no complete database that holds information on e.g. unregistered and registered pastures, forms of ownership, issued leases or other forms of use agreements, pasture conditions, number of permitted livestock, etc. The pastureland policy document estimates the current ownership of pastures as follows:

    - The National Agency for State Property (NASP) under the Ministry of Economy is responsible for 70-80% of pastures;
    - Private owners hold around 10% of pastures;
    - Municipalities own around 5% pastures; and
    - The Agency for Protected Areas (APA) holds 10% and the Forest Fund 2%.

32. **Current national legislation does not provide legal arrangements for system-wide pasture management**. The distribution of roles among central and local governments in spatial planning, land management and administration is not efficient in the pasture sector. There is no legally designated body managing state pasture lands, with exception to those areas allocated for management to the Agency for Protected Areas and the National Forestry Agency.

33. **Large areas of state-owned pasturelands are used informally**. Despite having no legal status, many pasturelands are used by livestock keepers and are *de facto* commonly managed. The community groups do not have use and ownership rights of pastures potentially resulting in alienation of these pastures.

34. **Existing pasture allocation practices are not adequate**. Formally, these pasturelands should be accessed through leasehold contracts, but only a small percentage is leased. The leasing process is held through an electronic auction at national level awarding the highest bidder pastureland. The existing pasture allocation via an auction system has its flaws and is available only to large livestock owners due to its high transaction costs and emphasis on financial criteria to win the bid.

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5. Important institutions for pastures

35. The **Ministry of Environmental Protection and Agriculture (MEPA)** is the leading government body of environmental protection, agriculture and rural development. It hosts departments that are relevant to the pasture sector such as on land use, climate change mitigation and adaptation, and land degradation. The Ministry facilitates the implementation of pasture projects and directs the formulation of the law on pastures.

36. The **National Agency for Sustainable Land Management and Land Use Monitoring (NASLM)** under MEPA was established in 2020 to support and implement government policy to promote the sustainable management and protection of agricultural land resources, including pastures.

37. The **National Agency for State Property (NASP)** under the Ministry of Economy and Sustainable Development is currently responsible for the disposal of state-owned lands – which include 70-80% of pastures. Currently pastures are leased out by the NASP for a maximum of 49 years through an electronic auction in which the bid starts with a set annual floor price per hectare. There was an oral moratorium on pasture leasing since 2015 but in 2021 the State Program for Access to State-Owned Pastures re-opened the possibility of leasing state pastures, this time for three years. Under this program, the NASLM under MEPA has been delegated responsibility for pasture disposal by the NASP.

38. **Municipalities** provide extension services to pasture users. They hold around 5% of pastures in their own right and can allocate them to users by direct disbursement. Many municipality staff are livestock keepers themselves.

39. The **National Agency of Public Registry (NAPR)** holds cadastral information on pastures.

40. The **National Food Agency (NFA)** under MEPA is the main agency responsible for veterinary control points on herding routes. They influence the timing of movements between winter and summer pastures.

41. The **Agency for Protected Areas (APA)** under MEPA is responsible for pastures in national parks.

42. The **National Forest Agency** under MEPA is responsible for a small percentage of pastures within or bordering forestlands under forest funds.

43. The **Committee on Agrarian Affairs of the Parliament of Georgia** has an important function on pasture legislation and is involved in the formulation of the new law on pastures.

44. The **Intersectoral Governmental Working Group on Pastures** brings together institutions dealing with pastures and has been established to support the reform of legislation on pastures.

45. The Food and Agriculture Organization of the United Nations (FAO), IFAD and United Nations Environmental Programme (UNEP) are currently the main **United Nation agencies** with projects specifically dedicated to pastures. The **World Bank** is financing a programme on land administration and management systems that includes pasturelands.

46. There are several **civil society organizations** in Georgia active in the pasture section. The Regional Environmental Centre for the Caucasus (RECC) is a main implementer of pasture related projects under IFAD, FAO and UNEP. The Centre for Biodiversity Research & Conservation (NACRES) has extensive experience with pastures in national parks. The Society for Nature Conservation (SABUKO) is working closely with pasture users around protected areas in Kakheti and has introduced rotational grazing in a pilot. Mercy Corps runs the Alliances Caucasus Programme, which develops stock routes and supports dairy production. Georgian Farmers Association (GFA) and Georgia's Shepherds Association represents the interests of transhumant sheep breeders. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) has piloted a number of pasture-related activities, including assessment methodologies, a pasture fee/ticket system and pasture management plans for national parks.

47. There are several **pasture projects** in Georgia. Section F (Duplication) in Part II lists the main ongoing programmes in the pasture sector and describes the project's synergies with them. The project formulation team engaged extensively with two projects that focus on improving pasture management:

    - The project "Achieving Land Degradation Neutrality Targets of Georgia through Restoration and Sustainable Management of Degraded Pasturelands" (2020-2022)" is a FAO project funded by the Global Environment Facility (GEF) and implemented mainly by RECC. The project is currently leading on technical aspects of the pasture policy reform and aims to rehabilitate pastures in three pilot sites.

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- The project “Dairy Modernization and Market Access: Adaptation Component (DiMMAdapt)” (2021-2025) is an IFAD project funded by the Adaptation Fund and is implemented by MEPA. The project aims to rehabilitate 9,600 ha of pastures and demonstrate pasture management and adaptation practices to 6,000 farmers.

6. Formulation of pasture legislation

48. **The Government of Georgia is in the process of formulating a law on pastures** with the aim of introducing a sustainable pasture governance system. The Government aims to adopt the new law in 2024/25. To guide the reform, MEPA released a “**National Pastureland Management Policy Document**” in December 2022. The document was elaborated with the support of the GEF-funded project of FAO “Achieving Land Degradation Neutrality (LDN) Targets of Georgia through Restoration and Sustainable Management of Degraded Pasturelands”.

49. The policy document lays out the main pathways to establish system-wide legal arrangements from national to local levels for all components of sustainable pasture management. It recommends that pastures currently on state-owned and municipal lands will remain in the public domain. The document recommends the following two **tenure regimes** for users to obtain formal usage rights:

- **Common property resource management**: A pasture is a shared natural resource that is managed by a group of users. The policy document refers to user-managed groups as pasture user unions (PUUs). The group owns the rights to use the resource. They thus control the resource exclusively and can restrict access by external entrants. The group has its own internal rules and regulations, as well as arrangements for monitoring and sanctions.
- **Leasing systems**: Users obtain the legal right to use pasture for an agreed period of time following the conditions of the leasehold contract.

50. **One-off pasture use planning process**. The decision on which tenure regime is appropriate is to be decided on a case-by-case basis at the level of the municipality. This shall be done through a pasture use planning process that shall be conducted once and involves the state/municipal body administering the pasture, the local municipality in question and users themselves. The objective of the one-off process is to delineate **grazing units**. These are areas (or allotments) of pasture and hayland designated according to criteria including season of use, altitude, distance from settlements, natural borders/barriers, and identity and type of users. Each grazing unit is assigned to a particular type of use and land tenure regime (common property resource management or leaseholds). The document distinguishes between four types of use – referred to as **pasture zones** – based on the types of grazing systems found in Georgia. Common resource property rights is the recommended tenure regime for village pastures and nearby summer pastures. Remote summer pastures will most likely be a mixture of common and leasing system. Leasing systems are the most appropriate for winter pastures.

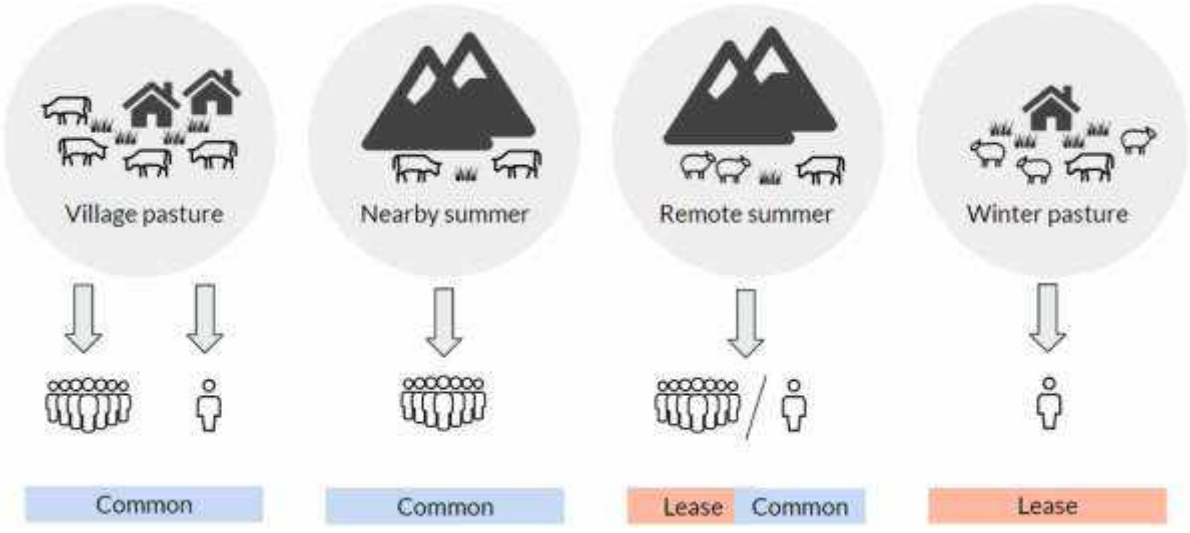

***Figure 8**. Recommended tenure regime by pasture zone*

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51. **Information needs**. The policy document highlights a number of information needs for the pasture use planning process. These include the identification, categorisation and mapping of pasturelands/ haylands, zoning of pastures, classification of pasturelands according to its vegetation, assessment of pastures conditions, and user inventory.

52. **Pasture user unions**. The policy document recommends creating a new type of legal entity for pasture user unions, as a non-profit (non-commercial) legal entity for the management of common natural resources. The unions have their own internal charter complying with the Civil Code of Georgia. The charter defines the purpose of the union, membership, decision-making bodies and procedures and organizational structure. Unions will most likely have a general assembly including all members, an executive body and financial manager or accountant. A union must include all 'eligible' users of a specific pasture area – which is usually established by residence, traditional user rights and historical claims. Every livestock owner must by law be a member of a union. Pasture user unions should hold a form of permanent use right over pastureland based on residence, traditional user rights, historical claims and other criteria which may have been established locally many years ago.

53. **Institutional arrangements**. The figure below outlines a possible institutional structure for pasture management at the national and local levels. The policy document recommends the National Agency for Sustainable Land Management and Land Use Monitoring (NASLM) under MEPA to lead efforts at national level. Pasture use planning (including the identification of users, pasture zoning and designation of grazing units), disposal to users, contracting, monitoring and support should be conducted at the level of the municipality.

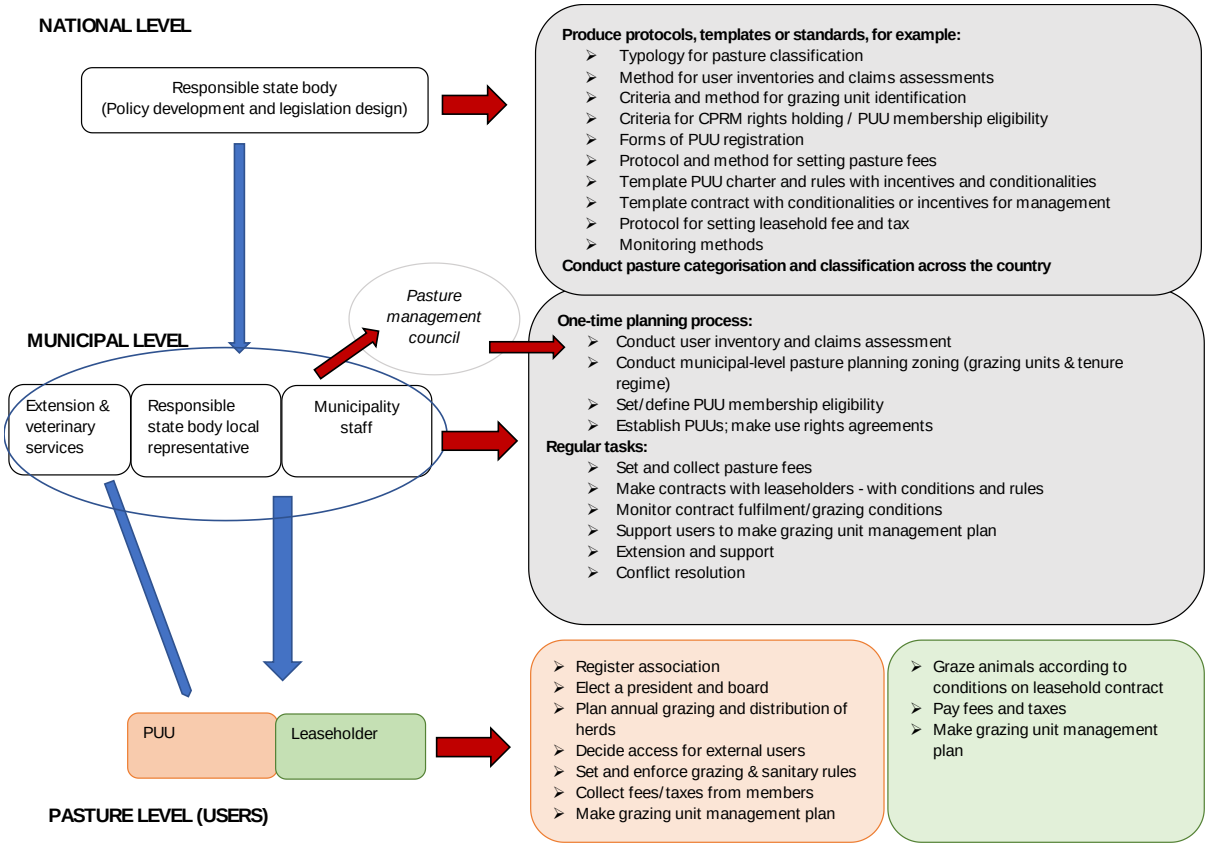

***Figure 9**. Institutional arrangements of pasture management (Source: National Pastureland Management Policy Document 2022)*

7. Historic and projected climate change

54. **Historical trends**. According to the Fourth National Communication to the UNFCCC of Georgia, the average mean temperature in Georgia has increased by 0.47 C between 1956-1985 and 1986-2015. In the municipality of Dedoplistskaro in Kakheti where many winter pastures are located, the average air temperature increased by 0.9 C. The main increase was observed in summer periods. Analysis of annual precipitation data shows that precipitation has increased in the western part of the country and decreased in the eastern regions but with no clear trends. Monthly rainfall maximums have shifted from

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the summer to the spring in eastern Georgia. Across much of the country, the decrease in rainfall is observed in August. Farmers reported that seasons are fluctuating (e.g., in some years spring and autumn are getting shorter).

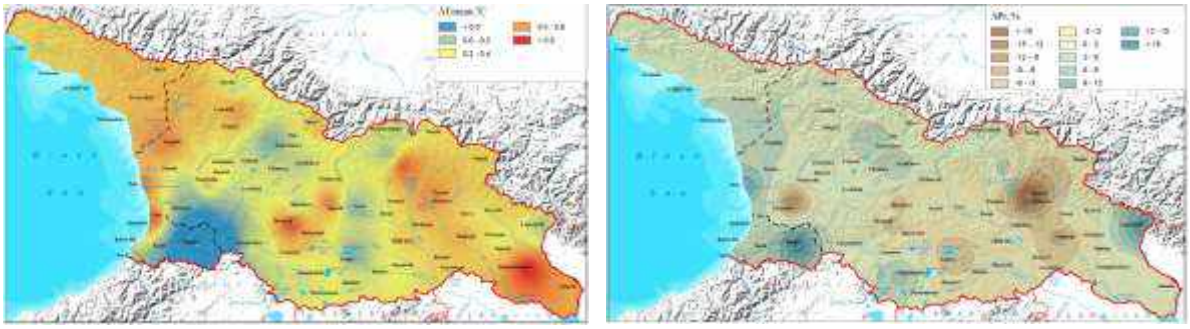

Figure 10. *Change in mean annual air temperature (left) and change in annual precipitation (right) between two 30-year periods (1956–1985 and 1986–2015) (Source: Fourth National Communication)*

55. The Fourth National Communication summarizes the trends for each season as the following:

- **Winters** have become more humid and less severe, with more frequent heavy precipitation days in the western regions and longer dry periods in the east.
- **Spring** has become more humid and warm with more frequent heavy precipitation and humid days in May.
- **Summers** have become significantly hot and relatively dry.
- **Autumn** has become more humid, rainy and noticeably warmer with longer dry periods and more frequent warm days and nights in early autumn and more frequent heavy rainy and humid days in late autumn.

56. **Future climate**. A recent report form the World Bank (2020) states that climate change is projected to increase temperatures by the end of the century and reduce water availability across Georgia. Climate projections of the Fourth National Communication to UNFCCC use the RCP 4.5 scenario. The climate is expected to become hotter and dryer in Georgia.

- **Temperature**: In 2041-2070, an increase in the average annual temperature is likely to range between 1.6 C and 3.0 C as compared to 1971-2000.
- **Precipitation**: In 2041-2070, the annual precipitation will decrease in all parts of Georgia. The annual precipitation decrease will be most prominent in Imereti, reaching its maximum in Sachkhere (17.9%). In Eastern Georgia it will decrease by 9% on average.

A paper by M. Elizbarashvili et al. (2017) on climate change in Georgia suggests that rainfall will increase in western Georgia (by 50% in some areas), while in the eastern Georgian plains, particularly Kvemo Kartli, annual precipitation will decrease by 50% or more, intensifying the desertification of steppe and semi-desert landscapes.

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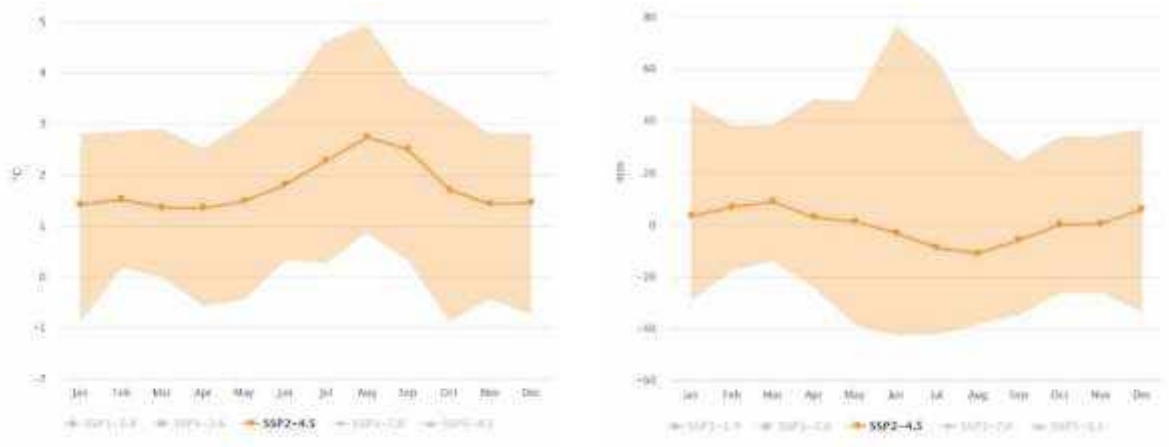

Figure 11. *Projected mean-temperature anomaly (left) and precipitation anomaly (right) for 2040-2059 (Reference period: 1995-2014) SSP2-4.5, Multi-Model Ensemble projecting summers to become hotter and dryer (Source: World Bank Climate Change Knowledge Portal)*

8. Climate vulnerabilities

57. The study by Nikolaishvili et al. (2014) used geographical information systems (GIS) to analyse the climate vulnerability of 71 landscapes using 23 climatic, socio-economic and land-use indicators. The map below shows that landscapes dominated by pastures in the southern central and eastern regions are highly sensitive to the effects of climate change. There are a number of factors making the pasture sector vulnerable to the effects of climate change. These are explained in the following paragraphs.

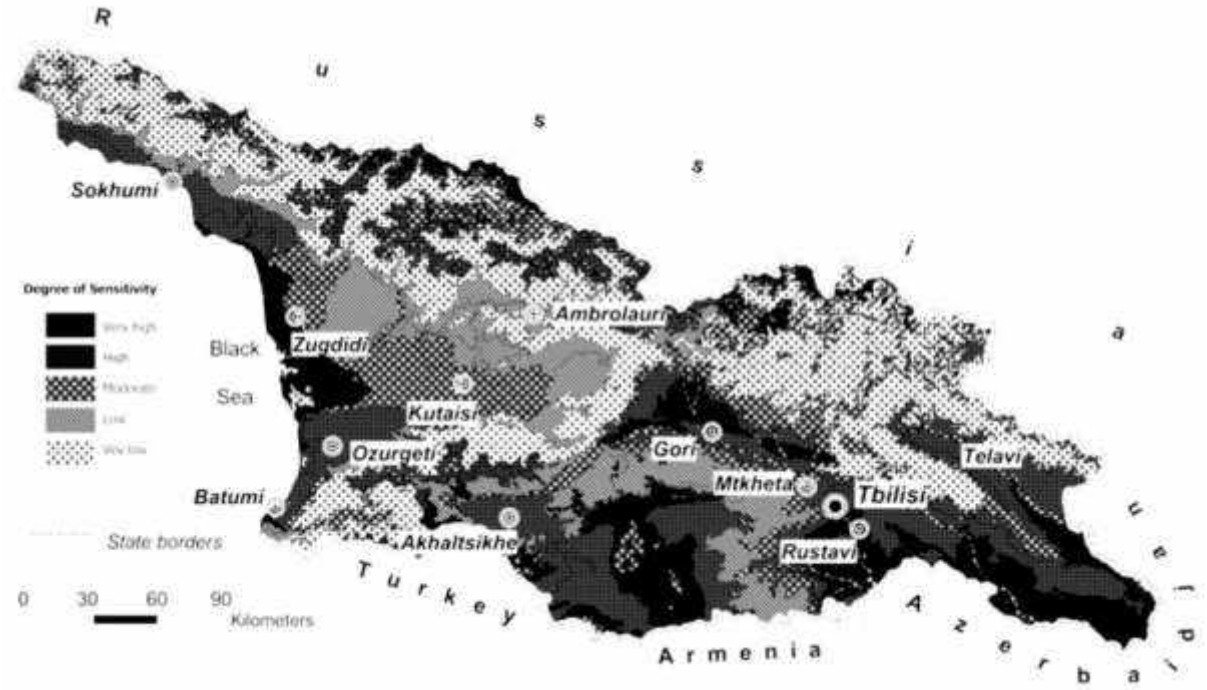

Figure 12*. The map shows the degree of sensitivity of Georgia's landscapes to climate change. Landscapes with primarily pastures in the central south and east are highly sensitive to climate change (Source: D. Nikolaishvili et al. 2014)*

58. **Increased risk of soil loss due to heavy rainfall events**. Georgia's National Adaptation Plan from 2017 reports that increased rainfall in certain regions of Georgia is occurring as heavy downpours. This has a negative impact on pastures in mountainous areas. There is not enough time for the large amounts of water to infiltrate into the soils. The runoff causes soil erosion especially on steep slopes.

59. **Lower water availability and higher temperatures in summer affect pasture productivity**. The shift in rainfall from summer to spring affects water availability in summer. Higher temperatures and lower precipitation in summer lead to lower water availability and increased evaporation. Combined with

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higher summer temperatures, this increases the risk of longer droughts in the future (Fourth National Communication to the UNFCCC).

60. **Many pastures are degraded**. Pasture conditions in Georgia are variable. Summer pastures are often underused or unevenly grazed; winter pastures are intensively grazed. Statistics on pasture degradation vary. According to the Fourth National Communication to the UNFCCC, about 700,000 ha of pastures (36% of all pastures) are degraded. The World Bank (2020) reports that 439,600 ha (23% of all pastures) are degraded. GIS data on land productivity dynamics retrieved from FAO's Earth Map for 2022 suggest 40% of pastures are showing early signs of decline, and 10% are declining.

61. The majority of the degraded pastures are in the eastern part of the country. This is evident on the degradation map below. Village pastures, areas around camps, stock tracks and arid regions are particularly vulnerable to damage. Degradation of vegetation on natural pastures is significantly higher than the recovery rates. This reduces the ability of natural self-regeneration of vegetation cover and increases the ecosystem's vulnerability towards climate-induced shocks.

62. Georgia's semi-arid ecosystems are most at risk. They are used as winter pastures and are threatened by excessive and disorganized grazing. The processes of land degradation and erosion that began during the Soviet period have reached critical levels in some areas. Without restoration, the damage may soon become irreversible.

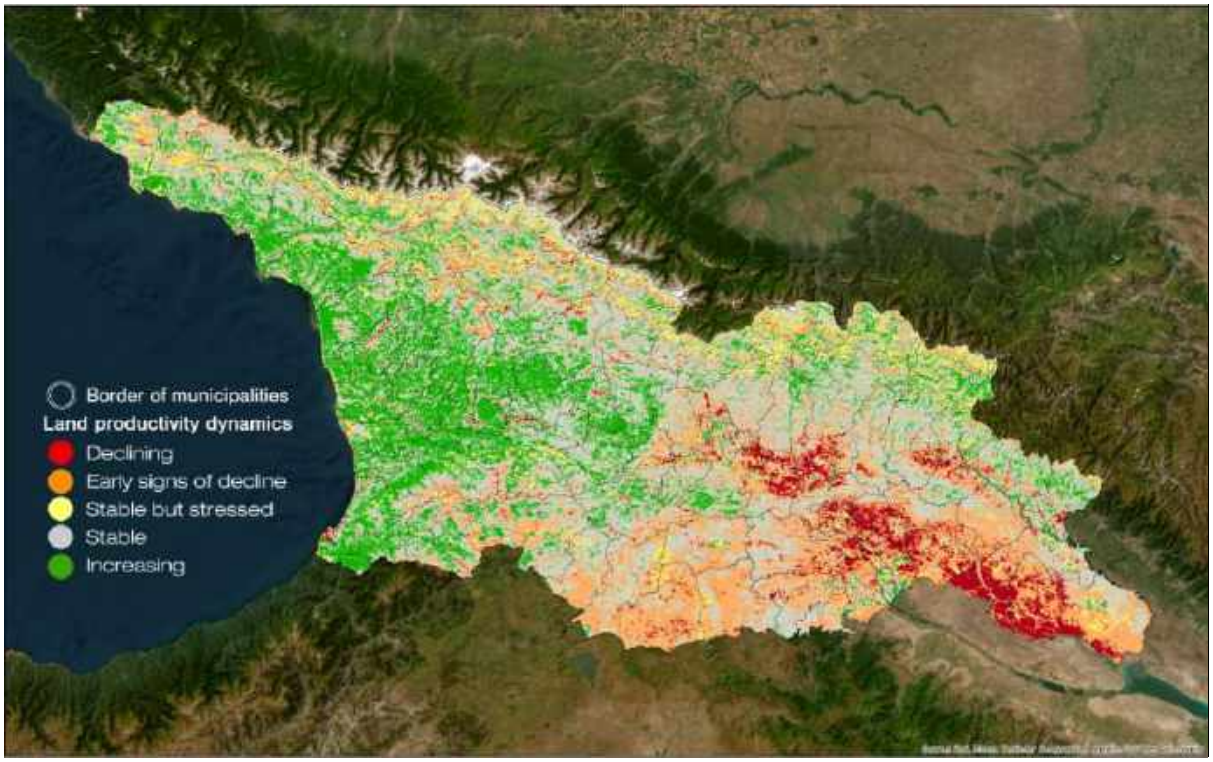

***Figure 13**. Land productivity dynamics comparing 2022 with the period 2001-2016: Eastern regions where most pastures are located are facing declining productivity (Source: Retrieved from FAO EarthMap)*

63. **Insufficient access to summer pastures**. Seasonal migration allows for the best use of grazing resources at different times of the year. This practice reduces pressure on pasture resources. Livestock mobility helps pasture users to respond to climate extremes, such as drought or seasonal variability, by allowing them to adjust the timing of their migration or move to areas with better conditions. The study by RECC (2019) identifies a number of challenges that hinder seasonal migration. There are not enough places for animals to rest, feed and drink along migration routes. Access routes to summer pastures from the Soviet area are in a poor condition. Route sections are blocked by private land hindering migration and causing conflict between herders and landowners. There is a lack of regulation to protect and maintain livestock routes. Veterinary services along the route could be strengthened to prevent the spread of animal diseases between regions. Poorly equipped migratory routes reduce the adaptive capacity of the production system.

64. **Spread of invasive species due to climate change**. A study by Slodowicz et al. (2018) analysed the risk of invasive plant species spreading in Georgia due to climate change. It assessed the current and

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future potential distribution of 27 alien invasive species under four climate change scenarios. It predicts a shift of invasive species towards eastern Georgia and higher altitudes and an increased susceptibility of areas of high conservation value under future climate change.

65. **Insecure tenure rights over pasture**. A major obstacle for climate change adaptation is that the majority of pasture users have no formal tenure rights over pasture. The pasturelands policy document estimates that 66% of pastures are unregistered. The arrangements for pasture access do not reflect the traditional use rights and claims over pasture by resident users or long-term mobile users. This provides little incentive for pasture users to manage pastures well and to adapt to climate change. There is little incentive to invest time and money in maintaining and improving pasture infrastructure. Holistic and coordinated grazing management is currently a challenge. Tenure insecurity is also responsible for conflicts between migrant herders and villagers along stock routes, as a study by R. Neudert et al. (2020) shows.

66. **Lack of wind-protection structures**. Eastern Georgia faces strong winds that adversely affect crop and pasture yields. Over 90% of trees forming windbreaks planted during the Soviet era have been cut down and have not been replanted, leading to wind erosion. Strong winds combined with a trend towards a hotter climate are likely to dry out soils more quickly, reducing the amount of water available for plant growth.

9. Climate change impacts

67. Warmer and dryer summers, drought and weather variability add pressures on pastures. The most serious negative impacts are expected for alpine, arid and semi-arid ecosystems where most of Georgia's natural grassland are found. Due to Georgia's diverse topography and ecosystems, the impacts of climate change will vary. Adaptation efforts need to take heterogeneity into account and allow for flexibility enabling adaptive management.

68. **Impacts on pasture ecosystems**. Semi-arid regions in eastern Georgia are threatened by desertification because of reduced rainfall, increased evaporation and higher temperatures. Climate change is already causing a shift in vegetation zones and a migration of pasture plant communities to higher elevations. It is changing the composition of pasture vegetation communities. A shift towards thermophile (warm-loving) species is reported in the Fourth National Communication. Climate change may result in a replacement of plants of high nutritional value by inedible plants. Native grasses may be out-competed by invasive species that can thrive in drier conditions. Some areas are already experiencing a premature blossoming of grass plants and withering.

69. **Impacts on pasture productivity**. IFAD's Climate Adaptation in Rural Development Assessment Tool (CARD) projects yields of managed grass to decrease by 4% by 2030 and by 7% by 2050 (2022 as reference year) due to the effects of climate change. The World Bank (2020) estimates a total annual loss of USD 59 million from pasture degradation if the average reduced productivity of 0.7 tons per hectare is applied and multiplied by the average price of barley (a priced substitute for pasture) of USD 192 per ton.

70. **Social and economic impacts**. Unproductive pastures produce less forage for livestock. This reflects on animal productivity and farmers' income. Livestock feeding on pastures are an important source of meat and milk. Many households sell cheese. Longer heat waves, stronger winds and increasing demand for pasturelands, are adversely affecting winter pastures, in particular in the region of Kakheti. The resulting reduction in the biological productivity compromises food and water security and the livelihoods of livestock keepers who depend on healthy land.

71. **Impacts on gender**. Climate change impacts gender dynamics in pasture management in Georgia in several ways. Changes in livelihood patterns due to climate-related factors, such as altered precipitation and extreme weather events, can disrupt grazing practices, affecting both men and women reliant on pastoral activities. Women may bear an increased time and labour burden as they travel further to access water and fodder, limiting their opportunities for income generation and education. Existing gender disparities in resource access may worsen, with women having limited control over essential resources for their livelihoods. Climate-related disruptions to pasture productivity can impact household food security, and migrations for better grazing areas may disproportionately affect women and vulnerable groups (FAO 2018). Access to climate information and adaptation resources can be constrained for women due to time constraints, lack of participation, limited education and technology use. Gender-responsive policies and inclusive capacity-building efforts are vital to address these challenges and promote sustainable adaptation in pasture management amid climate change in Georgia.

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10. Adaptation barriers and needs

72. Current pasture management systems are not fit to withstand current and future climatic change. If no action is taken, the additional pressures of climate change on pastures will jeopardize the production system which many rural households and businesses depend on. Better governance and management are needed to ensure that pasture ecosystems are in a healthy state to adapt to a hotter and drier climate and respond to climate-related shocks.

73. There are a number of barriers for the adaptation of the pasture sector in Georgia. These are the following:

- **Lack of regulation**: Until the new pasture law is adopted, there is no state agency designated to manage pastures on state and municipal land. There is no regulation on sustainable pasture governance and pasture use planning. Basic information on pastures is scattered. MEPA's NASLM lacks the capacities to manage pastures.
- **Lack of tenure security**: The vast majority of users have no formal rights of the pasture they use. There is little incentive for them to change the way they use pastures.
- **Lack of organization, knowledge and planning tools at local level**: Users organize grazing informally, but are poorly coordinated and have no legal status. User have little knowledge on alternative grazing practices and rehabilitation measures. Planning tools are not used.
- **Lack of infrastructure**: Pasture infrastructure such as water points and access routes are in a poor condition, hampering the system's capacity to effectively respond to climate shocks.

74. Table 2 lists adaptation options for grazing and livestock management, pasture restoration and water management in the Georgian context.

75. Tenure insecurity over pastures is one of the biggest barriers to climate change adaptation. Pasture users who are willing to invest time and resources in adapting their practices to a changing climate need confidence that they will still be able to use the land and reap its benefits in future. The Government's transition towards a new law on pastures will set the scene for adaptation measures to become more effective by increasing tenure security as an enabler for users to fully benefit from pastures but also holding them accountable for sustainably managing them in the content of climate change.

76. The Voluntary Guidelines on the Responsible Governance of Tenure lay out measures that should guide actions. These include for example ensuring the participation of vulnerable pasture users (such as small-scale farmers, women and youth) in pasture-planning procedures, the documentation of current users of these pastures to inform the pasture allocation procedure, and seeking pathways to give secure usage rights to groups of users.

77. Pastures are complex, interconnected, and dynamic socio-ecological systems. Supporting the health and conservation of pastures can improve water quality, as well as enhance plant communities, biodiversity, and soil health. Livestock have the ability to function as ecosystem engineers. Herders can use an array of tools in order to reduce ecosystem degradation due to grazing as well as improve vegetation heterogeneity.

***Table 2**. Field-level action areas for pasture users to adapt pasture operations to changing climate conditions (adapted by the project preparation team to the Georgian context using EC LIFE programme 2023, GIZ 2021, IFAD 2021a, IFAD 2021b, IFAD 2022a and Petersen et al. 2019)*

Strategy	Adaptation	Description
Grazing and livestock mobility	Long distance and altitudinal migration	Seasonal migration allows for the optimal use of pasture resources at different times of the year. Mobility helps herders respond to extreme climate events. Supporting this practice also alleviates pressure on grazing resources.
	Matching migration with greening	Altering the timing and distribution of cattle on pastures to account for shifts in seasonality and pasture availability due to climate change.
	Annual rotations and rotational grazing	Controlling pasture recovery periods through annual rotations or a multi-paddock system (rotational grazing) improves vegetation cover which reduces ground-surface water flows and increases infiltration of rainwater into the soil.

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	Water points and salt licks	Using watering points and salt licks to control livestock distribution across the landscape.
Livestock husbandry	Type of stock	Diversifying the variety, age, species, genetic source, and breed of livestock so that they have an increased tolerance to drought, heat, and parasites improves the resilience of a pasture system.
	Stocking rates	Adaptive stocking rate strategies (flexible, seasonal, etc.) and determining stocking density based on rangeland quality.
	Livestock protection	Daytime shelters and shading (e.g. planning of trees), especially on village pastures in low-lying areas.
Pasture restoration	Support and improve native grasses	Seed banks of degraded soils are depleted. Native grass species that are adapted to local conditions are spread on degraded sites to help regeneration.
	Exclosures	Creating exclosures to protect sensitive habitats, areas too steep for grazing, and to manage stock distributions.
	Soil works	Mechanical interventions (e.g. gully rehabilitation, stonewalls, gabion baskets, etc.) to stop erosion processes exacerbated by heavy rainfall events.
	Control of invasive species	Mechanical removal of invasive species, and using specific livestock at specific times to target invasive species.
	Planting of trees	Tree planning for windbreaks, shade, stabilization of soil and possibly fodder sources.
Water management	Water harvesting and storage	Improving water storage and distribution capabilities to improve water capture, retention and distribution through the grazing space mitigates the effects of hotter and drier summers.
	Protection of springs and riverine vegetation	Reducing grazing, or utilizing exclosures in riparian areas and springs prevents animal trampling and erosion, and improves water quality.
Feed	Forage storage	Increase storage of forage and hay in preparation for a long cold winter and to avoid the need to graze pastures too early in spring.
	Fodder production	Grow fodder crops that are tolerant of dry conditions, such as barley instead of wheat, and perennial forages like lucerne and sainfoin.

B. Project objectives

78. **Goal**. The overall goal of the project is to improve the governance and management of pastures to make the sector fit to withstand current and future climatic change. The project will contribute towards the formulation and implementation of the new law on pastures.

79. **Objective**. The project objective is to increase the resilience of pasture users to climate change.

80. **Components**. The project is structured around three components:

- C1. Pasture resources accounting, user inventory and pasture allocation;
- C2. Pasture management planning and rehabilitation; and
- C3. Strengthening governance and knowledge on pastures.

81. **Outcomes**. The project will achieve the stated goal and objective through the following outcomes:

1.1. Vulnerable pasture users have improved access to and greater tenure security over pastures;

2.1. Adaptation practices in sustainable pasture management disseminated and accelerated;

2.2. Pasture ecosystems have greater capacity to respond to climate change impacts; and

3.1. Climate change priorities are mainstreamed in the pasture policy reform.

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82. **Target groups**. The project targets pasture users with a priority focus on vulnerable users including small livestock-keeping households (owning less than 5 cattle or 20 sheep), women, youth, ethnic minorities (e.g. Azeri-speakers), shepherds and transhumant farmers that use pastures under state and municipal ownership, both in lowlands and highlands. The project will primarily target the following three grazing systems: i) sedentary grazing on village pastures, ii) seasonal transhumant systems to high altitude nearby summer pastures, and iii) long-distance transhumant systems using remote summer and winter pastures.

83. **Target areas**. Field-level interventions will take place in 8 municipalities that have (i) a high number of pastures (measured in hectares), (ii) high level of pasture degradation, (iii) a high number agricultural holdings, and (iv) a high percentage of women agricultural holdings. Figure 17 and table 3 show 17 municipalities meeting these criteria. The assessment of pasture conditions and support of the pasture policy reform will be carried out at national level.

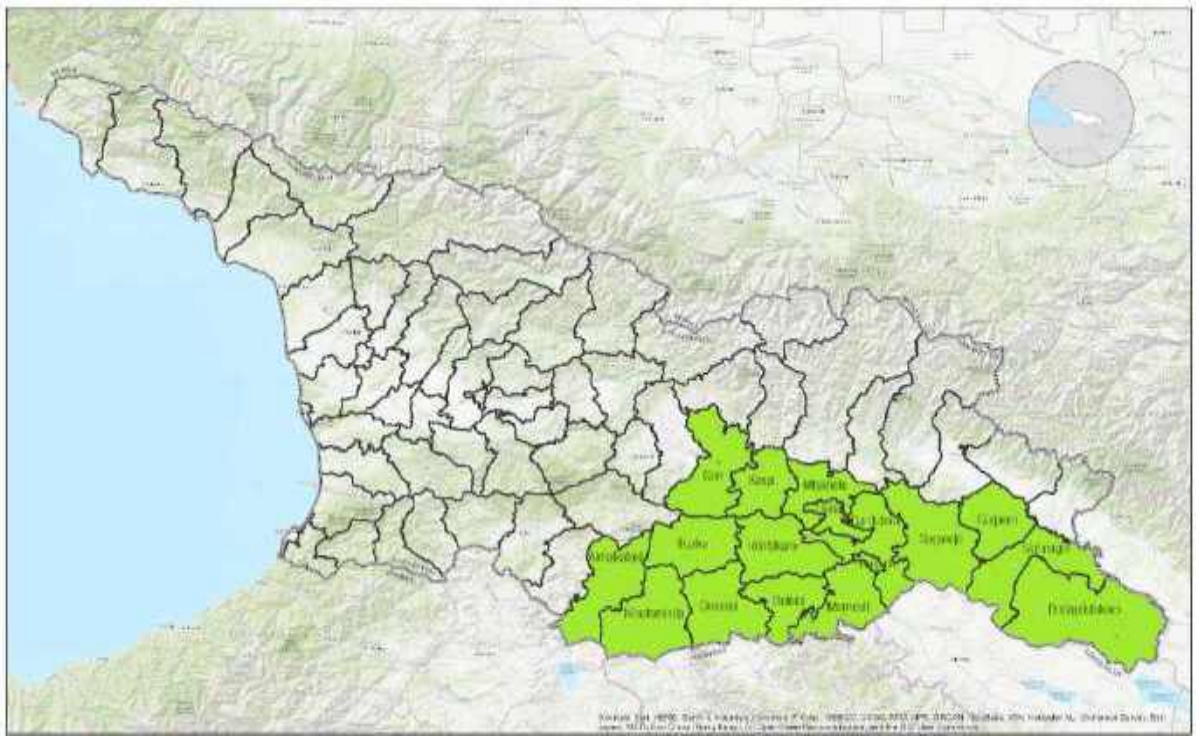

***Figure 14**. The project will intervene in 8 out of the 17 municipalities shown on this map, which have i) a high number of pastures, ii) a high level of pasture degradation, iii) a high number of agricultural holdings, and iv) a high percentage of women-headed holdings*

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***Table 3**. List of priority municipalities for the project to intervene in*

Region	Municipality	Pastures in hectares*	Degradation average in 2022**	No. of ag. holdings in 2014	Women holding (%)	Pop.	No. of settlements
Kakheti	Dedoplistskaro	132439	4.09	7466	31.4	30258	15
Kvemo Kartli	Gardabani	43273	4.25	18058	29.4	115701	49
Kakheti	Sagarejo	71314	4.19	13549	28	59212	42
Kakheti	Sighnaghi	50652	4.4	10450	32.2	39799	6
Samtskhe-Javakheti	Ninotsminda	106163	3.64	5696	29.6	34305	32
Kvemo Kartli	Marneuli	33767	3.81	21628	22.8	115625	70
Kvemo Kartli	Rustavi	3001	4.06	2980	42.9	116384	1
Kvemo Kartli	Dmanisi	83022	3.46	5554	28.2	28061	56
Kvemo Kartli	Tetritskaro	39292	3.53	7395	35.1	27467	73
Kakheti	Gurjaani	8895	3.6	17296	27.8	75840	32
Kvemo Kartli	Bolnisi	10740	3.7	12015	31.4	73365	46
Samtskhe-Javakheti	Akhalkalaki	63850	3.14	9480	27.6	61079	66
Kvemo Kartli	Tsalka	85782	3.12	5306	25.2	20887	43
Tbilisi	Tbilisi	7890	4.16	30110	35.6	1100419	9
Mtskheta-Mtianeti	Mtskheta	13300	3.82	16296	33.9	56662	65
Shida Kartli	Kaspi	21895	3.95	14449	31.5	51793	67
Shida Kartli	Gori	21323	2.91	27215	28.3	134975	105

** pastures under protected and forest areas are excluded | estimates calculated based on a global map of land use/land cover produced by Impact Observatory, Microsoft, and Esri using Sentinel-2 imagery of the European Space Agency at 10m resolution*

***Average land productivity dynamics for 2022 (5-declining; 4-early signs of decline; 3-stable but stressed; 2-stable; 1-increasing) retrieved from FAO EarthMap*

84. **Theory of change**. Figure 14 presents the theory of change of the project. Pastures in Georgia are vulnerable to the adverse effects of climate change. The sector is exposed to increasing temperatures, climate-change induced variability, causing warmer and dryer summers, and more drought and weather variability. These climate variabilities and changes will add pressure on pastures and will have negative impacts on alpine, arid, and semi-arid ecosystems where most of Georgia's natural grasslands are found. Pastures cover 25% of the country's area and are vital resource for many households who rely on them as a cheap source of fodder for their livestock.

85. At the same time, the sector is sensitive to climate change. Many pastures are degraded and are under- or overgrazed. Tenure insecurity over pastures is one the biggest barriers for adaptation. Many livestock keepers use state-owned pastures (that present 70-80% of all pastures), but have no formal rights over the resource. Herders and livestock owners are unlikely to change their practices and implement adaptation measures on land over which they do not hold any rights. The current way how state-owned pastures are allocated through leaseholds does not support sustainable pasture management and risks excluding vulnerable users. Likewise, current national legislation does not provide legal arrangements for system-wide pasture management. There are insufficient capacities (e.g. lack of knowledge, tools, data, protocols, extension services) that hinder an effective government and management of pastures under changing climatic conditions.

86. The government of Georgia is formulating a new law on pastures to introduce a sustainable governance system of the land use. The project aims to support the government to formulate and implement the new law through piloting community-based pasture recordation and management approaches. The overall objective is to increase the pasture sector's resilience to climate change. The project will achieve this through three components that build on one another.

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87. The **pasture resources accounting, user inventory and pasture allocation (Component 1)** present a one-off planning process for 300 villages laid out by the “National Pastureland Management Policy Document”. The process consists of four steps:

    1. **Pasture resources accounting**. Identifying where pastures are, whom they belong to and in what condition they are;
    2. **Participatory user inventory**. Recording groups and individuals, what pastures they use and how they are using them;
    3. **Defining grazing units**. Delineating units/allotments according to usage, users and other criteria; recommending a tenure regime and obtaining the consent to users to the suggested; and
    4. **User registration and rights allocation**. Registering potential leases, and existing pasture user groups as pasture user unions, and allocating use rights to them.

88. Pasture allocation to users is the primary factor in pasture management. It determines how grazing occurs on the landscape and ecosystem scale, and is an enabler for adaptation. An effective allocation system provides incentives for pasture users to adapt to climate change whilst making it possible to hold them accountable when resources are not well managed.

89. The inventory is the basis for **pasture management planning and rehabilitation (Component 2)** at municipal level. The project will work together with community members that keep livestock and municipality staff in a participatory manner to develop management plans for pastures. The process lays out and implements adaptation measures and strategies at field-level. These include:

    - **Adaptive grazing strategies** that lay out the time and duration of grazing activities and take into account the shift of timing and length of a grazing regime due to climatic factors (e.g. an earlier start of the season or drought; rainfall fluctuations);
    - **Improving access to pastures and livestock mobility** to aid seasonal migration that allows for the optimal use of pasture resources at different times of the year. Mobility helps herders respond to extreme climate events and also alleviates pressure on grazing resources;
    - **Establishing water infrastructure** as a measure against drought and reduced water availability; and
    - **Rehabilitation of degraded pastures** to increase the ecosystem’s resilience.

90. Table 2 presents a list of adaptation measures under these four categories and explains their climate rationale.

91. This component also includes capacity building of pastures users on adaptive grazing management and pasture rehabilitation.

92. The project further aims to **strengthen governance and knowledge on pastures (Component 3)** through providing policy support in form of legal expertise, mobilizing pasture users to partake in policy consultations, conducting a study on pastures and climate change, and developing extension materials and other knowledge products.

93. This component will also set up a pasture administration system that identifies vulnerable pastures, tracks their usage and restauration measures, and monitors key climate variables and hazards for pasture users.

94. Positive outcomes are expected at national, local and ecosystem levels. Pasture users and groups have greater capacity to respond to climate change impacts, and have more secure access to and greater tenure security over pastures. Pasture ecosystems have greater resilience and are more productive. Climate change priorities are integrated in the formulation and implementation of the new law on pasture, and innovative adaptation practices in sustainable pasture management will be promoted.

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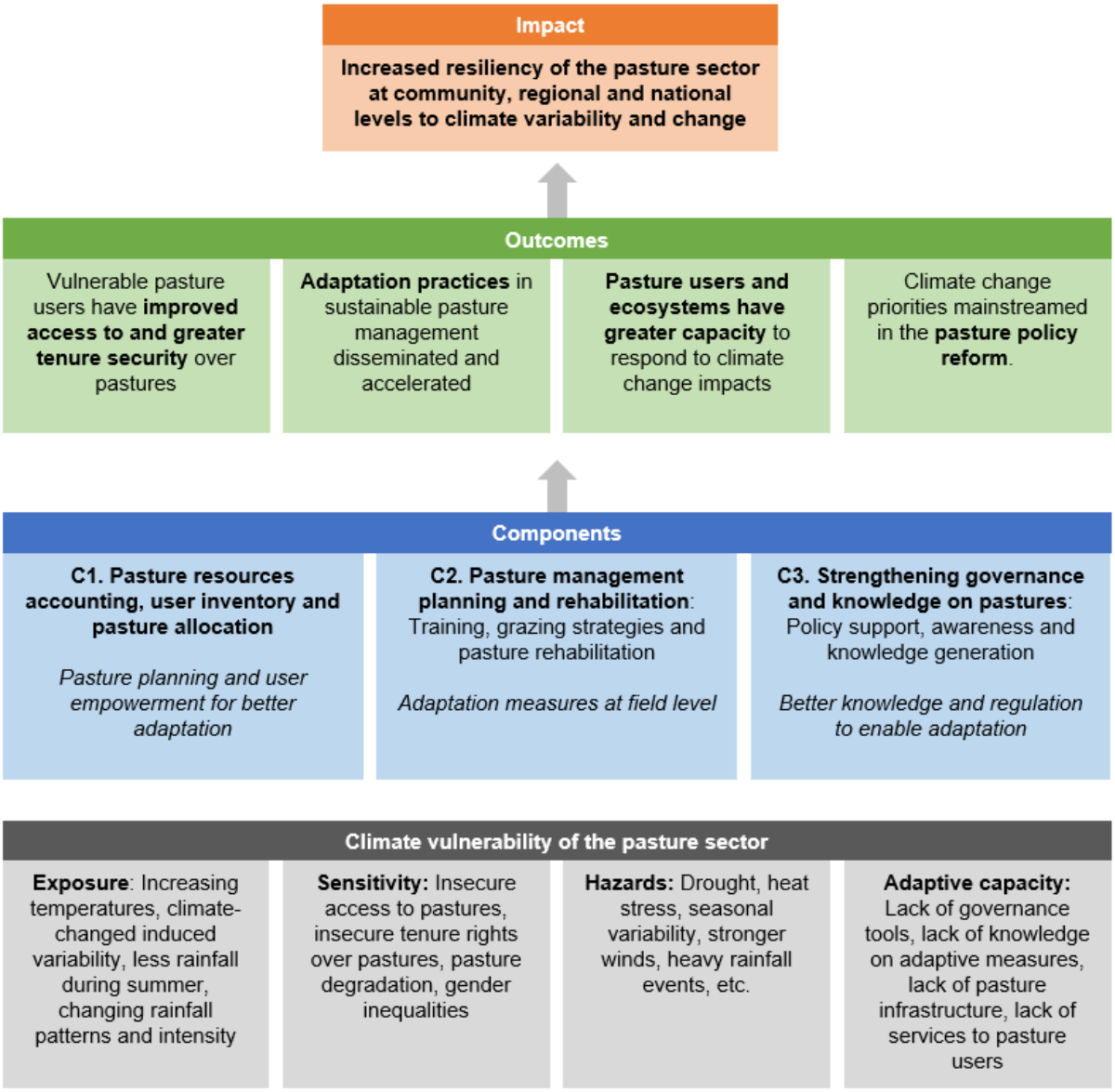

***Figure 14**. Theory of change of the project*

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C. Project components and financing

Project components	Expected outcomes	Expected outputs	Amount (USD)
C1. Pasture resources accounting, user inventory and pasture allocation	1.1. Vulnerable pasture users have improved access to and greater tenure security over pastures	1.1.1. Pasture resources accounted and conditions assessed	118 800
		1.1.2. Capacity built on municipal pasture use planning	106 500
		1.1.3. Pasture users inventoried, registered and rights allocated	360 000
C2. Pasture management planning and rehabilitation	2.1. Adaptation practices in sustainable pasture management disseminated and accelerated	2.1.1. Capacity built on adaptive grazing management and pasture rehabilitation	742 300
	2.2. Pasture ecosystems have greater capacity to respond to climate change impacts	2.2.1. Pasture management plans developed	870 000
		2.2.2. Pasture infrastructure and rehabilitation measures implemented	5 500 000
		2.2.3. Grazing strategies and plans implemented	136 000
C3. Strengthening governance and knowledge on pastures	3.1. Climate change priorities are mainstreamed the pasture policy reform	3.1.1. Pasture policy reform supported	396 500
		3.1.2. Knowledge services and products developed and disseminated	112 500
Project execution cost (9.5%)			754 166
Total project Cost			9 096 766
Project cycle management fee charged by the Implementing Entity (8.5%)			750 000
Amount of financing requested			9 846 766

D. Projected calendar

95. The following table shows the dates of the following milestones for the project.

Milestone	Expected dates
Start of project implementation	2024
Mid-term review	2027
Project closing	2029
Terminal evaluation	2029

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PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Project components

C1. Pasture resources accounting, user inventory and pasture allocation

Outcome 1.1. Vulnerable pasture users have improved access to and greater tenure security over pastures

96. The objective of this component is to conduct a one-off planning process in the first two years of the project to create the foundation for sustainable pasture management. It addresses information needs and follows the approaches recommended in the "National Pastureland Management Policy Document". It presents a participatory process that recognizes current users and provides the data basis to ensure that the allocation of pastures to users is based on current usage and is done in a fair and transparent manner. This component addresses tenure insecurity over pastures which is the main obstacle for adaptation action at field level. The planning process can be divided into four main steps, as shown in the figure below.

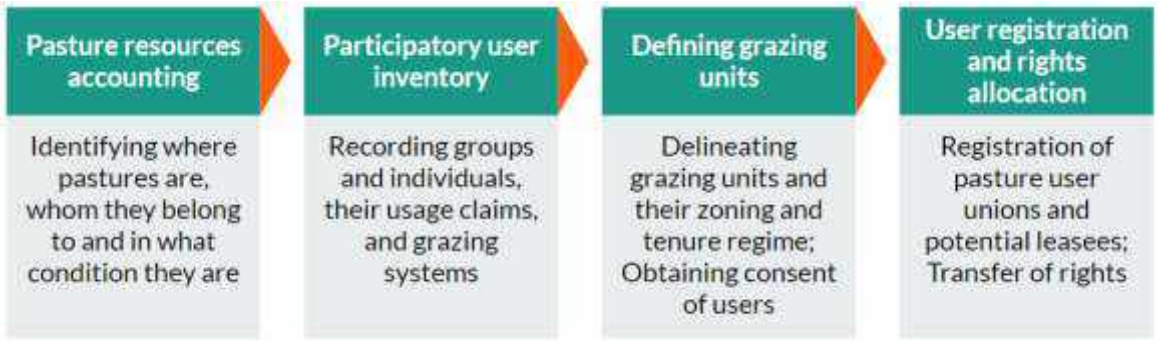

***Figure 15**. The four main steps of component 1*

Output 1.1.1 Pasture resources accounted and conditions assessed

97. **Identifying and categorizing pasturelands and hayfields**. This activity has two objectives. Frist, it will assemble data to select 8 out of the 17 municipalities where the project will intervene. Secondly, it will identify state and municipal pastures that the project will target. This activity will produce a set of digital maps, showing where pastures are located, who owns them or under which government agency they are managed. This information will be needed for the inventory of pasture users and the delineation of grazing units (output 1.1.3), and the formulation of pasture management plans (output 2.2.1.). The data will be stored in the land administration system that NASLM is currently developing and will used to administer pasture use planning (see output 3.1.1. under component 3). The two main sets of cartographic material, most of which will be in GIS vector format, will show:

- Pasturelands and hayfields and their geographic extent; and
- The current status of ownership/management (including pastures under municipal, state and private ownership, pastures under the management of the National Forestry Agency and Agency for Protected Areas (APA), as well as pastures whose ownership is unaccounted for).

98. The project will compile data from the public register of the National Agency of Public Registry (NAPR), line ministries and agencies, and from projects that have already conducted pasture assessments. The project will use high-resolution remote sensing imagery, recent land cover maps, and old Soviet land use maps which the project will digitize. Most of the data will be in GIS vector or raster format. The project will also collect other data (e.g. locations of villages, agricultural holdings and other socio-economic data) needed to select the 8 municipalities where the project will intervene.

99. The project will assemble other available cartographic materials and data sets such as on stock routes used for the migration between winter and summer pastures that the National Food Agency (NFA) holds, areas with a legal protection status managed by the Agency for Protected Areas (APA), forest areas under the management of the National Forest Agency, Emerald site locations and cattle populations recorded in the National Animal Identification and Traceability System (NAITS).

100. This activity will be led by NASLM, which is currently developing a land administration system, and is involved in the World Bank-funded "Georgia Resilient Agriculture, Irrigation, and Land Project," which

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is currently conducting a systematic land registration. Unregistered pasture plots of interest to the project should ideally be registered. NASLM will facilitate the addition of the legal category of unregistered pastures to the national register.

101. **Assessing pasture vegetation types and their condition**. The project will produce digital maps showing vegetation types, pasture conditions and productivity estimates at national level. This assessment will be carried out twice – in the first year of the project for baseline and targeting purposes, and in the final year to assess trends and inform the project evaluation. In the first two years, the maps will be used to help support grazing planning and to identify degradation hotspots and rehabilitation needs in pasture management plans (see output 2.2.1.). The data will be stored in the land administration system (output 3.1.1.). The maps shall also be used to support MEPA's planning and reporting under the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention to Combat Desertification (UNCCD) and the Convention on Biological Diversity (CBD). The project will conduct a country-wide assessment to:

    - Classify pastures according to their main vegetation type;
    - Assess their condition/quality against long-term trends using the normalized difference vegetation index, enhanced vegetation index, soil organic carbon and/or other environmental indicators that can be extrapolated using remote sensing data; and
    - Estimate their productivity and capacities/stocking rates (the upper limit of animals a pasture can nourish at a point of time) for each pasture type under different seasonal conditions and grazing management regimes.

102. The assessment will use a remote-sensing based approach building on a network of field validation points covering all pasture ecosystems in Georgia. The project will contract an international company with expertise in the analysis of remote sensing data to support the assessment. The assessment team will include expertise in the fields of remote sensing and geo-botany. Various pasture assessment methodologies exist in and outside of Georgia (e.g. FAO and IUCN 2022, GIZ 2014, GIZ 2019, and IFAD 2021). The project will review and adapt the most appropriate and cost-effective methodologies and determine the number of field validation sites required for the assessment. The analysis will rely on freely available imagery from NASA's Landsat and/or the European Space Agency's Sentinel programmes. The assessments will be carried out together with pasture users, pasture experts, municipalities and other stakeholders. There are several vegetation classification systems. The project will agree with MEPA and external experts on the most adequate system. A botanist will lead the classification process of pasture types during field data collections. The project will also explore the options, requirements and costs to carry out pasture condition assessments at regular intervals after the project completed. Ideally, the methodology, including coding, should be made available as open source or MEPA should hold the intellectual property rights.

103. Surveyors need to be aware of the uncertainty in measuring pasture productivity and calculating stocking rates. Rainfall patterns fluctuate and pasture productivity varies, especially in the arid regions of eastern Georgia. Grazing management (timing, frequency and length of recovery periods) affects forage availability. Therefore, ranges for stocking rates must take these factors into account.

104. **Assessing stock routes**. The project will commission an assessment of the stock routes used for the migration, mainly by sheep, between winter and summer pastures (see figure 7). The assessment will be led by NASLM. A recent study from the Alliances Caucasus programme in 2023 (to be published) recommends addressing land tenure issues of stock routes, improving veterinary control and animal welfare along the routes and strengthening relevant institutions. The assessment will further analyse the solutions for an efficient migration to prevent the loss of livestock, reduce pasture degradation along stock routes, ensure good market access, and prevent conflict with communities along the routes. The assessment team will engage with livestock owners, pasture owners, residing communities and other stakeholders such as Georgia's Shepherds Association, which represents transhumant sheep breeders using the stock routes. The team will also engage with relevant government institutions such as municipalities and the National Food Agency (NFA), which operate veterinary checkpoints along the routes. They will explore options and propose solutions to resolve conflicts around disputed areas (in most cases private pastures) that obstruct stock routes. While the project will not solve the complex issues surrounding the livestock routes, the assessment will recommend solutions to improve veterinary services along the routes, identify rehabilitation needs (e.g. tracks and small bridges) to facilitate efficient migration, and propose solutions to improve resting and watering places along the routes for animals to rest, drink and feed during migration.

Output 1.1.2. Capacity built for municipal pasture use planning

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105. Activities under this output will be carried out in preparation for the pasture planning process that will take place in 300 villages in 8 municipalities.

106. **Developing guidelines, detailed protocols and schedules for the pasture use planning at municipal level**. The project will develop detailed guidelines, templates, cartographic materials (digital and print) and protocols for the pasture use planning progress. The guidelines will specify what is needed for the participatory user inventory and how it will be carried out. This will include details how to plan the stakeholder engagement and secure the participation of vulnerable pasture users. The guidelines will layout criteria for delineating grazing units and procedures for assessing user claims. The project will build on and extend the guidelines developed by IFAD's DiMMAdapt project and the GEF-funded FAO project. They will specify how to obtain users' consent, and provide guidance on user registration and pasture allocation procedures. For each of the 8 municipalities, the project will develop implementation plans on how the planning process will unfold. The plans will specify when each village will be visited and will include a communication plan for community members to be aware of the planning process. The project will also develop:

- **Template charters for pasture user unions** specifying the purpose of the union, organizational structure, decision-making bodies and procedures, membership eligibility, rules and norms and mechanisms for their enforcement and sanctions, fee collection and usage, and entrance fees for outsiders.
- **Guidelines on eligibility rules and criteria for leasehold award, and template leasing contracts for different types of lessees** specifying the duration of the contract and conditions of the use of pastures.

107. **Establishing municipal pasture management councils**. The project will establish councils in the 8 municipalities it will operate in to guide the pasture planning process and the implementation of project activities. The councils will consist of representatives of all pasture-related stakeholders, including pasture user representatives (including vulnerable users such as women, shepherds, and ethnic minority groups), staff from relevant government agencies (municipalities, NASLM, NASP, APA, NFA and forest funds), NGOs, farmer organizations, and cooperatives. Each council must include at least six vulnerable pasture users (at least two women and two shepherds, and where relevant, minimum one pasture user from each ethnic minority group). The councils' main function of the councils is to:

- Advise on community mobilization in the participatory user inventory to ensure community buy-in and participation;
- Support demarcation of grazing unit boundaries and determining their zoning as nearby or remote summer, winter or village pastures;
- Advise on appropriate tenure arrangements for each grazing unit; and
- Assess claims over grazing units by traditional users with a view to the formation of pasture user unions or leasehold allocation.

108. **Training of government officials and field staff**. The project will organize training sessions and field visits in the first two years to train at least 200 public officials (at least 30% women) to equip them with sufficient knowledge on sustainable pasture management in the context of climate change and to become familiar with pasture reform in order to contribute to it. Training content will include the principles and benefits of community-based pasture management, good management practices in the context of climate change, recommended tenure arrangements under the policy concept, and tools and procedures of the user inventory, registration and rights allocation. The sessions will also teach basic GIS literacy (how to open and view GIS files) for officials to be able to view geospatial information on pastures. The main audiences are staff of the project management unit, NASLM officials and municipal officials and extension workers, who are the main implementers of the project. Officials from agencies such as from the National Forestry Agency, the Agency for Protected Areas (APA), and National Food Agency (NFA) are also welcome to join. Field visits will be made to nearby pastures to interact with pasture users and see good examples of climate-resilient and cost-effective pasture management measures.

Output 1.1.3. Pasture users inventoried, registered and rights allocated

109. **Participatory inventory of pasture users**. The aim of the participatory mapping process is to identify the users of municipal and state pastures and capture how they use them. The project will carry out this assessment in 300 rural settlements in 8 municipalities covering approximately 6,000 agricultural holdings.

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110. The inventory presents the basis for the project to help existing users and groups form pasture user unions or to register as lessees, and to allocate the usage rights to them in form of a leasehold or via common resource property rights. The inventory is a vital step in recognizing traditional users and their dependency on the resource. Failing to recognize current users and the pastures they have used will lead to resentment among the rural population towards the project's and the government's efforts to support the sector.

111. The project will arrange meetings and field visits with pasture users of one area. The inventory team will consist of at least one facilitator leading the process and one GIS expert to record the mapping efforts. A village meeting and visit will take half a day on average. The facilitator will explain the purpose of the inventory and its process to the community. They will highlight that the main intended outcome is to recognize traditional users, help them form unions or register as lessees in order to secure their rights over pastures and improve pasture productivity. During the meetings, the users will explain how they organize their grazing. They will show which pastures they use on maps and satellite images provided by the project. The inventory team and users will also conduct field walks to ensure that the usage claims are correctly understood and mapped. The process will be accompanied by municipal staff and other pasture-related stakeholders (e.g. NGOs, cooperatives, representatives of state agencies) working in the area. The inventory team will also use maps of stock routes, protected areas and forestlands, and available cadastral maps to inform this process. The inventory team will carry out the following activities:

- Record user groups and individual users (disaggregated by sex, age and ethnicity);
- Geographically capture which pastures they are using;
- Geographically capture how they are using pastures (as village, nearby summer, remote summer or winter pastures);
- Capture the type and estimate numbers of livestock feeding on pastures; and
- Record investments (such as water points, sheds, clearing of shrubs, etc.) undertaken by users in the past to underline their usage claims.

112. The participatory mapping process will be inclusive. It must be clear that community means that all residents, including women and men, are part of the inventory, and that female-headed households with livestock are present at every meeting and are not excluded. Field officers will mobilize vulnerable livestock owners, shepherds, women and youth to participate in the process, as well as ethnic minorities. Meetings will be organized in locations and at times that are convenient for these groups. The project must identify and reach out to users who are not present at the meetings, such as users in neighboring municipalities or transhumant sheep herders who only use pastures at certain times of the year. Special considerations will be given to gender-related time constraints, locations and language barriers.

113. The final product of this activity will be a GIS database which will form the basis for the next activity, the delineation of grazing units. The database will hold the following information:

- **List of pasture users and their main characteristics** (e.g. estimated number of livestock by type in a village, number of households per village, individuals holding existing leaseholds, number of women-headed households, number of youth involved in pasture management, etc.);
- **Pasture parcels** in GIS area format with linkage to the user(s); and
- **List of type and location of infrastructure** (e.g. water points, access routes, sheds, housing for shepherds) per user and user community

114. **Delineating grazing units**. This activity consists of two parts. First, based on the user inventory, the inventory team will propose grazing unit boundaries that will be subject to pasture allocation. Secondly, the team will go back to the villages to present the proposed grazing units and seek the consent of the users to the proposed arrangements. Defining boundaries of grazing units is important to increase the efficiency of pasture access and usage, and avoid their fragmentation. It is important for the allocation of pastures to groups and individuals and is needed to determine areas subject to pasture management plans.

115. The inventory team will use the results of the user inventory to:

- Delineate **grazing units boundaries**, dividing pastures into management units according to season of use, altitude, distance from settlements, natural barriers, and user group;

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- Determine the **pasture zone** for each grazing unit according to the grazing system to which it is subject. The four categories are village, near summer, remote summer or winter pastures; and
- Recommend the appropriate **tenure system** (common resource property management or leasehold) for each grazing unit.

116. All principle users of a proposed grazing unit need to **validate and provide their consent** to the proposed grazing unit boundary, pasture zone and tenure regime. This will be done through village-level meetings. Vulnerable users need to be adequately represented. Meetings at which consent is sought require at least 30% representation of women.

117. The municipal pasture management council will guide the project in this process. The inventory team will prepare cartographic material and create lists of user groups and individuals. They will present the results of the inventory and the proposed grazing units, their zoning and recommend tenure regime. The inventory team will collect feedback from the community and make corrections. They will seek the consent from the users to the proposed arrangements. Consent can be obtained for example through a symbolic signing of an agreement. In some cases, communities will have to be visited more than once, because errors will happen and clarifications will be needed.

118. In cases where there are overlapping usage claims and communities cannot agree on where the boundaries are, the project will record this as such. Resolving these issues is beyond the capacity of the pilot this project is presenting. Disputed pastures will be excluded from further project activities. The project will not intervene on pastures that are subject to overlapping use claims that are unlikely to be resolved. The project will follow mitigation measures and measure indicators laid out in the environmental and social management plan (see annex 3).

119. The final output of this process are grazing unit maps in GIS area format and a list of user groups and individuals who have given their consent to the proposed grazing unit arrangements. The project will recommend these users to register as pasture user unions or as potential lessees.

120. **Registering user groups and lessees, and allocating usage rights**. The registration of user groups and individuals as pasture user unions and/or lessees is the final step of the municipal pasture use planning. The project aims to get 6,000 agricultural holdings to join a pasture user union or to register as lessees. The main incentives for them to register are to secure the usage rights over pastures and to be eligible to benefit from project activities through training, grazing planning and investments in pasture infrastructure and rehabilitation. Project field staff will assist individuals and user groups to:

- Obtain a legal status as a pasture user union (through registration as a non-profit association, cooperative, or new type of legal entity to be defined by the pasture law), or register as a lessee to apply for leaseholds; and
- Obtain the usage rights over the pastures they use, either through a leasehold or via common resource property rights.

121. Until the new pasture law is in place, the project will build on existing legal entities for the registration of user groups (e.g. non-profit associations or cooperatives) and legal instruments for pasture disposal (e.g. leaseholds).

122. The two main criteria for groups to be supported to form an union are the following:

- Users are already jointly organizing grazing; and
- There are no conflicting usage claims over the majority of pastures they use.

123. It is up to the communities to decide how many groups to register. For example, four neighboring communities who have separate village pastures but use nearby summer pastures jointly may decide to form one union or four separate ones.

124. The project will insert recorded data in NASLM's land administration system (see component 3) that will include registers of (i) pastures users (leaseholders and pasture user unions), (ii) grazing units, their zoning and tenure, and (iii) land agreements (leaseholds or areas under common resource property management). The project will use this system to store records and administer pasture allocation.

125. Pasture allocation to users is the primary factor in pasture management. This step determines how grazing occurs on the landscape and ecosystem scale. This is particularly important in the context of mobile systems, where users need access to multiple pastures in different areas, and in the context of climate change, where flexibility is required. Allocating pastures to pasture users gives them secure access to pastures. It also makes it possible to hold users accountable for sustainably managing pastures.

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126. The project will support user groups to define their charters using draft templates. The project will ensure that records of registration and land agreements are inserted into the land administration system of NASLM that the project will help extend to cover the pasture sector.

127. Special attention will be made to ensure that female household heads owning livestock are both registered as members and attend the meetings. Women's participation as members of the general assembly, and on the executive committee should be particularly targeted.

C2. Pasture management planning and rehabilitation

Outcome 2.1. Adaptation practices in sustainable pasture management disseminated and accelerated

Output 2.1.1. Capacity built on adaptive grazing management and pasture rehabilitation

128. **Establishing pasture demonstration sites**. The project will establish 24 pasture demonstration sites to display good grazing strategies and successful pasture rehabilitation measures. Demonstration plots will be established with willing user groups on state or municipal pastures. They will host trainees from surrounding areas. These groups will receive support to establish the demonstration sites. The setup of demonstration sites, mobilization of trainees, and training modalities will follow approaches and implementation modalities of DiMMA and DiMMAdapt that are successfully implementing this extension approach in the dairy sector. The project may consider selecting sites from the GEF-financed project from FAO in the Dmanisi municipality. Demonstration sites should cover all pasture zones (winter, village and summer) and vegetation types, as well as showcase a variety of adaptation measures.

129. **Training pasture users**. Pasture demonstration sites will act as training locations to train at least 1,500 pasture users (30% women). Pasture users and groups with whom a pasture management plan are being developed are the main target audience. The main modules of the training include:

- The purpose of pasture user unions and how to run them (e.g. the role of chairpersons, collecting fees, managing and using funds, decision making as a union, setting up annual management plans, mobilizing community members, sanctioning violations of grazing norms, etc.);
- Setting up management plans for sustainable grazing practices in the context of climate change (e.g. grazing strategies such as rotational grazing or annual rotations, climate change implications for pasture management, improving the timing of grazing, basic pasture economics on how more productivity translates into savings, monitoring pastures and assessing their conditions, etc.);
- Establishment and maintenance of infrastructure (e.g. water availability, fencing, stock protection via sheds, etc.); and
- Restoration measures to rehabilitate damaged pastures (e.g. grazing restrictions and habitat protection through exclosures, soil conservation measures such as gullies rehabilitation, tree planting or reseeding, etc.)

130. The training will promote grazing strategies and pasture measures that are cost-efficient, feasible and adapted to the realities in the field. The project will provide extension materials on good practices for pasture management in the context of climate change. When necessary, the project will organize translation into Azeri or other minority languages.

131. **Organizing study tours for pasture users**. The project will also organize 24 study tours for users from different regions to exchange on pasture management and share good practices.

132. **Providing seed capital to pasture user unions**. The project will provide seed capital to the newly created pasture user unions to help them get established. They can use this funding for example to establish an office where members can meet and where grazing plans and maps are displayed, or to buy equipment such as a computer. They need to open a bank account for the project to provide funds. The project can help them in this.

Outcome 2.2. Pasture ecosystems have greater capacity to respond to climate change impacts

Output 2.2.1. Pasture management plans developed

133. **Developing pasture management plans**. The project will help develop pasture management plans covering 300 villages in 8 municipalities covering at least 30,000 hectares of pastures to increase the

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productivity and resilience of pastures. A plan will cover pastures of a pasture user union or a lessee. The participatory approach to develop management plans, as well as their structure and content will be adapted from community-based pasture management planning applied in IFAD-funded projects in Tajikistan (see IFADa 2022) and Kyrgyzstan (see IFADb 2022). The plans may also be modelled after plans from NACRES, RECC or SABUKO. Generally, management plans lay out:

- How many animals there are;
- How much fodder and forage is needed to feed these animals throughout the year;
- How much pasture forage is available for grazing livestock (taking climate variability into account);
- Grazing strategies (this include e.g. seasonal migration between summer and winter pastures to ensure optimal use of pasture resources in the course of the year; annual rotations, or multi paddock grazing, also known as rotational grazing);
- Annual grazing plans/schedules (specifying the length and timing of grazing for a given plot to ensure natural regeneration of pastures; defining grazing restrictions e.g. on riparian vegetation or steep slopes that are heavily degraded);
- Climate change adaptation considerations (e.g. adapting migration to vegetation greening; adjusting stocking rates according to pasture availability; identifying emergency areas for grazing in case of drought; reducing herd size e.g. by selling unproductive animals; arrangements to access additional pastures); and
- Infrastructure developments (e.g. water, sheds, access routes, or fencing).

134. Good **grazing management** is the most effective measure to increase pasture productivity and its resilience to climate shocks. The project will help pasture users to set up grazing schedules to plan the timing and distribution of livestock and monitor grazing activities throughout the year. Grazing strategies need to be adaptive and take into account the shift of timing and length of a grazing regime due to climatic factors (e.g. an earlier start of the season, drought or rainfall fluctuations). The plans will lay out possible actions what users can do in such situations.

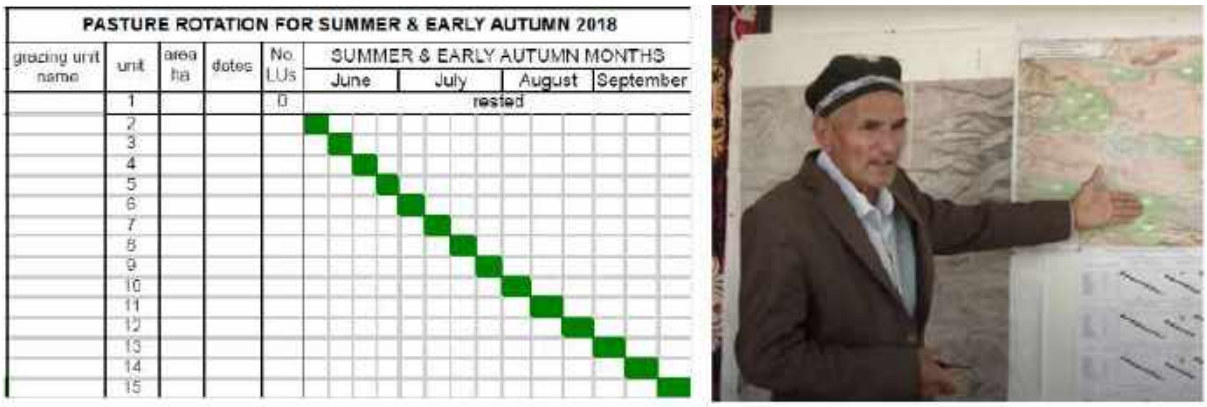

***Figure 16**. Left: Example of a grazing schedule; Right: Chairman of a pasture user union in Tajikistan presenting a grazing plan with paddocks on a map (Source: IFADa 2022)*

135. The plans will specify **investments in pasture infrastructure and rehabilitation** needed to implement grazing strategies such as soil conservation works, the removal of invasive species, or the projection of springs and riverine vegetation. Plans will also lay out investments in infrastructure to improve pasture access, control/restrict livestock movement, and improve water availability.

136. Establishing pasture management plans is a **participatory process**. The pasture expert and an extension officer will work together with group representatives to set up the plans. They will use template plans as well as digital and physical maps from the pasture resource accounting (e.g. recommended stocking rates). The plans will be presented to the group members who need to approve them. Vulnerable livestock owners (including women and youth) with a limited number of livestock and/or do not own land need to be part of this process. Project staff will ensure their mobilization.

137. The project will support user groups to formulate pasture management plans when the following criteria are fulfilled:

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- The group is already organizing grazing together and are resident in the municipality;
- The user group have ideally registered as a pasture user union and obtained pasture usage rights (via leasing or common resource property rights);
- There are no tenure issues that could hinder pasture users to access and manage pastures;
- Vulnerable pasture users (such as smallholders, shepherds, women and youth) are part of the group;
- Pastures are of significant importance for livestock keepers and the target group; and
- There is willingness of pasture users to co-invest (in-kind or cash) into pasture infrastructure and rehabilitation measures.

138. The project will follow measures laid out in the environmental and social management plan (see annex 3). Where stock routes exist, pasture management plans will recognise them and identify measures to support livestock migration (e.g. by defining resting areas with sufficient forage at times of migration, or ensuring access to water points, or by not obstructing the livestock route with fencing). Habitats of high ecological value will be identified and if necessary protected. If a pasture is located in an Emerald site, the pasture expert will check that measures are aligned to conservation objectives, or identify additional measures to protect habitats of high ecological value.

139. Pasture management plans will exclude pastures located in protected areas (managed reserves, national parks, natural monuments, nature reserves or protected landscapes), in forestlands, and on private land on stock routes that are disputed. Pastures that are subject to overlapping use claims unlikely to be resolved will also be excluded.

Output 2.2.2. Pasture infrastructure and rehabilitation measures implemented

140. **Funding pasture infrastructure and rehabilitation activities**. The project will provide grant funding to equip 15,000 hectares of pastures under management plans with the most important pasture infrastructure and rehabilitation measures that are needed to implement grazing strategies. The project aims to channel funds to village pastures at USD 450 pro hectare due to their higher level of use and vulnerability, and summer and winter pastures at USD 200 per hectare. At least 30% of financing under a pasture management plan needs to be for pasture rehabilitation.

141. User groups and lessees will be eligible to apply for grants in two windows. User groups provide co-financing (cash or in-kind) of at least 20% of the total cost. Pasture users and municipalities will agree on the most important measures through a participatory process that allows pasture users (including vulnerable users) to prioritize their investment preferences.

142. Larger and more costly investments (e.g. water troughs, boreholes or sections of pasture access routes) will be established by the project or one of its implementing partners. Unions are unlikely to have the machinery and expertise to carry out this type of work, and managing a large amount of funds might overwhelm newly established institutions. Smaller and less costly investments (e.g. gully rehabilitation, tree planting, or minor repairs on water systems) will be carried out by the unions themselves and they would receive the funds.

Figure 17. *Examples of pasture rehabilitation in Tajikistan and Kyrgyzstan (Pictures: IFAD 2023 and Oliver Mundy)*

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143. The amount of funding per management plan depends on the pasture zone and its size. Half of the pastures covered by a management plan are eligible for funding. For example, a pasture user union with 600 hectares of village pastures would be eligible for funding for 300 hectares at USD 450 per hectare, for a total of USD 135,000, to be accessed in two financing windows. The project may decide to take other criteria into account. More funding should be given to pastures that are degraded, that have many users, and whose users are vulnerable. More funding for a specific site is also justified, for example, for the strategic positioning of animal watering facilities.

144. Pasture user unions and lessees will be able to apply for grants when the following criteria are met:

- The user group has developed a pasture management plan specifying infrastructure and rehabilitation needs;
- Prioritization of investments has taken place in a participatory manner where vulnerable pasture users (with at least 30% participation of women) have stated their investment priorities; and
- User groups provide co-financing (cash or in-kind) of at least 20% of the total cost.

145. Selection and implementation of physical investments will follow a grant and implementation manual laying out eligibility and selection criteria, application procedures and grant conditions. A committee consisting of project, MEPA and municipal staff will review and approve grants. Physical investments of demonstration plots and pasture management plans are yet to be determined and are classified as unidentified sub-projects with unknown risk status. Each physical investment will be assessed for social and environmental risks prior to implementation. Where appropriate, mitigation measures will be applied and a site-specific social and environmental management plan will be prepared, or alternatives will be sought if the risks of non-compliance are too great.

146. Examples of adaptation measures eligible for grant funding are listed in table 4. The project will direct 70% of the grant funding towards infrastructure and 30% towards rehabilitation measures. More details on the adaptation rationale for each field-level adaptation measure can be found in table 2.

***Table 4**. Pasture infrastructure and rehabilitation investments, and the distribution of funds*

Category	Physical investments in pastures	Funding
Pasture infrastructure	• Rehabilitation of **access routes** and **small bridges** to summer pastures; • **Fencing** (including mobile electric fencing) to aid with grazing management and protect sensitive areas such as riverine vegetation; • **Water infrastructure** (e.g. troughs, pipes, mini dams or cisterns) to improve water capture, retention and distribution throughout the grazing space; and • **Shelters** to protect livestock, and **housing** for shepherds.	70%
Pasture rehabilitation	• **Planting of trees** for windbreaks, shade, stabilization of soil, and fodder; • **Control of weeds and shrubs** (via targeted grazing and mechanical removal); • **Soil conservation measures** (e.g. gully rehabilitation, stonewalls, gabion baskets, etc.); • **Reseeding of native grass species** to aid natural regeneration and replenish seed banks in the soil; and • **Protection of springs and riverine vegetation** (e.g. via fencing) to improve water availability and quality.	30%

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***Figure 18**. Examples of pasture infrastructure in Tajikistan and Kyrgyzstan (Pictures: IFAD 2023, Oliver Mundy and Bob Baber)*

Output 2.2.3. Grazing strategies and plans implemented

147. **Providing extension services to support grazing assessment and planning**. The project will support user groups to place 15,000 hectares under improved management practices. Pasture management plans are only effective when they are implemented. During the course of the project, field staff will support pasture user groups and lessees to monitor the implementation of grazing schedules and evaluate the ecosystem's response. They will take these lessons learned to improve the grazing planning of the next year.

148. The assessment will follow a methodology (such as FAO's participatory rangeland and grassland assessment (PRAGA) methodology) and will include field visits. Field officers should visit a group at least twice, ideally at the beginning of the year to prepare for the grazing period and at the end of the season to evaluate the outcomes.

149. Based on group feedback and field visits project staff will record which pastures are under improved management. These records will be captured in GIS format and will be used for the impact study of the project under component 3 to assess how successful adaptive grazing management is.

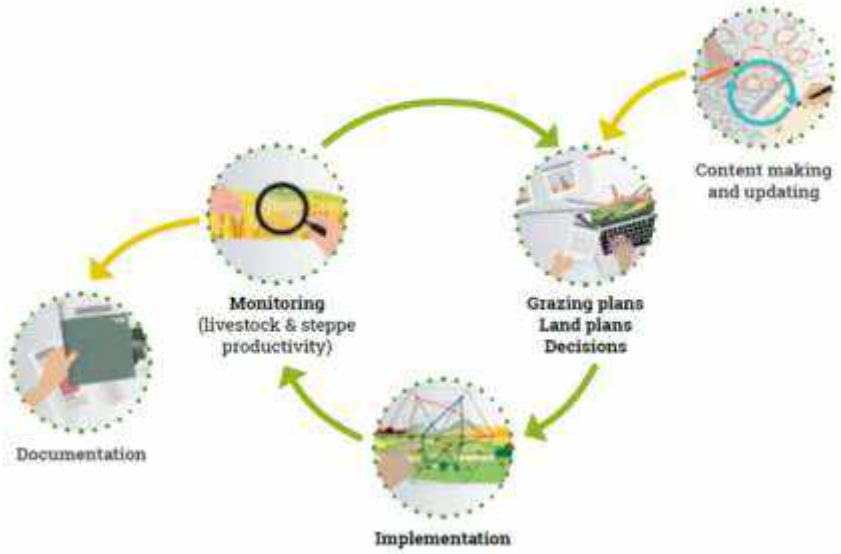

***Figure 19**. Grazing management cycle and monitoring (Source: N. Sharpe et al. 2022)*

150. **Impact study on pastures and climate change**. The Fourth National Communication highlights the lack of research on the impacts of climate change on pastures. Towards the end of the project, staff will commission a study to assess the impacts of climate-resilient investments in pastures using the data

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collected in the course of the project. The study will include a geo-botanical study and use remote-sensing data. It will compare a representative sample of areas the project intervened on (the treatment group) with similar areas not exposed to the project intervention (the control group) to assess the attributable impact of pasture measures.

C3. Strengthening governance and knowledge of pastures

Outcome 3.1. Climate change priorities are mainstreamed in the pasture policy reform

151. The project will support the evidence-based pasture policy reform with the objective of supporting the Government to solve tenure insecurity as one of the barriers for adaptation and to integrate climate change considerations in the pasture sector. The project will support further advancement of the pasture reform through a range of activities. This component will also assemble existing materials, generate new knowledge, and disseminate information to pasture users.

Output 3.1.1. Pasture policy reform supported

152. **Hiring legal expertise for further legislative development**. The project will hire legal expertise to further analyse and assist in the drafting and adoption of new legislation on pastures. This may include drafting of by-laws to provide more detailed regulations for the new arrangements and processes including pasture use planning and the establishment of pasture user unions.

153. **Ensuring climate change adaptation is considered in pasture legislation**. The project will recruit an adaptation and pasture expert to ensure that adaptation considerations are mainstreamed in the legislation and to ensure that the governance framework is capable of adapting the sector to the effects of climate change.

154. **Supporting the multi-stakeholder engagement process and pasture users' representation**. The project will support the pasture policy reform by organizing regular meetings and workshops for the Intersectoral Governmental Working Group on Pastures, and the Committee on Agrarian Affairs of the Parliament of Georgia. The project will support the preparation and organization of 10 workshops during its duration. The project will also ensure the participation of vulnerable pasture users (such a small livestock keepers, shepherds, women and youth) in these workshops allowing them to represent their interests in policy consultations. The project will identify and mobilize representatives of these groups from different parts of the country and ensure their participation by paying for their travel and accommodation.

155. **Assessing and building NASLM's capacities**. The project will carry out a capacity assessment of NASLM and support its development. NASLM is one of the main implementing agencies of the project and will be the state agency designated for pasture management on state and municipal pastures under the new law on pastures. It currently lacks the capacity to fulfil this role. The assessment will analyse NASLM's current capacity and identify gaps and needs in terms of organizational structure, human resources, office equipment and other requirements. Based on the results of the needs assessment, the project will fund capacity development for the agency.

156. **Developing a web-based solution to manage and administer pasture information**. The project will build the pasture-related component of MEPA's land information system that the ministry is currently developing and will be managed by NASLM. This activity will contribute to strengthening NASLM's capacity. The solution will store, manage, visualize and disseminate pasture-relevant information. It will be used to administer the disposal of pastures. It will hold the results of the pasture resources accounting and user inventory (see component 1). Features of the system may include:

- Registry of pasture users (lessees and pasture user unions);
- Registry of grazing units and their ownership and zoning (winter, nearby and remote summer, and village pastures);
- Registry of land agreements (common resource property rights and leaseholds);
- Stock routes used for migration between winter and summer pastures;
- Key pasture infrastructure (e.g. water points, resting areas, shelters, veterinary services, pasture access routes);
- Pasture conditions, types and recommended stocking rates (taking into account seasonal climatic variability and different management regimes);

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- Climate hazards (e.g. drought risk, heat stress, climate variability of rainfall, temperature and seasons, evapotranspiration, etc.); and
- Areas of high ecological value (e.g. wetlands) and their protection status (e.g. protected areas, forestlands, Emerald Network).

157. Ideally, the system will be linked to and extract information from NAPR's land registry system to have access to parcels registered as pastures, and the National Animal Identification and Traceability System (NAITS) to have access on livestock numbers.

Output 3.1.2. Knowledge services and products developed and disseminated

158. **Producing extension materials on good management practices in the context of climate change**. The project will compile and develop extension materials for pasture users and field officers. The guidance material will lay out strategies for grazing, rangeland conservation and rehabilitation, as well as water management in the context of climate change. The materials will also provide guidance and materials on how to run and make decisions in a pasture user unions (including templates for charters, fee collection, grazing schedules, etc.).

159. **Providing information services**. Pasture users have various information needs. The project will develop simple but effective services and dissemination tools (e.g. website, Facebook page, WhatsApp groups, provision of flyers and other materials to municipal offices and pasture user unions, use of existing communication channels of networks, cooperatives, NGOs or programmes such as Alliances Caucasus) to meet the information needs of pasture users. The services will inform users about pasture locations, conditions, vegetation types and infrastructure. They will be able to find out who to contact if they want to access a particular pasture or need a service. Transhumant sheep herders need information on biosecurity points and appreciate market information on prices for livestock products. Users need access to guidance material on good pasture management and on how to run a pasture user union. The project will also explore ways how pasture users can benefit from the multi-hazard early warning system and climate information services being developed by the UNDP's Green Climate Fund-funded project.

160. **Communication campaign**. The project will develop and implement a communication campaign targeting pasture users. It will accompany the lifespan of the project and includes the production of videos, social media posts (e.g. Facebook) and leaflets (e.g. to be displayed in municipality offices and during demonstration trainings). The campaign's objective is to inform communities about the pasture reform, mobilize pasture users to participate in the project, and demonstrate the benefits of good pasture management in the context of climate change. A key message of the campaign is that the government recognizes existing users and intends to help them manage the resource better in a climate that is becoming drier, hotter and more variable.

B. Project benefits

161. Pastures are sensitive to climate change because of poor governance and management system. The project is the next milestone in building a holistic and climate-resilient management system, which is currently being piloted by the DiMMAdapt project and the GEF-financed FAO project. The project aims to make the sector fit to withstand current and future climate change. The livestock sector depends on healthy and productive pastures. They are of vital importance for employment, food production and the rural economy.

162. The **overall benefits** of the project include:

- **Strengthened pasture governance**. The current governance of pastures is described as unregulated, uncoordinated and informal. The land tenure system is the most important factor in pasture management and a key enabler for climate change adaptation. The project will contribute to the formulation and implementation of the new law on pastures that aims to establish a sustainable pasture governance system and improve the tenure security for livestock keepers. The project will support Georgia in this system-shaping intervention which will support sustainable action on the ground and enable the country to reduce the vulnerability of the pasture sector to climate change. The project will help MEPA and municipalities to support pasture users to effectively plan grazing and vegetation recovery periods in an adaptive manner, monitor pastures conditions, identify areas where action is needed, and intervene when grazing norms are violated.

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- **Greater adaptive capacity**. Rural communities, including vulnerable groups, will be more resilient to climate change. Adaptive grazing strategies and improved pasture infrastructure will enable pasture users to respond to a warmer, hotter and more variable climate. Pasture ecosystems are in a healthier state and have greater capacity to respond to climatic shocks such as prolonged droughts in summer or heavy rainfall events in spring. They can also adapt to a warmer climate (e.g. grass communities shift towards higher elevations). This has multiple social, economic and environmental benefits, as described in the following paragraphs.

163. **Social benefits**. The project will have specific focus on pasture users with a dedicated targeting approach for small livestock-keeping households, shepherds and transhumant farmers that use pastures under state ownership, both in lowlands and highlands, as well as vulnerable groups, women and youth leading to a number of social benefits, including the following:

- **Increased equitable access to natural resources**. Through increased tenure security and the rehabilitation of stock routes, pasture users and their communities will have better access to pastures and water sources. Secure access to pastures is of great importance for vulnerable households and individuals such as women and youth, because many do not own land and rely on the commons to feed their animals. The demarcation of state-owned pastures and documentation of current users of these pastures will inform the pasture allocation procedure. Greater tenure security is achieved through the participation of vulnerable users in the pasture-use planning procedure and assigning usage rights to groups of users with whom the project will develop management plans.

- **Strengthened social cohesion**. Because of the project, pasture users will be better coordinated and in a better position to sustainably manage pastures, as well as respond to climate extremes. Group cohesion will be strengthened through the participatory establishment of management plans and agreeing on broad rules and conditions for pasture use. Youth and women and their representatives will be fully engaged in the process. The better pasture users are organized, the less likely a “tragedy of commons” scenario will occur where individual users act independently according to their own self-interest causing the degradation of pasture resources.

- **Increased awareness and knowledge**. Training and demonstration sites will increase pasture users’ knowledge on pasture management in the context of climate change. Users will be more aware of the impacts of grazing activities on pastures and be in a better position to respond to climate change.

164. **Economic benefits** will mostly be generated by making the livelihoods of local communities more resilient to climate change, by improving the productivity and climate resilience of the pastures.

- **Healthier and more productive animals**. Greater forage availability, more effective livestock mobility, and improved water access across the grazing landscape should result in higher gains in weight and an increase in milk production, generating higher income for households.

- **Reduced cost of feed**. Improved access to pastures and greater feed availability should reduce the need for livestock keepers to buy feed – even in times of drought. Reduced costs of buying feed increases the profit margin that benefits livestock-keeping households and businesses. Effective recovery periods can increase grass yields by 15-25%, and nutritional value of feed 10-15% according to the feasibility study of RECC in 2022.

- **Improved pasture infrastructure**. Pasture users benefit from greater availability of physical assets such as water points, pasture routes, and fencing. This makes pasture operations more effective and flexible allowing pasture users to respond to changing conditions. Improved livestock mobility as well as improved water availability and accessibility are key for adaptation and will help to respond to hotter and drier summers.

165. **Environmental benefits**. Healthy pastures ecosystems have a greater capacity to adapt to a drier, hotter and more variable climate. Increased vegetative cover protects soils from drying out and from heavy rainfall events. Healthy pastures have more extensive root systems that hold the soil together and increase its water-holding capacity. Grasses are better able to recover from climate shocks and other stresses, because they can mobilise root reserves to build above-ground biomass. Resilient pastures also have a larger seed bank to facilitate regeneration. The project is likely to have a number of environmental benefits, including the following:

- **Improved pasture health**. Better grazing management, effective pasture recovery periods, reseeding, control of invasive species and other pasture improvement measures will lead to pastures that are more productive and in a better condition.

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- **Reduced soil erosion**. In addition to improved grazing management that increases the vegetative cover, soil conservation measures such as gully rehabilitation, as well as planting of trees will reduce soil loss on sites that are prone to soil erosion.
- **Improved ecosystem services**. Overstocking or mismanagement can easily tip the balance from habitat services to disservices. A successful project will improve ecosystem services associated with grazing. Roaming livestock distribute nutrients contained in dung and urine across landscapes. By carrying seeds in their guts and coats, livestock distribute seeds and support habitat connectivity.
- **Protection of riverine vegetation and other sensitive habitats**. Management plans will lay out measures (e.g. grazing restrictions or fencing) to protect for habitats of high ecological value such as wetlands and riverine vegetation. There areas are important as emergency feed reserves, water quality, and biodiversity as habitats for plants and animals.
- **Reduced greenhouse gas emissions**. Healthy grassland systems have larger root systems and therefore their soils have higher levels of soil organic carbon. Improved grazing management has a co-benefit for migration.

C. Cost effectiveness

166. All actions aim to improve the governance and management of pastures in the context of climate change. The project will build on a cost-effective approach to implement sustainable low-cost and no-regret measures to manage the natural resource. Effective pasture management approaches guarantee improved profitability for farms, as well as benefits to the ecosystem and animal well-being. The benefits of properly managed pastures include weed reduction, enhanced soil drainage, improved water quality, efficient distribution of nutrients, including manure, and decreased reliance on supplementary nutrition such as silage and hay.

167. The main argument for cost-effectiveness is the gain in forage through improved grazing strategies. The feasibility study of RECC in 2022 estimates an increase of grass yields by 15-25%, and the nutritional value of feed by 10-15% through better grazing management, which results in saved households' budget on purchase of feed. For instance, if an average household spends GEL 1,300 (USD 500) per year per cow for supplementary feeding, 10-15% of this amount thanks to increased biomass on pastures is a significant saving. The GIZ initiative „The Economics of Land Degradation" analysed the value addition of different sustainable land management practices for the Kakheti region (Westerberg et al. 2021). Positive gains in forage productivity were modelled for all good pasture management practices compared to current practices (see table 2). The annual net-benefit is in the range of 89 GEL (USD 34) to 136 GEL (USD 52) per hectare of pastureland and depending on the pasture user group (migratory or villager). The study also notes that improvements can fluctuate, as semi-arid rangeland environments are highly variable, so pasture health may change annually, seasonally and from location to location.

***Table 5**. Summary of land productivity from sustainable land management scenarios (Source: Westerberg et al. 2021).*

Intervention	Change in forage productivity	Timeframe	Source	Net present value /ha from practice adoption
Multi-paddock adaptive grazing / migrator	9%	Within 1 year	Westerberg et al.	89 GEL/ha
Multi-paddock adaptive grazing / resident	16%	Within 1 year	Westerberg et al.	165 GEL/ha
Annual rotational grazing	13%-51%	Within 1 year	NACRES + Westerberg et al.	up to 26 GEL/ha

168. IFAD's experience in other countries in the region also supports the cost-effectiveness and financial viability of different pasture management interventions. Evidence from Kyrgyzstan[6] suggests that the

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[6] IFAD Livestock and Market Development Programme II in Kyrgyzstan, Project Completion Report

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incremental income from 1 ha of pasture varies between USD 2-110 depending on the activity, while the benefits are at least three times higher than the costs of interventions (see table 6). Similar results were found in a similar project in Tajikistan[7], where incremental gains ranged from USD 28/ha for the controlled grazing model and USD 231/ha for the alfalfa (double harvesting) model. This project also reported on increases in meat and milk productivity (30% and 2% respectively).

***Table 6**. Pasture interventions' financial profitability of the IFAD-funded Livestock and Market Development Programme in Kyrgyzstan (Source: Project Completion Report)*

Model	Investment cost with project (USD/ha)	Average recurrent cost with project (USD/ha)	Income USD		Incremental income (USD/ha)	BCR with project
			Without project	With project		
Superficial improvement	73	0	13	25	11	N/A
Radical improvement	124	12	89	134	45	12.2
Controlled grazing	0	5	26	29	2	7.1
Alfalfa	151	56	269	379	110	7.8
Annual grass	0	49	57	87	30	2.8

D. Strategic alignment

169. The project is aligned with and contributes towards international environmental conventions to which Georgia is signatory, the country's national strategies, and the Adaptation Fund's Strategic Results Framework.

170. **Georgia's Nationally Determined Contribution (NDC)** updated in 2021 has a short list of objectives for the adaptation of the agricultural sector and highlights the need for further assessment of the impacts of climate change on mountain ecosystems and ecosystem services. **Georgia's 2030 Climate Change Strategy and Action Plan (on mitigation)**, released in 2021, makes specific reference to pastures and has formulated two objectives that touch upon pastures:

- Objective 5.1 "Implement sustainable management of soil and pastures and support the introduction of sustainable domestic animal feeding practices" entails the activity (5.1.2) to develop legislation and prepare a project proposal with the aim of increasing the quality of livestock nutrition and conservation of pasture biodiversity.
- Objective 5.2 "Build capacities of generating scientific evidence for development of climate-smart approaches in the agriculture sector" aims at supporting cooperatives to implement sustainable practices in pasture and hayland management in activity 5.2.3.

171. In addition, the new climate change strategy lists "regulating the overgrazing and the unsustainable use of soils" as a priority direction and aims to tackle overgrazing that negatively affects plants, soil and biodiversity, especially on winter pastures. The project contributes towards achieving these objectives.

172. The **Fourth National Communication of Georgia to the UNFCCC**, published in 2021, has a dedicated chapter on pastures and climate change. It advocates for the preservation of natural resources and biodiversity through ecological management and traditional grazing practices. The project incorporates a number of adaptation measures recommended by the communication. This includes the improvement of the institutional and legal environment for grazing management and the use of grazing land. The communication recommends developing pasture management plans at municipal level that incorporate climate change issues. Such plans should aim to:

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[7] IFAD Livestock and Pasture Development Project II in Tajikistan, Project Completion Report

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- **Improve grazing management** by determining stock rates and grazing duration to achieve an ecological healthy state of pastures;
- **Plan grazing activities** according to vegetation growth and recovery periods, taking into account current and future rainfall trends;
- **Improve pasture conditions** through measures that are practical, user-supported, financially viable and impactful. Measures include sowing, mowing, fertilizing, weeding and irrigation;
- **Help government agencies monitor pastures** to ensure continuous, adequate and sustainable use of pastures; and
- **Manage pastures in a participatory manner** and ensure intensive consultations with key stakeholders.

173. The **Climate Change National Adaptation Plan for Georgia's Agriculture Sector** from 2017 assesses the impacts of current and future climate change on grasslands. The plan includes a cost-benefit analysis of adaptation measures in pasture management. It recommends adaptation measures in pasture management for a number of areas in Georgia; many of which are reflected in the project.

174. The **National Biodiversity Strategy and Action Plan of Georgia 2014-2020** recognizes the lack of institutional and legal framework for the sustainable use of common pastures and lists this as the main reason for unsystematic and unorganized grazing on pasturelands. It also highlights the lack of detailed information on the number and extent of pasture plots (summer and winter) under state ownership, as well as their status, including levels of use, pressures, vegetation cover and productivity. The pasture resources accounting and user inventory under the project will address this issue. The project also aims to continue efforts of assisting the Government in establishing a new law on pastures.

175. The **Agriculture and Rural Development Strategy of Georgia 2021-2027**, released by MEPA in 2019, lays out three main goals – the second aiming to promote the sustainable usage of natural resources – including pastures – through climate-smart and environmentally adapted agricultural practices.

176. The **National Pastureland Management Policy Document**, released by MEPA in December 2022, sets out the vision and principles of sustainable pasture management with regards to ownership and pasture use rights. It proposes institutional arrangements, economic and fiscal aspects of pasture management, as well as arrangements for pasture use planning and monitoring. A summary of the policy document is found in section 5 of part I of this proposal. This project will support legislative development and pilot approaches proposed in the policy document, specifically the inventory of pastures and users, the pasture planning use process at municipal level, and the formation of pasture user unions.

177. This project is aligned with the **Adaptation Fund's Strategic Results Framework** and directly contributes to the Fund's overall objective and outcomes. The alignment is detailed in part III, section F in this proposal.

E. Standards

178. Georgian experts and stakeholders as well as IFAD technical staff reviewed the concept note and the full proposal to ensure it has a clear focus on the agreed results. All IFAD-supported projects undergo a formal quality assessment undertaken by a quality evaluation committee established by IFAD. The committee members are independent and have not participated in the formulation of the project. Appraisal is based on a detailed quality programming checklist which ensures, amongst other issues, that necessary safeguards have been addressed and incorporated into the project design.

179. The project adheres to the Social and Environmental Policy and the Gender Policy of the Adaptation Fund. It will also respect and adhere to the national laws and codes of the Government. The environmental and social assessment in annex 3 (under Principle 1. Compliance with the law) lists the most relevant overarching laws to which the project will comply.

180. A review of the main **legal instruments for pasture management in Georgia** was carried out by RECC as part of the "Feasibility Study of Integrated Pastureland and Livestock Development in Georgia" from 2021. The study lists the following regulations to which the project will adhere to:

- **Law of Georgia on Soil Protection**, 2002. The law defines soil protection measures and means, including cultural and technical measures to protect the soil of pasturelands and hayfields to increase their fertility and improve vegetation (view).

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- **Law on Soil Conservation and Restoration-Improvement**, 2003. The law states that excess grazing that causes erosion on mountainous pasturelands is prohibited. However, the law is vague and does not specify winter pasturelands, nor does it prescribe official norms for livestock stocking rates (view).
- **Law on State Property**, 2010. State-owned pastureland cannot be privatized or registered in municipalities. The main form of access is a lease issued to an individual or legal entity by auction (view).
- Resolution 242 of the Government of Georgia of August 20, 2010 "**On Approval of the Forest Use Rule**" allows the use of the forest fund for agricultural purposes using methods that do not harm tree seedlings, do not cause damage to woody plants and do not cause erosive events. Forest use for agricultural purposes is allowed only in compliance with the requirements of the Food / Animal Feed Safety, Veterinary and Plant Protection Code and the Resolution of the Government of Georgia #198 of July 30, 2013. According to the Resolution, organic farming should include soil fertility and conservation measures, maximize the integrity of biodiversity and ecosystems, as well as take into account local and regional ecological characteristics. Article 7 of the Resolution determines the maximum number of livestock per hectare to minimize the risk of overgrazing, soil erosion and contamination by too much manure. It should be noted that the permissible quantity per hectare is defined only for organic production and other cases are not regulated by the law (view).
- Resolution Number 415 of the Government of Georgia of 2013 on the approval of the Regulation on "**Determination of Soil Fertility Level**" and "**Soil Conservation and Fertility Monitoring**". The Resolution does not specify the specific agency that should carry out the fertility assessment. It generally instructs those who have the authority to inspect the soil of agricultural lands to carry out monitoring, determine their fertility level and develop recommendations (view).
- Government Resolution 265 of 2017 on the **Rational Use of Pastures and Mowing Lands in Mountainous Regions**. The Resolution defines the conditions for leasing pastureland to cooperatives in mountainous areas (view).
- Legislative amendment of 2019. After which the Law on "Agricultural Land Ownership" expired and the Law on "**Defining the Target Land and Sustainable Management of Agricultural Land**" came into force (view text1 and text2).
- **Law on Spatial Planning**, 2020. The Law defines framework conditions for zoning and land management at the municipal level. But at this level the government has negligible regulatory power over pasturelands, most of which are privately or state-owned (view).

F. Duplication

181. There is no duplication of the project with other funding sources. On the contrary, this project is needed to upscale the efforts piloted by DiMMAdapt and other related donor-funded projects, as described in the table below.

Project name	Summary and geographic area	Complimentary potential
IFAD-funded project: Dairy Modernization and Market Access Project (DiMMA) (2018-2025) Total cost: USD 53.4 M (link) Including: USD 18.2 M from IFAD and USD 4.2 M from the Adaptation Fund under the adaptation component	The project equips smallholder producers with the know-how and technologies to upgrade their milk production systems, adopt food safety standards and comply with food hygiene regulations. The project operates in six regions of the country: Samegrelo-Zomo Savaneti, Imeriti, Samtskhe-Javaheti, Kakheti, Racha-Lechkumi, Qvemo Svaneti and Kvemo Kartli.	**Synergies**: Strong synergies are given as DiMMA covers value chain development, an area the project is not investing in. Synergies include targeting, mobilization of users, and capacity building activities. Project management costs (such as procurement and M&E) will be carried by DiMMA in the first years of the new project.

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Adaptation Fund-financed IFAD project: Dairy Modernization and Market Access: Adaptation Component (DiMMAdapt) (2021-2025) USD 4.6 M (link)	As an integrated component of DiMMA, DiMMAdapt is piloting approaches to climate-proof pastoral ecosystem services (water management, pasture regeneration, and disaster risk reduction) and support alternative livelihood measures. DiMMAdapt operates in Samegrelo and Zomo Savaneti, Imeriti and Samtskhe-Javaheti.	**Synergies**: • Methodologies and pasture inventory pilots in the Samtskhe-Javaheti region to be upscaled by the new project to other regions of the country. • Pasture management planning, demonstration and user organization to be upscaled by the new project at national level. • Inventoried data will be shared/handed over to the project. **Avoiding duplication of efforts:** Communities and areas for which investment plans have been developed will be excluded under the project.
FAO with GEF funding: Achieving Land Degradation Neutrality Targets of Georgia through Restoration and Sustainable Management of Degraded Pasturelands (2020-2022) USD 14 M (link)	The project helps the country implement land degradation neutrality targets through piloting the restoration and sustainable management of degraded pasturelands in three municipalities. The project operates in the Eastern part of Georgia (Kazbegi, Gurjaani, and Dmanisi municipalities).	**Synergies:** • Existing technical collaboration: Project staff have shared draft situational analysis, pasture management plans and pasture inventory methodologies with IFAD. • DiMMA project management unit and IFAD involved in the pasture reform facilitated by this project. **Avoiding duplication of efforts:** • Communities and areas for which investment plans have been developed will be excluded under the project. • All inventory data will be integrated in the project so that information and analysis is not carried out twice.
UNEP with GEF funding: Generating Economic and Environmental Benefits from Sustainable Land Management for Vulnerable Rural Communities of Georgia (2018-2023) USD 6.2 M (link)	The project aims to develop and promote sustainable land management practices to protect natural capital (including pastures) in Georgia. Pilot municipalities include Sagarejo, Kvareli, Gori and Kareli.	**Synergies:** • Existing technical collaboration (e.g. project staff have shared pasture management plans with IFAD). **Avoiding duplication of efforts:** • Communities and areas for which investment plans have been developed will be excluded under the project.
Alliances Caucasus 2 2022-2026 CHF 6 M (link)	The market systems development programme aims to increase incomes and improve livelihoods through better and more resilient market access, local employment opportunities and more equitable inclusion in local natural resource use. The programme supports the dairy and sheep sector.	**Synergies:** • The programme carried out studies and developed infrastructure on stock routes. Mapped infrastructure should be collected to inform the pasture use planning process. **Avoiding duplication of efforts:** • The project should build on and complement the efforts undertaken on stock routes.
World Bank: Georgia Resilient Agriculture, Irrigation, and Land Project	The project's second component aims to improve national land administration and management systems and facilitate access to and use of geospatial data.	**Synergies:** • Identification of pastureland and hayfields, and their current users are the basis for the registration of

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USD 150 M (link)	Pasturelands will be one land use that will be featured in the land administration system.	pastures in the land information system. **Avoiding duplication of efforts:** • The project will build on information from partnering project and share cartographic material on pastures and the results of user engagement to support the legal recordation of pasture plots, and recognition of current users.

G. Learning and knowledge management

182. The project places a strong emphasis on learning and knowledge management as a key approach to achieve behavioral change of pasture users. It aims to improve data availability on pastures, generate new knowledge on the effects of climate change on pastures, and details mechanisms to disseminate data and knowledge. A number of project outputs contribute towards this.

183. **Data to support evidence-based decision-making**. Data is key for planning and management. The pasture resources accounting and user inventory on the full extent, ownership, usage and conditions of pastures will provide the necessary data to help local government staff and pasture users define grazing units, set up management plans and develop strategies to better manage the resource.

184. **Extension materials on good management practices in the context of climate change**. The project will develop practical guidance material for field and extension staff as well as pasture users laying out strategies for grazing, rangeland conservation and rehabilitation, as well as water management in the context of climate change. The objective is to help pasture users determine appropriate timing and distribution of livestock on their pasture taking into account current long-term and seasonal climate projections. The materials will also provide guidance and materials on how to run and make decisions in a pasture user union (including templates for charters, fee collection, grazing schedules, etc.).

185. **Training and demonstration sites for pasture users**. The project will establish demonstration plots to display good grazing management and successful pasture rehabilitation measures. The sites will act as training locations for pasture users to discuss adaptive grazing management and the most effective measures to manage pastures sustainably in the context of a warmer and dryer climate. The project will also carry out a communication campaign and provide information services through simple but effective tools (e.g. website, Facebook page, WhatsApp groups, provision of flyers and other materials to municipal offices and pasture user unions, use of existing communication channels of networks, cooperatives, NGOs or programmes such as Alliances Caucasus).

186. **Training of government officials and field staff**. The project will train public officials on the principles and benefits of community-based pasture management, good management practices in the context of climate change, recommended tenure regimes under the policy concept, and tools and procedures of the user inventory, registration and rights allocation.

187. **Participatory pasture planning**. The process of establishing pasture management plans is also a learning process for pasture users and municipality staff. They assess where vulnerable pastures are, understand what adaptive approaches towards climate change are possible, and decide on what grazing strategies and rehabilitation measures are the most appropriate to improve pasture conditions.

188. **Impact study on pastures and climate change.** Georgia's NDC and its latest Communication to the UNFCCC highlight the lack of research on the impacts of climate change on pastures. The project will commission a study to gain further insights on this topic to guide current and future investments on climate-resilience interventions for pastures.

H. Consultative process

189. The design of this project took place in conjunction with the supervision of the DiMMA and DiMMAdapt projects of IFAD. The design team engaged with stakeholders during the implementation support mission in March 2022, the supervision mission in November 2022, and the mid-term review mission in April 2023. The design team met beneficiaries in the field and consulted national and international agencies.

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190. While in the field, the team met with livestock keepers, shepherds and dairy processors from all pasture zones (summer, winter and village). The design team visited 37 locations and spoke with 58 stakeholders (25 women). Their names, contacts and pictures are listed in table 2 in annex 2. The figure below shows the locations visited. The design team also conducted focus group discussions in two villages to understand how pasture users organize grazing and what their needs and concerns are. The team also participated in a meeting with all majors of the Akhaltsikhe municipality organized under the DiMMAdapt project to understand the level of political buy-in from community leaders (see figure 22).

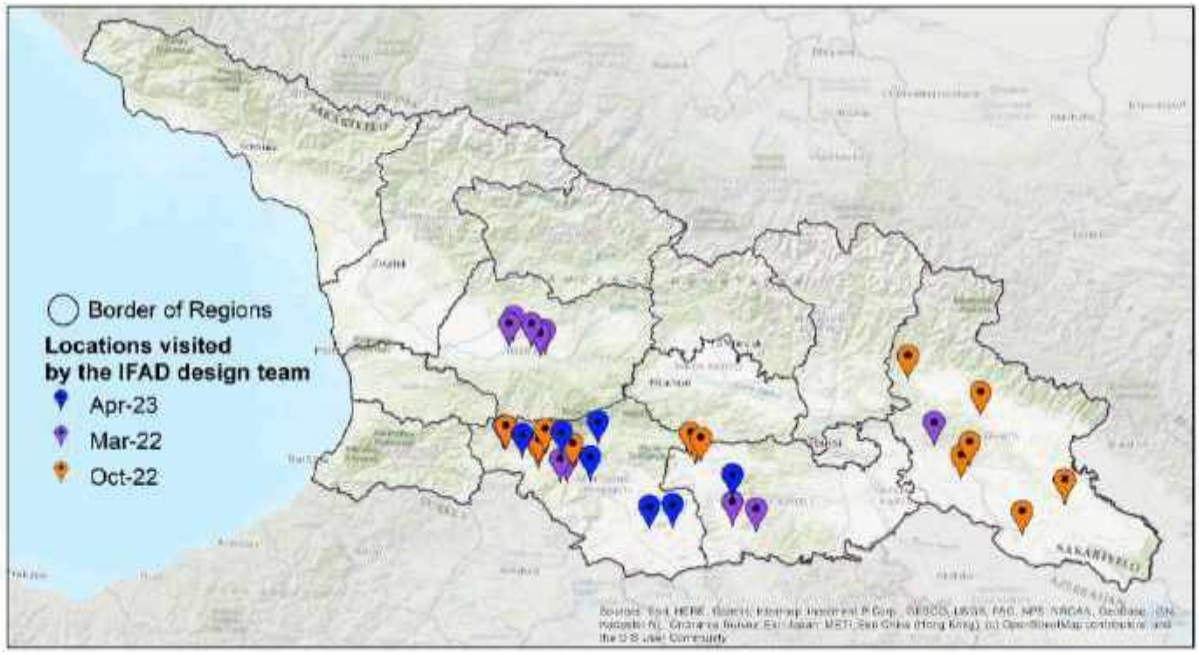

***Figure 20**. Locations visited by the IFAD design team*

***Figure 21**. Focus group discussions in Rustavi village (41.623127, 43.126301) on 20/10/2022 (left) and Zanavi village (41.695095, 42.726218) on 21/10/2022 (right)*

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***Figure 22**. Discussing the pasture reform concept with majors of the Akhaltsikhe municipality on 21/04/2023*

191. In-person and virtual meetings were held in the time periods around the three country visits. In total, 49 government officials and international experts (of which 18 were women) were consulted for the project formulation. Their names and contact details are listed in table 1 in annex 2. They are associated to the following agencies:

    - Ministry of Environmental Protection and Agriculture (MEPA), including
        - National Agency for Sustainable Land Management and Land Use Monitoring (NASLM);
        - Agency of Protected Areas (APA);
        - National Food Agency (NFA);
        - National Forestry Agency;
        - Agency of Rural Development and Agriculture (ARDA);
    - National Agency of State Property of the Ministry of Economy and Sustainable Development (NASP);
    - United Nations Development Programme (UNDP);
    - Food and Agriculture Organization of the United Nations (FAO);
    - Regional Environmental Centre for the Caucasus (RECC);
    - Centre for Biodiversity Research & Conservation (NACRES);
    - Shepherd's Association of Georgia;
    - Biological Farming Association Elkana;
    - Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ);
    - Society for Nature Conservation (SABUKO); and
    - Greens movement of Georgia.

192. MEPA's management and technical staff determined the strategic direction and the main activities of the project. They reviewed and commented on the project design at concept note and full proposal stage.

193. The design of this project immensely benefited from the collaboration with experts from FAO and RECC working on the GEF-funded project "Achieving Land Degradation Neutrality Targets of Georgia through Restoration and Sustainable Management of Degraded Pasturelands". They shared draft versions of the "National Pastureland Management Policy Document", pasture management plans, and draft inventory methods with the design team.

194. The formulation of the project proposal builds on recent reports that feature pasturelands in Georgia including:

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- National Pastureland Management Policy Document from December 2022;
- FAO (2022): Agriculture, water, and land policies to scale up sustainable agri-food systems in Georgia;
- RECC (2022). Feasibility Study of Integrated Pastureland and Livestock Development in Georgia (draft version);
- Fourth National Communication of Georgia under the UNFCCC from 2021;
- Westerberg, V., Robinson, S., Stebbings, E., Costa, L., Visetti, P., (2021). Economics of Land Degradation Initiative: The economics of pasture management in Georgia. GIZ: Bonn, Germany;
- SABUKO (2020). Overview of the sheep sector in Georgia; and
- RECC (2019). Pastures Management in Georgia: Situation Analysis and Main Challenges, Recommendations for Development of Pastures Sustainable Management Program.

I. Justification and adaptation reasoning

195. The project responds to a request of the government. Annex 1 presents the official letter from 2021 from the Deputy Minister of MEPA to IFAD requesting further financial resources to support sustainable pasture management in Georgia. In March 2022, MEPA's management gave IFAD the instructions to develop a project with the objectives of i) conducting a full inventory of pastures in the country, ii) developing pasture management plans with measures to improve pasture quality; and iii) implementing measures of the pasture management plans. In April 2023, MEPA requested this new project to address information needs, address capacity requirements and pilot field approaches laid out in the pasturelands policy document that was released in December 2022.

196. MEPA sees the necessity of mobilizing further resources for sustainable pasture management, because this sector has been neglected in the past two decades exposing its vulnerability to a changing climate. MEPA aims to use this project to further support its reform around pasture legislation and to upscale promising approaches that are currently being piloted in DiMMAdapt and other donor-funded projects.

197. One of the project's strengths is that it is complementary to DiMMA. While the new project will continue and upscale DIMMAdapt's efforts on improving pasture management, DiMMA covers value chain development aspects of the dairy sector, such as veterinary services, improved breeds and training livestock keepers on good practices in livestock husbandry and feeding. While being complementary to DiMMA and DiMMAdapt, the project will not rely on any co-financing or external support to generate adaptation benefits.

198. The table below outlines the baseline and the alternative adaptation scenarios that the Adaptation Fund will help materialize.

***Table 7**. Baseline scenario vs alternative adaptation benefits*

Baseline scenario	Alternative adaptation benefits of Adaptation Fund Project
Inadequate governance and tenure prevent adaptation. The majority of state-owned pastures are de facto managed by communities, but the communities have no formal rights over the pastures, which can lead to their alienation. This is a barrier to adaptation. Users are unlikely to implement adaptation measures if they are not sure that they will benefit from them.	The project aims to break down the main barrier of adaptation by increasing tenure security over pastures. Groups and individual users will have formal rights over pastures incentivising them to take care of the resource, invest in it and adapt to the effects of climate change.
Increased periods of drought. Decreases rainfall during summer months have been observed. Since 1981 there has also been a marked decrease in snow cover during winter snowy months. Climate models predict higher temperatures in the whole country and less rainfall especially during summer months, with higher probability of drought in those areas with higher maximum number of consecutive dry days.	The project will equip pasture users with the knowledge to sustainably assess, monitor and manage the pastures through setting up and implementing pasture management plans. The plans aims to support pasture users to adapt to the changing climate and mitigate against any

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Observations on cattle watering in hot summer days found that with temperature increases (30–38C), animal water supply in June-September decreased. Rainwater ponds (which are often the only source of watering) are gradually decreasing or are generally drying out. The remaining ponds are also often polluted. Water scarcity reduces milking productivity by 22.5 percent from 3.2 litres per day to 2.5 litres. A general decrease in rainfall also affects grasslands and contributes to pasture degradation.	adverse impact of reduced precipitation and increased temperatures. The plans will lay out management measures for herders to respond to changing climate (see table 2). Measures include e.g. increased seasonal migration, matching mobility with vegetation greening, planning of pasture recovery periods, adaptive stocking rate strategies, etc. The project will also construct and rehabilitate water points and support the restoration of springs. Where needed, the planting of trees for shade and wind protection will protect livestock from heat and soils from erosion.
Pressures on pastures. Pastures are subject to overgrazing and even undergrazing due to the poor current governance system. Tools for sustainable management are not in place. This adds pressure on pastures and soils causing their degradation - making the entire production system vulnerable to the effects of climate change.	The project will address overgrazing and pasture degradation by helping the country to introduce a sustainable pasture governance system. This includes a detailed inventory of the extent, quality and ownership of pasturelands, as well as establishing a monitoring system.
Increase of torrential rain. Climate data reveals a significant increase in heavy rainfall events (>50mm/day) during summer season for the period 1981-2016. This increases the risk of top soil erosion on steep slopes of mountain pastures causing decreased pasture productivity.	Pasture management plans will identify areas prone to soil erosion and will lay out measures to reduce soil loss. This will be achieved through cost-effective and no-regret nature based measures that increase vegetative cover such as improved grazing strategies, grazing restrictions, reseeding, or reduce the water flows such as tree planning, gully rehabilitation, stonewalls and gabion baskets.

J. Project sustainability

199. The project will help establish a sustainable governance system for pastures that will reduce the vulnerability of the resource and its users to the effects of climate change for the next decades. It will support the reform of pasture legislation that will have significant and long-lasting impact on the sector. The project aims to help the government establish a community-based state-of-art pasture monitoring system with remote sensing data that will help local government staff and users themselves to evaluate pasture conditions and take adaptive measures.

200. The project is based on, and is driven by, sustainability principles that are promoted throughout the project activities. The project's sustainability builds on beneficiary empowerment through: awareness raising; capacity building; cost-effective and environmentally friendly and long-lasting solutions to help restore, improve and protect the pasture ecosystem-services.

201. The project aims to contribute to resolving a main barrier of adaptation: By strengthening tenure security, pasture user groups have strong incentives to improve grazing practices and adapt climate-resilient practices. Improved grazing strategies and better pasture infrastructure will also yield sustainable results at ecosystem level with positive co-benefits for biodiversity and carbon sequestration.

202. This project is making an important step towards sustainable and climate-resilient management of pastures. Experience from other countries shows that it takes time to reform the pasture sector. Kyrgyzstan ratified in 2009 a new law on pastures that transferred pasture ownership to community-based organizations. It took more than 10 years and 3 project cycles until the newly established pasture institutions were operational without donor funding.

203. There are several elements that may impact the sustainability of the project. These are listed in the table below.

***Table 8**. Sustainability concerns and project mitigation measures*

Sustainability concerns	**Mitigation efforts of the project**

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Institutional: Effective pasture management requires pasture users to be organized in groups. Their formation can be challenging. They exist informally in many cases. Other donor projects report that Georgian farmers are reluctant to form cooperatives.	The project will identify existing groups of community members who already jointly manage pastures. The user inventory will identify these user groups and support them to obtain a status as a legal entity.
Institutional: MEPA lacks the capacities to continue providing support to sustainable pasture management after completion.	The project will strengthen government capacities, in particular NASLM. NASLM and municipalities will be the main implementation partners of the project.
Governance: Though the government is committed in drafting the law in 2024, there is always the risk that the parliament delays the law's ratification.	Even without ratification of the new law, the project can carry out its activities. The project can use existing legal instruments to help user groups register as pasture user unions and transfer usage rights via a leasehold agreement.
Financial: Pasture user associations require funds to maintain pasture infrastructure and provide services to pasture users. Establishing a pasture ticket system under the new law still has to be piloted and takes effort and time to become effective.	The project will promote the introduction of fee collection of pasture user unions from its members to cover operational costs and infrastructure maintenance.

204. The table below presents maintenance agreements and considerations to ensure results are sustained after the project end and enable replication and scaling-up. Detailed maintenance arrangements and mechanisms will be further identified and agreed upon during the full proposal development phase with MEPA, municipalities, pasture user representatives and possible implementing partners.

***Table 9**. Preliminary maintenance arrangements and mechanisms to sustain project results*

Components and project results		**Sustainability considerations**	**Maintenance arrangements and mechanisms**
C1	Updating of digital information and cartographic materials	Continuous updating, management and dissemination of pasture data, including regular condition assessments	All data will be stored on the land administration system that will hold registries e.g. on pasture users, land agreement. The systems and platform will be operated and maintained by NASLM under MEPA as key instruments for pasture allocation, monitoring and planning.
C2	Pasture management plans	Monitoring of implementation and formulation of new adaptive grazing plans	Municipal extension and technical staff help pasture users and their groups implement and renew plans, and help adapt them to changing conditions. They are also responsible for monitoring them.
	Pasture restoration results	Tree seedlings need protection. Production sites for native grass species need continuous management. Soil conservation works (e.g. stone walls) may need maintenance.	Municipal extension and technical staff to aid pasture users and their groups. Pasture users are primarily responsible for protecting them.
	Pasture infrastructure (e.g. water points, rural roads, fencing)	Water points and fencing require repair works. Rural roads needs maintenance.	Maintenance plans with budget will be envisioned for municipalities. Repair works are also undertaken by pasture user unions who can use their own funds for this purpose.
C3	Land administration system	Continuous updating, management and dissemination of pasture data, including regular condition assessments	The systems and platform will be operated and maintained by NASLM as key instruments for pasture allocation, monitoring and planning.

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		IT maintenance e.g. software updates, data protection	
	Knowledge products and materials	Need to be accessible and disseminated for ongoing usage, up-scaling and replication.	The project will develop a knowledge management plan entailing institutional arrangements, repository and dissemination.

K. Environmental and social impacts and risks

205. This project aims to improve the state of natural resources (mainly pastures and water). Significant negative impacts on society and environment are unlikely because of the scope of the activities, which are numerous, at small scale and very localized. The project will apply strong participatory methods to engage with pasture users to attain their consent on planned project activities, in order to mitigate social risks and impacts. Transboundary impacts are highly unlikely. Cumulative impacts are also unlikely. The project is therefore regarded to have a **medium risk (Category B)** according to the Adaptation Fund's Environmental and Social Policy.

206. According to IFAD's Environmental and Social Safeguards Screening Checklist, the project has a "**Moderate Environmental and Social Risk**" and a "**Moderate Climate Risk**".

207. The checklist and IFAD's risk categorization of projects have been updated with the revision of IFAD's Social, Environmental and Climate Assessment Procedures (SECAP) in 2021. A project's risk to adversely impact people and the environment, as well its vulnerability to climate change are assessed and categorized into four different risk levels (low, moderate, substantial and high) in order to identify all possible risks as well as measures to mitigate them. The updated SECAP is aligned with the Adaptation Fund's Environmental and Social Policy, and its 15 safeguard areas and Gender Policy.

208. The main findings of the risk screening are presented in the table below.

Checklist of environmental and social principles	**No further assessment required for compliance**	**Potential impacts and risks – further assessment and management required for compliance**
1. Compliance with the law	X	**Low risk**. The project management unit and other government authorities will ensure compliance with the relevant national laws that are listed under Principle 1 in the social and environmental assessment section of annex 3.
2. Access and equity		**Low risk**. The project's objective is to improve tenure security over pastures. It proposes a community-based spatial planning mechanism that acknowledges traditional pasture usage and allocates resource rights. At the same time, the project will have safeguards in place to prevent tenure conflicts. The project will not issue land agreements for or intervene on pastures that are subject to overlapping use claims that are unlikely to be resolved. **Potential risks**. • Inadequate participation of pasture users poses a risk. Vulnerable pasture users including women are not adequately represented in the municipal pasture use planning. Users are at risk of being excluded from pastures because they or their claims are not identified, or they do not reveal which pastures they are using. • Resentment could be caused due to overlapping use claims over pastures (that are unlikely to be resolved), or because grazing units have inappropriate boundaries, pasture zone and tenure regime (make grazing inefficient, ignoring stock routes, not respecting traditional usage). • Users face registration problems. They do not join the union (e.g. they are reluctant to join, very busy, or others want to exclude them) hence prohibiting them to use pastures under the common resource property management system, or they have difficulties to register as lessees and to obtain leaseholds.

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		Mitigation measures. • Ensure participatory and consultative processes of pastures users to ensure their participation in the pasture use planning process. Social mobilization will occur at times and in locations convenient to vulnerable user groups, and where applicable make arrangement for translation. • Identify all current users and mapping the pastures they use through the participatory mapping process. • Establish grazing units that recognise and are based on historic and current usage. • Obtain the consent of communities to proposed grazing units, their zoning and tenure regime. Allocate usage rights to users only when there are no overlapping usage claims. • Map stock routes and integrate them into management plans to ensure that livestock migration is supported and not obstructed (e.g. by fencing or reducing the extent of resting areas). • Establish councils consisting of all pasture-related stakeholders – including vulnerable users – to guide municipal pasture use planning. • Use the grievance redress mechanism to actively capture complaints and resolve them.
3. Marginalized and vulnerable groups		**Low risk**. The project is unlikely to impose any disproportionate adverse impacts on marginalized and vulnerable groups. On the contrary, the project aims to support on vulnerable pasture users including small livestock-keeping households, women, youth, ethnic minorities, shepherds and transhumant farmers that use pastures under state ownership, both in lowlands and highlands. **Risk**: Vulnerable pastures users including women are not adequately mobilized, and hence are excluded from project activities. **Mitigation measures**: Vulnerable pasture users will be mobilized to partake in the municipal pasture planning process and in the development of pasture management plans and activities. The project's targeting approach aims to help vulnerable groups have better and more secure access to pastures. • Mainstream social criteria in the guidelines and detailed protocols for the pasture use planning at municipal level, and in the guidelines with eligibility rules and criteria for leasehold award • Ensure representation in municipal pasture management councils. • Identify, capture and involve vulnerable users in the participatory user inventory, formulation pasture user unions and registration of lessees. • Ensure the participation of vulnerable users in the development of pasture management plans • Include vulnerable users in policy consultations.
4. Human rights	X	**No risk**. No risks of human rights violations have been identified. The project will not tolerate any human rights violations.
5. Gender equity and women's empowerment		**Low risk**: The project is designed and shall be implemented in such a way that both women and men (a) are able to participate fully and equitably; (b) receive comparable social and economic benefits; and (c) do not suffer disproportionate adverse effects during the development process. **Risks**. Women are underrepresented in the municipal pasture use planning, in trainings, as members in the committees of pasture user unions, and as lessees. **Gender-responsive measures**. The project will promote gender equity and women's empowerment through its gender action plan (see annex 4). Specific measures include: • Ensure adequate representation of women of at least 30% in all participatory activities of the municipal pasture planning, in training sessions, and in the development of pasture management plans.

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		• Ensuring women are represented in municipal pasture management councils and in committees that prioritize adaptation measures in pasture management plans to be financed by the project. • Ensuring strong outreach strategies to achieve active participation of women in the participatory mapping and planning process (e.g. through focus group discussions including women). • Mobilizing women to be active in and participate in pasture user unions and/or register as lessees. • Ensuring women join trainings on adaptive pasture management. • Mainstreaming gender aspects in the project's study on climate change and in extension materials. • Inviting women representatives to bring their voices to the national pasture law and other relevant policy discussions.
6. Core labour rights	X	**No risk**. No risks were identified at project appraisal. The project will comply with the core labour standards as identified by the International Labor Organization, of which Georgia is a member and has ratified the eight Fundamental Conventions.
7. Indigenous peoples	X	**Not applicable**. This principle does not apply, as there are no communities in Georgia that identify themselves as indigenous peoples. No further assessment of potential impacts and risks has been carried out.
8. Involuntary resettlement	X	**Not applicable**. This principle does not apply, as the project does not involve resettlement. No further assessment of potential impacts and risks has been carried out.
9. Protection of natural habitats		**Low risk**. The project will not intervene on pastures in national parks and forestlands because of different land use objectives and management approaches. **Potential risks**. • Pasture management plans are developed for inappropriate areas causing resentment among users and agencies. • Pasture management plans are not implemented, poorly designed or ineffective, altering habitats and patterns of degradation. **Mitigation measures**: All the measures under Principle 10 and the following: • Exclude pastures in legally protected areas (managed reserves, national parks, natural monuments, nature reserves or protected landscapes) and in forestlands from pasture management plans. • Evolve officers from the Agency of Protected Areas and the National Forestry Agency in pasture use planning councils and in the development of pasture management plans for areas adjacent to protected and/or forested areas. • Recognize the proximity of protected areas and forests in pasture management plans, consider buffer zones or ecological corridors to improve ecosystem connectivity, and offer alternatives to grazing in forests. • Evaluate the implementation of grazing strategies and annual planning, and adjust them for the next grazing cycle.
10. Conservation of biological diversity		**Low risk**. The risk of significant or unjustified reduction or loss of biological diversity is low. On the contrary, the project aims to improve grazing practices. Unsustainable and uncoordinated grazing is flagged as one major threats to biological diversity. The project will identify critical habitats and define appropriate measures to protect them in pasture management plans. The project is likely to intervene on sites of the Emerald Network that covers 18.5 % of the country. Pasture management plans will adhere to conservation guidelines of the network. **Potential risk**.

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		• Pasture management plans are not implemented, poorly designed or ineffective, altering habitats and patterns of degradation. **Mitigation measures**. All the measures under Principle 9 and the following: • Identify habitats and species of high ecological value in pasture management plans, and include appropriate measures to protect them (e.g. grazing restrictions, fencing of critical habitats such as woodlands around frequently visited water points, or control of invasive species); • Engage an environmental and pasture specialist in the development of pasture management plans to help identify critical habitats and define appropriate conservation measures; • Follow management plans for pastures located in Emerald Network sites, and where not available, follow the "Guidelines on managing the Emerald sites, including climate change adaptation and mitigation"; and • Use native grass and tree species for reseeding and afforestation that are best-suited to a site's location.
11. Climate change		**Low risk**. The risk of increased greenhouse gas emissions is low. According the assessment with the EX-ACT tool the project will have a positive carbon balance thanks to improved pasture management and rehabilitation measures. **Potential risks**. • Greenhouse gas emissions increase due to increasing livestock numbers. • Grazing plans are not implemented, poorly designed or ineffective, limiting carbon sequestration in soils and vegetation. **Mitigation measures**. • Emphasize in trainings (under output 2.1.1.) that a greater productivity per animal is more important than having many animals that are unproductive. Productivity gains can be achieved through better feed, water provision and veterinary services. • Monitor livestock numbers through MEPA's National Animal Identification, Registration and Traceability System once per year. Elaborate measures to discourage herd growth if an unsustainable increase in livestock numbers is detected in project areas. • Repeat EX-ACT analysis and apply the GLEAM-I methodology at project mid-term and completion to calculate greenhouse gas emissions of the project. • Implement mitigation measures under Principles 9, 10 and 15 to improve carbon sequestration in soils and vegetation.
12. Pollution prevention and resource efficiency	X	**No risk**. No risks have been identified under this principle. The use of chemicals is not foreseen. Over-fertilization of pastures is unlikely. Risks related to natural resources such as pastures, soil and water have been assessed under the Principles 9, 10 and 15.
13. Public health	X	**No risk**. No risks have been identified. The project is designed and will be implemented in a way that avoids potentially significant negative impacts on public health. Animal health related issues will be referred to the National Food Agency that is responsible for food safety and veterinary services.
14. Physical and cultural heritage	X	**No risk**. No risks have been identified under this principle. The project will not alter, damage, or remove any physical cultural resources, cultural sites, or sites with unique natural values. The project will not intervene in areas having the status of a natural monument. Pasture management plans will not cover heritage sites.
15. Lands and soil conservation		**Low risk**. The project aims to have a positive impact on vegetative cover, introduce soil conservation measures, plant resilient and diverse native plant species and improve water management.

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		Potential risk. • Pasture management plans are not implemented, poorly designed or ineffective, altering habitats and patterns of degradation. **Mitigation measures**. These are the same as for Principles 9 and 10.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Project implementation

209. IFAD's existing project management unit that is located in MEPA will execute the project. The Ministry of Finance will act as the official representative of Georgia as the borrower/recipient and will be responsible for providing inter-agency coordination when required, and fulfilling the government fiduciary oversight and management responsibilities.

210. The project management unit in Tbilisi will be responsible for the day-to-day management and execution of project activities, including overall administration, fiduciary aspects, procurement, monitoring and evaluation. These positions are budgeted for and can be found in the budget section. The capacity of the unit will be strengthened through the recruitment of a pasture specialist and three regional extension officers under component 2 who will be responsible for guiding the technical implementation of the project. Through the implementation of the ongoing DiMMAdapt project, the project management unit and MEPA have gained experience in the implementation of Adaptation Fund projects.

211. The main implementing partners of the project will be NASLM and municipalities. Their capacities might be increased through hiring service providers to provide capacity building and implementation support. The service providers hired by the project will be vetted as competent individuals, consultancy firms, NGOs and government agencies.

212. This project heavily relies on GIS mapping and the management of geospatial data. MEPA will provide GIS experts to carry out this work. Agricultural extension officers in municipalities will play a key role in mobilising communities and implementing field activities.

213. IFAD will supervise the project directly. A baseline study will be carried out in the first year of project. A mid-term review will be carried out jointly with MEPA to evaluate project progress, identify areas for further improvement and revise project approach.

214. The project management unit will assign an officer to be the gender focal point of the project management unit to oversee the implementation of the gender action plan (annex 4). The expert will ensure that gender aspects are reflected in monitoring and evaluation such as the collection gender disaggregated data.

B. Financial and risk management

215. The Government of Georgia has taken a number of important steps toward improving its anti-corruption policies in recent years. Georgia ranks as number 41 out of 180 countries on the 2022 Corruption Perception Index of Transparency International. It is considered to be among the best in post-Soviet countries (Baltic States excluded). The programme management unit implementing IFAD-funded activities has a satisfactory performance. The main potential risks to programme success and mitigation strategies are summarized in the table below.

216. **Financial management arrangements**. The project management unit includes a finance officer and an administrative assistant who will report directly to the project director. All staff are or will be trained on IFAD anticorruption policies. Project risk level and the adequacy of these arrangements will be monitored and assessed by IFAD's financial management division on an on-going basis and throughout the implementation of the project during supervision missions.

217. **Budgeting**. The annual workplan and budget, and the procurement plan will be recorded in the project's accounting software, which will be able to generate timely and reliable reports on budget implementation by components, activities and financing categories as well as financiers and geographical area.

218. **Flow of funds and disbursement arrangements**. One designated account will be opened at a commercial bank to receive proceeds exclusively from the Adaptation Fund grant and will follow the revolving fund mechanism. The project will generate, approve and submit to IFAD its withdrawal applications through an online application that facilitates the approval and submission of WAs and

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provides the project with timely financial information and reports generated directly from the IFAD accounting system, further facilitating financial management at project level.

219. **External audit**. The project will submit an external audit report to IFAD within six months of the end of each fiscal year. The audit's Terms of Reference will be revised and cleared by IFAD before their submission to the audit firm (to be selected through a competitive process, in line with IFAD's auditing standards). IFAD will review the quality and timeliness of each audit report and ensure proper follow-up to audit recommendations contained in the mandatory Management Letter. Audit firm rehiring will only be possible for a maximum a four consecutive years, and conditional to the outcome of IFAD' yearly assessments. During project implementation, IFAD will also assess the possibility to assign the role of external auditor for the project to the Supreme Audit Institution depending on their capacity and availability.

220. **Procurement**. All procurement will be under the oversight of the project management unit. The procurement officer will oversee and carry out procurement activities in coordination with technical staff. The procurement of goods, works and services shall be carried out in accordance to IFAD's Project Procurement Guidelines. Each procurement plan will include the proposed contracts, methods of procurement and related IFAD review procedures. All contracts will be listed in the register of contracts, which will be updated and submitted to the IFAD country director on a quarterly basis. IFAD's review of and no-objection to a procurement plan is compulsory.

221. **Fraud prevention**. Fraud risks will be addressed in accordance with provisions of the IFAD Policy on Preventing Fraud and Corruption in its Activities and Operations, IFAD applies a zero-tolerance policy with regard to any fraudulent, corrupt, collusive or coercive actions in the projects it funds.

***Table 10**. Main potential risks to programme success and mitigation strategies. Note that social and environmental risk are addressed in the project's environmental and social management plan.*

Risk	Assessment	Mitigation measures
Changes in government reduce the ownership and slow down implementation	Low	Implementation will be carried out by the same project management unit of MEPA. The unit will continue to operate regardless of changes in government. Implementation with municipalities will also remain stable.
New law on pasture management faces delays in its adoption	High	The project will build on existing legal tools to form pasture user unions (as cooperatives or NGOs) and allocate usage rights to them (via leasehold agreements).
Delays in implementation of key activities cascade due to the phased approach	Moderate	The project will follow a phased approach and will not implement all activities in targeted municipalities at the same time.
International instability due to the war in Ukraine	Low	Implementation will continue to be carried out by the same pasture management unit under MEPA and is unlikely to be linked to regional instability.
Exchange rate. The USD-GEL exchange rate evolves unfavourably thus reducing available budget for implementation	Moderate	The proposed exchange rate is in line with forecasts for the next two years, and price contingencies (inflation) have been included in the budget. Payments will be done in tranches at different times to mitigate exchange rate fluctuations.
COVID-19 pandemic. New variants result in restrictions that hamper field implementation and limit international travel	Low	WHO declared end to COVID-19 as a global health emergency in May 2023.

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C. Environmental and social risk management

222. During the project formulation the following activities were carried out to meet the requirements of the Adaptation Fund's Environmental and Social Policy and IFAD's environmental and climate assessment procedures (SECAP):

- Screening of all project activities against the Adaptation Fund's 15 environmental and social principles to determine the project's risk category, and applying IFAD's environmental and social safeguards screening checklist (Section K in Part II);
- Conducting an environmental and social assessment (annex 3);
- Developing an environmental and social management plan (annex 3);
- Developing a gender action plan (annex 4); and
- Laying out a grievance redress mechanism.

223. The project has a **medium risk (Category B)** according to the Adaptation Fund's Environmental and Social Policy. According to IFAD's environmental and social safeguards screening checklist, the project has a "Moderate Environmental and Social Risk" and a "Moderate Climate Risk". The impact of the project on society and the environment is expected to be positive given its promotion of sustainable and community-based management of pastures to reduce risks related to climate change. Section K in Part II of this proposal presents the results of the screening process.

224. **Environment and social management plan**. The project will implement the plan found in annex 3. It lists the risks for each of the project's output, lays out measures how to mitigate them, and specifies how the measures will be verified. The costs for implementing the plan are fully embedded in the project's execution and implementation budget. Costs for mitigation measures are part of the project cost.

225. **Unidentified sub-projects**. Physical investments of demonstration plots and pasture management plans are yet to be determined and are classified as unidentified sub-projects with unknown risk status. The exact locations of the pasture infrastructure and rehabilitation works will be determined once the demonstration plots have been identified and pasture management plans have been developed. Each physical investment will be assessed for social and environmental risks prior to implementation. A committee at municipal level will screen all possible sub-projects against standardized checklists to determine the risk, its likelihood and magnitude. Where appropriate, mitigation measures will be applied and a site-specific social and environmental management plan will be prepared, or alternatives will be sought if the risks of non-compliance are too great. The implementation of sub-projects of higher risk status will be carried by the project or one of its implementing partners (NASLM, municipalities or service provider). The pasture expert and extension officers are ultimately responsible for ensuring that unidentified sub-projects comply with environmental and social safeguards. The pasture expert and the project's extension officers approve whether investments can go ahead. All location coordinates of investment sites will be mapped. Standardised checklists for each type of intervention will be developed in the first months of the project. Annual progress reports will include screening results and list all sub-projects.

***Table 11**. Physical investments of the project that are classified as unidentified sub-projects, and examples of the risks for which they will be examined*

Physical interventions	Examples of potential risks
Rehabilitation of access routes to summer pastures	Erosion along routes Damage of critical habitats Vulnerable users do not benefit from developments
Fencing (including mobile electric fencing) to aid with grazing management and protect sensitive areas such as riverine vegetation	Blocking of stock routes Impeding wildlife migration Vulnerable users do not benefit from developments
Water infrastructure (e.g. troughs, pipes or mini dams, cisterns) to improve water capture, retention and distribution throughout the grazing space	Water supply to downstream users disrupted Damage of critical habitats Vulnerable users do not benefit from developments

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Shelters to protect livestock	Erosion caused by building or passing livestock Damage of critical habitats Vulnerable users do not benefit from developments
Planting of trees and reseeding	Use of species that are not adapted or suitable to a site
Soil conversation measures	Soil disturbances causing erosion
Control of weeds and scrubs	Soil disturbances causing erosion

226. **Grievance and redress mechanism**. The project will use the grievance redress mechanism that is in operation in the IFAD investment portfolio in Georgia. The mechanism complies with IFAD's social and environmental policies and its Social, Environmental and Climate Assessment Procedures (SECAP) that aims to prevent and mitigate undue harm to people and the environment.

227. The project aims to prevent grievances by consulting stakeholders from the start, by providing them with sufficient and timely information, and by responding to their concerns.

228. Those who believe that they are or can potentially be adversely affected by the project can submit a formal complaint and raise concerns that the project is not complying with its social and environmental policies or commitments. Action will be taken on all submitted grievances.

229. The grievance redress mechanism will be available in the project intervention areas. Stakeholders will have access to contact details of a focal point within the project management unit to whom they can submit complaints. Information about the existence and functioning of the project's grievance redress mechanism will be shared with communities and other stakeholders during the project inception workshop and subsequent meetings with beneficiaries.

230. A complaint for alleged non-compliance with IFAD's social and environmental policies and mandatory aspects of its SECAP must meet the following criteria:

- The complainants claim that IFAD has failed to apply its social and environmental policies and/or the mandatory provisions set out in SECAP;
- The complainants claim that they have been or will be adversely affected by IFAD's failure to apply these policies;
- Complaints must be put forward by at least two people who are both nationals of the country concerned and/or living in the project area;
- Complaints from foreign locations or anonymous complaints will not be taken into account; and
- Complaints must concern projects currently under design or implementation. Complaints concerning closed projects, or those that are more than 95 per cent disbursed, will not be considered.

231. The mechanism has three levels to handle grievances and complaints. The first is at the field level with field staff aiming to resolve the complaint. If the grievance is not resolved at this level, it will be escalated to the project management unit – the second level of the mechanism. A resolution will be sought by the project management unit and Steering Committee meetings. All submitted complaints at this level will be included in progress reports to IFAD for reporting and monitoring purposes. If still no resolution is found, the grievance is escalated to the third level of the mechanism which is with IFAD. IFAD will be responsible for addressing grievances related to violation of any of the provisions of the Environmental and Social Policy of the Adaptation Fund.

232. In cases where the project does not adequately respond or if the complainants feel they might be subject to retaliation, the issue may be brought straight to IFAD following a separate complaint's procedure. More information can be found on the website of IFAD's accountability and complaints procedures.

D. Monitoring and evaluation

233. Project monitoring and evaluation (M&E) will be under the oversight of the project management unit of IFAD that is currently implementing the DiMMA project. DiMMA's monitoring and evaluation system and

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manual will be extended in the first year to capture M&E requirements of the new project. The current system consists of a computerized database with dashboards. Data collected in the field will be ingested into the system. The M&E officer will manage the system, work closely with implementing partners and train them on how to collect M&E data. The M&E system will:

- produce, organize and disseminate the information needed for the strategic management of the project;
- document the results and lessons learned for internal use and public dissemination; and
- respond to the information needs of the Adaptation Fund, IFAD and the Government on the activities, immediate outcomes and impact of the project.

234. The monitoring and evaluation system will be coupled with a geographic information system (GIS) that will allow mapping and spatio-temporal analyses. The GIS officer will work in close collaboration with the M&E officer. Geo-coordinates (with at least 10 meter accuracy) and pictures will be collected for pasture infrastructure and rehabilitation grants. Field staff will be trained to collect data correctly.

235. Day to day monitoring of implementation progress will be the responsibility of the project team, based on the project's annual work plan and its indicators. During the first months of the project, the project team will complete and fine-tune baseline data for each indicator, and will define and fine-tune performance. Specific targets for the first year of implementation, progress indicators, and their means of verification will be developed at the inception workshop.

236. **Project inception workshop**. A workshop will be conducted within four months of project start up with the project team, relevant government counterparts and IFAD. The inception workshop is crucial to building ownership and to plan the first-year annual work plan. The project management unit will present the modalities of project implementation and execution, and assist the project team to understand and take ownership of the project's goals and objectives. A project inception report will be prepared immediately after inception workshop. It will include:

- an annual work plan and budget for the first year of implementation divided in quarterly time-frames detailing the activities and targets;
- a M&E plan for the duration of the project;
- a narrative on the institutional roles and responsibilities, as well as feedback mechanisms of project-related partners;
- the outline and scope of the baseline study; and
- a section on progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation.

237. **Baseline study**. A baseline study will be conducted within the first year to collect data and serve as the basis for the assessment of how efficiently the activity has been implemented and results achieved. The survey will follow IFAD's core outcome indicators measurement guidelines (read more here). The study will include the target group and a control group which will be essential to determine the attribution of results to programme activities.

238. **Quarterly progress reports**. Project implementing partners in the field will submit these reports to the project management unit to ensure continuous monitoring of project activities and identify challenges to adopt necessary corrective measures in due time.

239. **Annual project performance report of the Adaptation Fund**. The project will submit a project performance report each year using the Adaptation Fund template. This report includes information on finance, procurement, risk assessment, rating, indicators, results, and lessons learned. The project will be reviewed and completed by IFAD, which will forward the report to the Adaptation Fund.

240. **Supervision**. IFAD will undertake an in-country supervision mission at least once per year following its supervision framework and guidelines. Additional implementation support from IFAD on specific identified issues will be mobilized if considered necessary by the Government and IFAD. The supervision report will highlight, in addition to the routine supervision tasks (fiduciary, compliance and programme implementation), the main thematic or performance areas that require strengthening and would imply deployment of additional inputs for capacity building, in-depth analytical studies or review of existing policies.

241. **Mid-term review**. This will be carried out in the third year of the project by an independent party. It will assess operational aspects such as programme management and implementation of activities as well

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as the extent to which the objectives are being fulfilled. Corrective actions will be decided upon for the programme to achieve impact.

242. **Final evaluation**. This will be conducted three months before project closure and will include a project completion survey. It will be carried out by an independent party. The survey will include the same set of questions used at baseline to allow for comparison against baseline results. In addition, a panel of households will be interviewed to provide a qualitative analysis of programme impact. Moreover, analysis will be done by type of beneficiary, region and gender of household head.

***Table 14**. M&E budget*

M&E item	Responsibility	Timing	Total available budget in USD
M&E officer	Project coordinator	Continuous	120 000
Baseline study	External consultants	Year 1	20 000
Inception workshop and M&E plan development	Project coordinator and M&E officer	Year 1	20 000
Mid-term evaluation	External consultants	Year 3	20 000
Completion evaluation	External consultants	Year 5	40 000
Technical support and supervision	IFAD	Continuous	350 000

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E. Results framework

243. The following table presents the results' framework of the project:

Objective	Indicator	Target	Verification
Enhance the resilience to climate change of pasture users	Number of households reporting improved access to pastures under improved management practices	10,000 households	Mid-term evaluation and completion survey
Component 1. Pasture resources accounting, user inventory and pasture allocation			
Outcome 1.1. Vulnerable pasture users have improved access to and greater tenure security over pastures	Percentage of households and communities having more secure access to livelihood assets (AF 6.1)	60% of households	Mid-term evaluation and completion survey
Output 1.1.1. Pasture resources accounted and conditions assessed	Sets of cartographic materials [8]	2 sets of cartographic materials	Project M&E and progress reports
	Assessment study of stock routes	1 study	Project M&E and progress reports
Output 1.1.2. Capacity built on municipal pasture use planning	Number of public officials trained on legal and technical aspects of sustainable pasture management in the context of climate change	200 public officials (30% women)	Project M&E and progress reports
	Number of municipal pasture management councils established	8 councils	Project M&E and progress reports
Output 1.1.3. Pasture users inventoried, registered and rights allocated	Number of villages and their surrounding pastures inventoried	300 villages	Project M&E and progress reports
	Number of digital maps with proposed grazing units at municipal level created	8 municipal grazing unit maps	Project M&E and progress reports
	Number of households / agricultural holdings registered	6,000 households / holdings registered	Project M&E and progress reports
Component 2. Pasture management planning and rehabilitation			

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[8] i) pasture locations and ownership in selected municipalities, and ii) vegetation class and conditions at national level

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Outcome 2.1. Adaptation practices in sustainable pasture management disseminated and accelerated	Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses (AF 3.1)	80% of targeted population	Mid-term evaluation and completion survey
Output 2.1.1. Capacity built on adaptive grazing management and pasture rehabilitation	Number of pasture demonstration sites established	24 demonstration sites	Project M&E and progress reports
	Number of pasture users trained in community-based pasture management	1,500 pasture users trained (30% are women)	Project M&E and progress reports
Outcome 2.2. Pasture ecosystems have greater capacity to respond to climate change impacts	Number of hectares of pastures under improved management (corresponding to AF 5)	30,000 hectares under improved management	Mid-term evaluation, completion report, GIS analysis and impact study
Output 2.2.1. Pasture management plans developed	Number of villages covered by pasture management plans	300 villages	Project M&E and progress reports
Output 2.2.2. Pasture infrastructure and rehabilitation measures implemented	Number of hectares with physical investments (infrastructure and/or rehabilitation sites)	15,000 hectares with physical investments	Project M&E and progress reports including GIS analysis
Output 2.2.3. Grazing strategies and plans implemented	Number of hectares under improved management	30,000 hectares under improved management	Project M&E and progress reports including GIS analysis
Component 3. Strengthening governance and knowledge on pastures			
Outcome 3.1. Climate change priorities are mainstreamed in the pasture policy reform	Number of policies introduced or adjusted to address climate change risks (AF 7.1)	1 policy	Project M&E and progress reports
Output 3.1.1. Pasture policy reform supported	Number of multi-stakeholder meetings organized	10 meetings	Project M&E and progress reports
	Capacity assessment of NASLM	1 assessment	Project M&E and progress reports
Output 3.1.2. Knowledge services and products developed and disseminated	Extension materials developed	1 set of extension materials	Materials published on MEPA's website
	Communication products developed	5 communication products	Project M&E and progress reports

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F. Alignment with the results framework of the Adaptation Fund

244. This project is aligned with the Adaptation Fund's strategic results framework and directly contributes to the Fund's overall objective and outcomes, as shown in the following table.

***Table 12**. Alignment of the project with outcomes and outputs of the results framework of the Adaptation Fund (AF)*

Project outcome	Project outcome indicator	Adaptation Fund outcome / output	AF outcome / output indicator	Grant (USD)
Component 1. Pasture resources accounting, user inventory and pasture allocation				
Outcome 1.1. Vulnerable pasture users have improved access to and greater tenure security over pastures	Percentage of households and communities having more secure access to livelihood assets	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.1 Percentage of households and communities having more secure access to livelihood assets	585 300
		Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	NA	
Component 2. Pasture management planning and rehabilitation				
Outcome 2.1. Adaptation practices in sustainable pasture management disseminated and accelerated	Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	742 300
		Output 3.1: Targeted population groups participating in adaptation and risk reduction awareness activities	NA	
Outcome 2.2. Pasture ecosystems have greater capacity to respond to climate change impacts	Number of hectares of pastures under improved management	Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	6 506 000
		Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	
Component 3. Strengthening governance and knowledge on pastures				
Outcome 3.1. Climate change priorities integrated in the new law on pasture management	Number of policies introduced or adjusted to address climate change risks	Outcome 7: Improved policies and regulations that promote and enforce resilience measures	7. Climate change priorities are integrated into national development strategy	509 000
		Output 7: Improved integration of climate-resilience strategies into country development plans	7.1. No. of policies introduced or adjusted to address climate change risks (by sector)	

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G. Budget

***Table 13**. Detailed budget of the project per activity*

Output	Activity	Total cost (in $)
Component 1. Pasture resources accounting, user inventory and pasture allocation		
Output 1.1.1. Pasture resources accounted and conditions assessed	Identification and categorization of pasturelands and hayfields on target areas	36 000
	Assessment of pasture vegetation types and their condition	50 000
	Support in selection of municipalities	12 800
	Assessment of stock routes	20 000
Output 1.1.2. Capacities built on municipal pasture use planning	Training of government officials and field staff	40 000
	Development of guidelines, detailed protocols and schedules for the pasture use planning at municipal level	22 500
	Establishment of municipal pasture management councils	44 000
Output 1.1.3. Pasture users inventoried, registered and rights allocated	Recruitment of field facilitators to mobilize communities for identification and mapping of users	60 000
	Organization of village-level meetings for identification and mapping of users	45 000
	Assembling records and digitization	30 000
	Delineation of grazing units and recommendation of a tenure regime	45 000
	Recruitment of field facilitators to mobilize communities to organize them in user groups	30 000
	Organization of village-level meetings to discuss registration as unions or as lessees	90 000
	Additional legal or any other expert support to register groups and lessees	60 000
Total cost Component 1		585 300
Component 2. Pasture management planning and rehabilitation		
Output 2.1.1. Capacity built on adaptive grazing management and pasture rehabilitation	Establishment of demonstration plots	120 000
	Physical capacitation of pasture user groups (seed capital, office, equipment, etc.)	400 000
	Organization of study tours	36 000
	Regional extension specialists (3 persons)	186 300
Output 2.2.1. Pasture management plans developed	Development of pasture management plans	750 000
	Pasture management expert (full-time)	120 000
Output 2.2.2. Pasture infrastructure and rehabilitation measures implemented	Implementation of pasture management plans - Investments in village pastures	4 500 000
	Implementation of pasture management plans - Investments in winter and summer (nearby and remote) pastures	1 000 000

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Output 2.2.3. Grazing strategies and plans implemented	Monitoring of implementation of grazing schedules and evaluation of the ecosystem's response	120 000
	Yearly assessment of pasture interventions	16 000
Total cost Component 2		7 248 300
Component 3. Strengthening governance and knowledge on pastures		
Output 3.1.1. Pasture policy reform supported	Recruitment of legal experts for further analysis of legislative development and providing support in drafting and passing new legislation (including travel)	18 000
	Recruitment of adaptation experts to ensure adaptation considerations (including travel)	13 500
	Organization of regular multi-stakeholder meetings and workshops	30 000
	Needs assessment of NASLM	10 000
	Recruitment of a consultant(-s)/company to develop the web-solution to administer pasture information and disposal	100 000
	Building the capacities of NASLM based on needs assessment results	225 000
Output 3.1.2. Knowledge services and products developed and disseminated	Development of extension materials on good management practices in the context of climate change	15 000
	Communication Specialist (part-time consultant, including travel)	22 500
	Communication materials	50 000
	Communication campaign meetings (in some of the selected municipalities and villages)	25 000
Total cost Component 3		509 000
Total cost of 3 components		8 342 600
Project execution cost		
Project management unit	Project manager	150 000
	Accountant	132 000
	M&E officer	120 000
	Procurement specialist	112 000
	Office administrator	18 000
	Baseline study	20 000
	Inception workshop	20 000
	Midterm review evaluation	20 000
	Completion evaluation	40 000
	Annual audit	50 000
	Office equipment for staff	22 166
	Office operating expenses and staff travel	50 000

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Project execution cost (9.5%)	**754 166**
Total project cost	**9 096 766**
Operational and financial management	150 000
Project development and implementation support	250 000
Technical support and supervision	350 000
Project cycle management fee charged by the implementing entity (8.5%)	**750 000**
Amount of financing requested	**9 846 766**

H. Disbursement schedule

	Year 1 2024-25	Year 2 2025-26	Year 3 2026-27	Year 4 2027-28	Year 5 2028-29	Total
Total project cost	700 666	2 018 400	2 733 900	2 430 900	1 212 900	9 096 766
Implementing entity fees	150 000	150 000	150 000	150 000	150 000	750 000
Total	850 666	2 168 400	2 883 900	2 580 900	1 362 900	9 846 766

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PART IV: ENDORSEMENT

A. Record of Endorsement by Designated Government Authority

Ms Nino Tandilashvili Deputy Minister of Environmental Protection and Agriculture of Georgia	Date: 14 August 2023

MINISTRY OF ENVIRONMENTAL PROTECTION
AND AGRICULTURE OF GEORGIA

34, Marshal Gelovani ave
Tbilisi, 0156, Georgia
+995 32 237 80 13
+995 32 237 80 44
info@mepa.gov.ge

14 August 2023

N 6549/01

LETTER OF ENDORSEMENT BY GOVERNMENT

14 August 2023

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Dairy Modernization and Market Access: Adaptive and climate-resilient pasture management (DiMMAdapt+)

In my capacity as designated authority for the Adaptation Fund in Georgia, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the country.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the International Fund for Agricultural Development (IFAD) and executed by the Ministry of Environmental Protection and Agriculture (MEPA) of Georgia.

Sincerely,
Ms. Nino Tandilashvili
First Deputy Minister,
Ministry of Environmental Protection and Agriculture of Georgia

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B. Implementing Entity Certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Implementing Entity coordinator: Mr Juan Carlos Mendoza Casadiegos Director Environment, Climate, Gender and Social Inclusion Division	
Date: 18 August 2022	e-mail: ecgmailbox@ifad.org
HQ Focal point: Ms Janie Rioux Senior Climate Finance Specialist ECG Division	email: j.rioux@ifad.org
Project contact persons:	
Mr Walid Nasr Regional Climate and Environment Specialist	e-mail: w.nasr@ifad.org
Mr Samir Bejaoui IFAD Georgia Country Director	e-mail: s.bejaoui@ifad.org

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ANNEXES

Annex 1. Letter of request from MEPA to IFAD

IFAD received the following letter from the Deputy Minister of MEPA requesting further financial resources to support sustainable pasture management in Georgia in September 2021.

საქართველო
GEORGIA

საქართველოს ეკონომიკის და მდგრადი განვითარების სამინისტრო
MINISTRY OF ENVIRONMENTAL PROTECTION AND AGRICULTURE OF GEORGIA

N 9733/01
15/09/2021

9733-01-2-202109151641

To: Mr. Vrej Jijyan
Country Programme Manager
IFAD

Dear Mr. Jijyan,

First of all, I would like to express my gratitude for the very important support that IFAD and the Adaptation Fund are providing to the dairy sector of Georgia in the framework of the Dairy Modernization and Market Access Programme (DiMMA) and its adaptation component DiMMAdapt.

The goals and objectives of the DiMMAdapt programme are fully in line with the strategy of the Government, in particular to help smallholder farmers adopt best practices in pasture management, reduce the vulnerability of the dairy value chain to the deleterious impacts of climate change and enhance the resilience to climate change of vulnerable dairy producers.

The Georgian dairy sector still needs financial/technical assistance in order to create fully climate-proof pastoral ecosystem (through water management, pasture regeneration, disaster risk reduction) and build the resilience of vulnerable smallholders. These priorities are covered by the DIMMAdapt programme, for which the Government would like to see DiMMAdapt cover the entire country.

0159, საქართველო, თბილისი, მარშალ გელოვანის გამზ. №6, ტელ: +(995 32) 2378013 / +(995 32) 2378044
www.mepa.gov.ge
6, Marshal Gelovani ave., Tbilisi 0159, Georgia, Phone :+(995 32) 2378013 / +(995 32) 2378044

11.

We kindly request IFAD to undertake the development of a new proposal to the Adaptation Fund, for an amount of 10 million USD to scale up DiMMAdapt so that it may become a national programme.

We express our readiness to work closely with you to develop the project proposal and endorse the allocation of additional funds.

Once again, please accept the assurances of my highest consideration.

Sincerely,

Nino Tandilashvili
Deputy Minister

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Annex 2. Stakeholder consultations

Table 1*. Names and contacts of government officials and international experts consulted during the project formulation*

Name and gender		Position and agency	Email	Meeting date	Format
Gizo Chelidze	M	Head of Hydroamelioration and Land Resource Management Department, Ministry of Environmental Protection and Agriculture (MEPA)	gizo.chelidze@mepa.gov.ge	14/3/2022, 26/4/2023, 25/5/2023, 17/7/2023, 26/7/2023, 3/8/2023	In-person, and virtual
Nino Chikovani	F	Head of Land Resources Protection Division, Ministry of Environmental Protection and Agriculture (MEPA)	Nino.Chikovani@mepa.gov.ge	14/3/2022, 26/4/2023, 25/5/2023, 17/7/2023, 26/7/2023, 3/8/2023	In-person, and virtual
Isabelle Lagaillarde	F	Team leader, International Fund for Agricultural Development (IFAD)	zimex@wanadoo.fr	Multiple meetings	In-person
Tamaz Dundua	M	Program Manager, Biological Farming Association Elkana (ELKANA)	manager@elkana.org.ge	15/03/2022	In-person
Sophiko Akhobadze	F	Director, Regional Environmental Centre for the Caucasus (RECC)	sophiko.akhobadze@rec-caucasus.org	15/3/2022, 18/4/2023, 25/4/2023	In-person
Nicholas Sharp	M	International consultant for pastureland restoration and monitoring methodologies	nick@agrolynx.org	16/03/2022, 07/04/2022	Virtual
Nino Chkhobadze	F	Director, Greens movement of Georgia (Greens)	nino.chkhobadze@gmail.com	16/03/2022	In-person
Lali Durmishidze	F	Director of DiMMA, Project management unit of IFAD (PMU)	Lali.Durmishidze@mepa.gov.ge	26/10/202, 26/4/2023	In-person
Tamuna Tsintsadze	F	M&E Officer of DiMMA, Project management unit of IFAD (PMU)	Tamar.Tsintsadze@mepa.gov.ge	26/10/2022	In-person
Ekaterine Gurgenidze	F	Gender Focal Point of DiMMA, Project management unit of IFAD (PMU)	Ekaterine.Gurgenidze@mepa.gov.ge	26/10/2022	In-person
Ketevan Sharabidze	F	Deputy Project Director of DiMMA, Project management unit of IFAD (PMU)	Ketevan.Sharabidze@mepa.gov.ge	26/10/2022	In-person
Tamar Khmaladze	M	Officer at the Ministry of Environmental Protection and Agriculture (MEPA)	Tamar.khmaladze@mepa.gov.ge	16/03/2022	In-person
Maya Tskhvadaze	F	Head of Climate Change Division, Ministry of Environmental Protection and Agriculture (MEPA)	Maya.Tskhvaradze@mepa.gov.ge	16/3/2022, 25/4/2023	In-person
Temur Paichadze	M	Deputy head of the hydroamelioration and land	Temur.Paichadze@gmail.com	16/03/2022	In-person

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Name and gender		Position and agency	Email	Meeting date	Format
		resource management department, Ministry of Environmental Protection and Agriculture (MEPA)			
Tamar Tsintsadze	F	KM Officer of DIMMA, Project management unit of IFAD (PMU)	Tamar.Tsintsadze@mepa.gov.ge	16/3/2022, 26/10/2022	In-person
Beka Gonashvili	M	Chairperson, Shepherd's Association of Georgia	beka@me.com	16/03/2022	In-person
Giorgi Tsikhelashvili	M	Member of Dmanisi City Council, Dmanisi municipality		17/03/2022	In-person
Temuri Dautashvili	M	Leading Specialist of Dmanisi Consulting Service, Dmanisi municipality		17/03/2022	In-person
Giorgi Mentesashvili	M	Leading Specialist of Dmanisi Consulting Service, Dmanisi municipality	Giorgi.Mentesashvili@mepa.gov.ge	17/03/2022	In-person
Nodar Tsikhelashvili	M	Chief Specialist of Dmanisi Consulting Service, Dmanisi municipality	Nodar.Tsikhelashvili@mepa.gov.ge	17/03/2022	In-person
Marina Shvangiradze	F	Former coordinator for Communications to the UNFCCC	mshvangiradze@hotmail.com	18/03/2022	In-person
Besik Macharashvili	M	Agency of Rural Development and Agriculture of MEPA (ARDA)	Besik.Macharashvili@rda.gov.ge	18/03/2022	Virtual
Tornike Kapanadze	M	Agency of Rural Development and Agriculture of MEPA (ARDA)	Tornike.Kapanadze@rda.gov.ge	18/03/2022	Virtual
Giorgi Misheladze	M	Head of land resource management and land use monitoring agency, LEPL The National Agency for Sustainable Land Management and Land Use Monitoring (NASLM)	giorgi.misheladze@land.gov.ge	18/3/2022, 14/3/2022	In-person
Mindia Jokhadze	M	Deputy chairman, LEPL The National Agency for Sustainable Land Management and Land Use Monitoring (NASLM)	Mindia.Jokhadze@land.gov.ge	18/03/2022	In-person
Ketevan Skhireli	F	GCF-funded Project Manager, United Nations Development Programme (UNDP)	ketevan.skhireli@undp.org	18/03/2022	Virtual
Edvard Shermandini	M	Agricultural Expert, United Nations Development Programme (UNDP)	edvard.shermadini@gmail.com	18/03/2022	Virtual
Malkhaz Dzneladze	M	Head of Development and Programme Management, Regional Environmental Centre for the Caucasus (RECC)	malkhaz.dzneladze@rec-caucasus.org	21/3/2022, 20/6/2023	Virtual

11.

Name and gender		Position and agency	Email	Meeting date	Format
Sarah Robinson	F	International expert on pastoralist governance systems	sarah.robinson09@gmail.com	22/3/2022, 14/4/2023, 20/6/2023	Virtual
Dragan Angelovski	M	Chief Technical Advisor, Food and Agriculture Organization of the United Nations (FAO)	Dragan.Angelovski@fao.org	22/03/2022	Virtual
Kakha Artsivadze	M	Environment Specialist, Centre for Biodiversity Research & Conservation (NACRES)	kakha.artsivadze@nacres.org	22/03/2022	Virtual
Maia Zumbulidze	F	GIS specialist, Regional Environmental Centre for the Caucasus (RECC)	mzumbulidze@yahoo.com	29/03/2022	Virtual
Zurab Kulijanashvili	M	Regional coordinator of DiMMA, Project management unit of IFAD (PMU)	zuragbdc@gmail.com	21/10/2022	In-person
Giorgi Zakaidze	M	Chairman of LEPL The National Agency for Sustainable Land Management and Land Use Monitoring (NASLN)	Giorgi.Zakaidze@land.gov.ge	18/3/2022, 16/3/2022, 27/10/2022	In-person
Ana Rukhadze	F	Project manager, Regional Environmental Centre for the Caucasus (RECC)	ana.rukhadze@rec-caucasus.org	27/10/2022, 20/6/2023	Virtual
Aleksandre Mikeladze	M	Financial Director, Society for Nature Conservation and Birdlife Partner (SABUKO)	alex.mikeladze@sabuko.org	24/10/2022	In-person
Giorgi Chikorashvili	M	Conservation Officer, Society for Nature Conservation and Birdlife Partner (SABUKO)	Giorgi.Chikorashvili@sabuko.org	24/10/2022	In-person
Amiran Kodiashvili	M	Field Coordinator (Dedoplistkaro), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	amiran.kodiashvili@giz.de	24/10/2022	In-person
Zaza Nonashvili	M	Specialist at Forest Policy Division, Ministry of Environmental Protection and Agriculture (MEPA)	Zaza.Nonashvili@mepa.gov.ge	28/10/2022	In-person
Misha Sokhadze	M	National Animal Identification and Traceability Systems - National Team Leader, Food and Agriculture Organization of the United Nations (FAO)	Misha.Sokhadze@fao.org	27/10/2022	In-person
Eka Andguladze	F	Deputy Head of Veterinary and Sanitation Division, LEPL National Food Agency (NFA)	Eka.Andguladze@nfa.gov.ge	27/10/2022	In-person
Otar Parkadze	M	Head of the Epidemiology Division, LEPL National Food Agency (NFA)	otar.parkadze@nfa.gov.ge	27/10/2022	In-person

11.

Name and gender		Position and agency	Email	Meeting date	Format
Zurab Bregvadze	M	Senior Specialist, Division of Relations with International and Donor Organizations, Strategic Development Department, LEPL The National Agency for Sustainable Land Management and Land Use Monitoring (NASLM)	zurab.bregvadze@land.gov.ge	27/10/2022	In-person
Dimitri (Dito) Kvirikashvili	M	Livestock production specialist of DIMMA, Project management unit of IFAD (PMU)	dimitri.kvirikashvili@outlook.com	26/10/2022	In-person
Toma Dekanoidze	M	Agency of Protected Areas (APA)	Toma.Dekanoidze@apa.gov.ge	01/11/2022	Virtual
Tamar Khakhishvili	F	Deputy chairperson, Agency of Protected Areas (APA)	Takokhakhishvili@gmail.com	01/11/2022	Virtual
Lasha Meskhi	M	Head of systematic land registration division , National Agency of Public Registry (NAPR)	lmeskhi@napr.gov.ge	28/10/2022	Virtual
Sophio Chelidze	F	Head of Sales at State Property Privatization Department, National Agency of State Property of the Ministry of Economy and Sustainable Development (NASP)	schelidze@nasp.gov.ge	02/11/2022	Virtual
Giorgi Mchedlidze	M	Head of Administration, National Agency of State Property of the Ministry of Economy and Sustainable Development (NASP)	gmchedlidze@nasp.gov.ge	02/11/2022	Virtual
Ilia Tamarashvili	M	Consultant, IFAD, Diary Improvement, Modernization and Market Access Project, Adaptation Component (DiMMAdapt)	ilia.tamarashvili@mepa.gov.ge	26/7/2023, 17/7/2023, 3/8/2023	In-person and virtual

***Table 2**. Names and contacts of farmers/processors visited in the field*

Names	Picture	Place	Phone	Location	Visit
Kartlos Gvirjishvili (male), farmer		Uraveli villiage, Akhaltsikhe Municipality	592919793	41.550948, 43.105621	08/03/22
Jaba Khozrevanidze (male), farmer		Patara Zanavi village, Adigeni municipality	599464018	41.697277, 42.714302	08/03/22

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Names	Picture	Place	Phone	Location	Visit
"Tsipora" Ltd – Processor in Claster, Village Uraveli		Uravela Village, Akhaltsikhe Municipality	599878872	41.550376, 43.063245	08/03/22
Koba Chulukhadze (male), farmer		Meore Sviri, Zestaponi Municipality	599774421	42.138343, 42.949406	09/03/22
Gocha Barateli (male), farmer		Meore Sviri, Zestaponi Municipality	551020296	42.122788, 42.923479	09/03/22
Ekaterine Surmava (female), processor Zestaponuri Ltd		Rodinauli Village, Zestaponi Municipality		42.166889, 42.868034	09/03/22
Emzar Akhvlediani (male), farmer		Qveda simoneti villiage, Terjola	599975888	42.197141, 42.755573	09/03/22
Name not available, applicate for demonstration farm		Near Vartsikhe Village		42.163666, 42.730358	09/03/22
Name not available, (male), farmer and owner of large flock of sheep		Giorgitsminda		41.734525, 45.347664	11/03/22
Nurlana Azizova (female), farmer		Kariani village, Dmanisi municipality		41.366788, 44.118932	17/03/22
Nodar Lagurashvili, Vasil Aduashvili, Tamaz Odzishvili and Jumber Aduashvili, (all		Gantiadi village, Dmanisi municipality		41.336630, 44.261846	17/03/22

11.

Names	Picture	Place	Phone	Location	Visit
male), farmers and shepherd					
Anzor Iremadze (male), farmer		Avranlo village, Tsalka municipality	595916645	41.655896, 43.893296	18/10/22
Gulnara Paqsadze (female) and Rostom Paqsadze(male), both farmers		Avranlo village, Tsalka municipality	598095137	41.653732, 43.885088	18/10/22
Givi Sibadze (male) and Nona Sibadze, mother (female), both farmers		Rekha village, Tsalka municipality	598586258	41.683029, 43.855688	18/10/22
Henri Bolkvadze (male), farmer		Gumbati village, Tsalka municipality	557122249	41.659089, 43.920752	18/10/22
Valeh Jamalov (male), farmer		Iormughanlo village, Sagarejo municipality	595127478	41.584190, 45.511862	19/10/22
Tariel Griqulov (male) and mother Tatiana Grigulov (female), both farmers		Badiauri village, Sagarejo municipality	593329157	41.644716, 45.564398	19/10/22
Nodar Qevkhishvili (male), NAME (male) (Anzor Qevkhishvili Azeri family son who wants become a vet and mother Lamzira Qevkhishvili (female)		Akura village, Telavi municipality	577222023	41.872236, 45.633207	19/10/22
Nunu Aptsiauri (female), farmer (husband Archil Aptsiauri)		Akhmeta town, Akhmeta	577474648	42.040263, 45.188962	19/10/22

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Names	Picture	Place	Phone	Location	Visit
Oganes Krtian (male), Vova Aratunuian (male), and mother Sevar Krtiani (female), all farmers		Kulalisi village, Akhaltsikhe municipality	592000938	41.615617, 42.927427	20/10/22
Vepkhia Papidze (male) and his wife Ketevan Papidze (female), both farmers		Skhvilisi village, Akhaltsikhe municipality	597233357	41.637538, 42.928358	20/10/22
Anaid Serophian (female) and her husband Valer Serophian(male), and young girl super involed (female), all farmers		Tsira village, Akhaltsikhe municipality	579450230	41.686315, 42.966268	20/10/22
Manuchar Sandroshvili (male) and his wife NAME Nona Sandroshvili (female), both farmers		Rustavi village, Aspindza municipality	555930060	41.624345, 43.136374	20/10/22
Marina lomidze (female), Ineta shanidze (female) and Manana Shavadze (female), all farmers		Rustavi village, Aspindza municipality	599011643	41.623127, 43.126301	20/10/22
Zurab Gobadze (male), farmer		Zanavi village, Adigeni municipality	599462291	41.697450, 42.726206	21/10/22
Guliko Gobadze (female), Marina Anshvalidze (female), Mediko Shavadze (female), and two women who didn't want to state their names, all farmers		Zanavi village, Adigeni municipality	591980117	41.695095, 42.726218	21/10/22
Malkhaz Aladashvili (male), farmer		Near Chachuna Managed Reserve	599484999	41.325671, 45.882808	24/10/22

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Names	Picture	Place	Phone	Location	Visit
Ucha Iakobashvili (male), farmer		Samreklo village, Dedoplistsqaro municipality	568200032	41.467508, 46.142528	25/10/22
Pavle Tavadze (male), farmer		Samreklo village, Dedoplistsqaro municipality		41.467508, 46.142528	25/10/22
Georgi Amiridze (male), veterinarian	Not available	Dedoplistsqaro town	558120949	41.467508, 46.142528	25/10/22
Nana Sharvadze (female), Swiss school		Dmanisi, Qvemo kartli	599711107	41.492918, 44.116649	20/04/23
Tamaz Chutkerashvili		Tadzrisi Village, Borjomi	599106967	41.727058, 43.289637	20/04/23
Irakli Goginashvili (Male)		Benara village, Adigeni	579210484	41.659674, 42.828466	20/04/23
Davit Papuashvili (male), Kakha Gogoladze (male), Archil Kapanadze (male), all farmers		Tsnisi, Akhaltsikhe Municipality	591449725	41.675307, 43.067984	20/04/23
Gocha Tizadze (male), farmer		Aspindza, Aspindza municipaliry	557407606	41.564762, 43.246272	21/04/23
Nina Marikiani (female), farmer		Eshtia village, Akhalkalaki municipality	551086326	41.343049, 43.611975	22/04/23

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Names	Picture	Place	Phone	Location	Visit
Hovanez Tevanian (male), farmer		Gandza village, Ninotsminda municipality	592422000	41.354174, 43.753653	22/04/23

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Annex 3. Environmental and social assessment and management plan

1. Screening and categorization

A screening of environmental and social risks was carried out according to the requirements of the Adaptation Fund's Environmental and Social Policy and IFAD's environmental and climate assessment procedures (SECAP). All project activities were screened against the 15 environmental and social principles of the Adaptation Fund, as well as against IFAD's environmental and social safeguards screening checklist.

The project has a **medium risk (Category B)** according to the Adaptation Fund's Environmental and Social Policy. According to IFAD's SECAP, the project has a "moderate environmental and social risk" and a "moderate climate risk". The checklist of environmental and social principles of the Adaptation Fund is found in Section K "Environmental and Social impacts" in Part II of the proposal.

Significant negative impacts on society and environment are unlikely because of the scope of the activities, which are numerous, at small scale and very localized. The project will apply strong participatory methods to engage with pasture users to attain their consent on planned project activities, in order to mitigate social risks and impacts. Transboundary impacts are highly unlikely. Cumulative impacts are also unlikely.

The checklist and IFAD's risk categorization of projects have been updated with the revision of IFAD's SECAP in 2021. A project's risk to adversely impact people and the environment, as well its vulnerability to climate change are assessed and categorized into four different risk levels (low, moderate, substantial and high) in order to identify all possible risks as well as measures to mitigate them. The updated SECAP is aligned with the Adaptation Fund's Environmental and Social Policy, and its 15 safeguard areas and Gender Policy.

2. Environmental and social assessment

The project design team assessed all project activities against the 15 environmental and social principles of the Adaptation Fund. This assessment builds on and expands the SECAP review note that was submitted at the concept note stage of the project. The design team identified the most likely environmental or social risks, assessed the level of risk, and developed measures to avoid, minimize, or mitigate the risks. The results of the assessment are presented below.

Principle 1. Compliance with the law

Risk level. The risk of the project not complying with this principle is low. The project management unit and other government authorities will ensure compliance with the relevant national laws. Compliance will be monitored through the grievance redress mechanism, progress reports, supervision missions, the mid-term review; impact assessment; and terminal evaluation. No further assessment of potential impacts and risks is required for this principle.

National legislation. A review of legislation relevant for pasture management in Georgia was carried out by RECC as part of the DiMMA-funded "Feasibility Study of Integrated Pastureland and Livestock Development in Georgia" in 2021. The project management unit and government agencies implementing the project will ensure compliance to relevant national laws that the study identified. These include the following:

- **Law of Georgia on Soil Protection**, 2002. The law defines soil protection measures and means, including cultural and technical measures to protect the soil of pasturelands and hayfields to increase their fertility and improve vegetation (view).
- **Law on Soil Conservation and Restoration-Improvement**, 2003. The law states that excess grazing that causes erosion on mountainous pasturelands is prohibited. However, the law is vague and does not specify winter pasturelands, nor does it prescribe official norms for livestock stocking rates (view).
- **Law on State Property**, 2010. State-owned pastureland cannot be privatized or registered in municipalities. The main form of access is a lease issued to an individual or legal entity by auction (view).
- Resolution 242 of the Government of Georgia of August 20, 2010 "**On Approval of the Forest Use Rule**" allows the use of the forest fund for agricultural purposes using methods that do not harm tree seedlings, do not cause damage to woody plants and do not cause erosive events.

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Forest use for agricultural purposes is allowed only in compliance with the requirements of the Food / Animal Feed Safety, Veterinary and Plant Protection Code and the Resolution of the Government of Georgia #198 of July 30, 2013. According to the Resolution, organic farming should include soil fertility and conservation measures, maximize the integrity of biodiversity and ecosystems, as well as take into account local and regional ecological characteristics. Article 7 of the Resolution determines the maximum number of livestock per hectare to minimize the risk of overgrazing, soil erosion and contamination by too much manure. It should be noted that the permissible quantity per hectare is defined only for organic production and other cases are not regulated by the law (view).

- Resolution Number 415 of the Government of Georgia of 2013 on the approval of the Regulation on "**Determination of Soil Fertility Level**" and "**Soil Conservation and Fertility Monitoring**". The Resolution does not specify the specific agency that should carry out the fertility assessment. It generally instructs those who have the authority to inspect the soil of agricultural lands to carry out monitoring, determine their fertility level and develop recommendations (view).
- Government Resolution 265 of 2017 on the **Rational Use of Pastures and Mowing Lands in Mountainous Regions**. The Resolution defines the conditions for leasing pastureland to cooperatives in mountainous areas (view).
- Legislative amendment of 2019. After which the Law on "Agricultural Land Ownership" expired and the Law on "**Defining the Target Land and Sustainable Management of Agricultural Land**" came into force (view text1 and text2).
- **Law on Spatial Planning**, 2020. The Law defines framework conditions for zoning and land management at the municipal level. But at this level the government has negligible regulatory power over pasturelands, most of which are privately or state-owned (view).

In addition the project will comply with the following overarching laws and codes:

- **Law on Food Safety, Veterinary and Plant Protection** (No. 2285 of 17 April 2014). The purpose of this law is to protect human life and health, consumer interests, animal health and welfare, and plant health as well as to define the unified principles of state regulation and to form an effective system of state control in the fields of food/feed safety, veterinary and plant protection. The project will ensure alignment with this law in component one through the promotion of fodder diversification and improved conservation methods that will ensure better livestock health through improved animal nutrition and general animal health with improved shade and watering points.
- **Law on Water** (No. 494 25 March 2013). The legislation intends to protect water bodies and ensure the rational use of water resources considering the interests of present and future generations and the principles of sustainable development. Through the promotion of nature conservation as forms of DRR component one aims to retain water in soil; improve drainage; promote water spring restoration; and shade through reforestation in water points.
- **Law on Environmental Impact Permits** (No. 5602 01 January 2008). This law regulates any organised activity or action which poses a threat to human health or life.
- **Code of Good Agricultural Practices** (CGAP) (GoG 2007). The code contains legal obligations, recommendations and practical advice envisaged for individual growers and farmers, large agricultural companies, agriculture service and extension employees and for everyone who is involved in agricultural production and preservation of the rural environment. Through partnership with IFAD and its experience of successful project implementation in Georgia, the project will ensure adherence to the CGAP.
- **Law on Agricultural Land Ownership** (No. 389 14 June 2000). The law provides a legal framework for farming organised on rational land use, and improve agrarian structures, to avoid the fragmentation and inappropriate use of land.
- **Forest Code** (22 June 1999). The Forest Code of Georgia establishes legal grounds for conducting tending, protection, restoration, and use of the Georgian Forest Fund and its resources. It conserves and protects unique natural and cultural environment and its specific components - flora and fauna inclusive, biodiversity, landscape, cultural and natural monuments located in forests, and endangered plant species; regulating harmonized interrelations between these components. The project will ensure adherence to the forest code through developing pasture management plans that will promote the conservation and regeneration of natural landscapes used as pastures.

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- **Law on Environmental Protection** (10 December 1996). The law ensures the protection of the environment and rational use of nature by the state, as well as to provide an environment harmless for human health, in accordance with ecological and economic interests of society, taking into consideration the interests of current and succeeding generations. Environmental protection is the main objective of the project. This will be achieved through multiple avenues such as training of pasture users and the development of pasture management plans to ensure pasture conservation and increased productivity.

Principle 2: Access and equity

Risk level. The risk is low. The project's objective is to improve tenure security over pastures. It proposes a community-based spatial planning mechanism that acknowledges traditional pasture usage and allocates resource rights. At the same time, the project will have safeguards in place to prevent tenure conflicts. The project will not issue land agreements for or intervene on pastures that are subject to overlapping use claims that are unlikely to be resolved.

Assessment. The project design team carried out the following activities:

- Reviewed available literature and policy reviews, and compiled cartographic material;
- Conducted field visits to understand what kind of pastures livestock keepers are using, how they access them and what tenure issues they have;
- Conducted interviews with government staff from various agencies (see annex 2);

Pasture ownership. The vast majority of pastures are under state ownership. Though reliable statistics on pastureland registration and ownership are lacking (an estimated 66% of pasturelands are unaccounted for), the majority of pastures are state-owned. There is a lack of basic data on pastures. There is no complete database that holds information on e.g. unregistered and registered pastures, forms of ownership, issued leases or other forms of use agreements, pasture conditions, number of permitted livestock, etc. The pastureland policy document estimates the current ownership of pastures as follows:

- The National Agency for State Property (NASP) under the Ministry of Economy is responsible for 70-80% of pastures;
- Private owners hold around 10% of pastures;
- Municipalities own around 5% pastures; and
- The Agency for Protected Areas (APA) holds 10% and the Forest Fund 2%.

Pasture governance. All major literature sources including Georgia's Fourth National Communication to the UNFCCC and the National Biodiversity Strategy and Action Plan of Georgia 2014-2020 highlight the lack of current national legislation on pasture management. There are no legal arrangements for system-wide pasture management. The distribution of roles among central and local governments in spatial planning, land management and administration is not efficient in the pasture sector. There is no legally designated body managing state pasture lands, with exception to those areas allocated for management to the Agency for Protected Areas and the National Forestry Agency.

Pasture usage. Large areas of state-owned pasturelands are used informally. Despite having no legal status, many pasturelands are used by livestock keepers and are *de facto* commonly managed. The community groups do not have use and ownership rights of pastures potentially resulting in alienation of these pastures.

Pasture allocation. Existing pasture allocation practices are not adequate. Formally, these pasturelands should be accessed through leasehold contracts, but only a small percentage is leased. The leasing process is held through an electronic auction at national level awarding the highest bidder pastureland. The existing pasture allocation via an auction system has its flaws and is available only to large livestock owners due to its high transaction costs and emphasis on financial criteria to win the bid.

Project interventions. The project aims to support the government to formulate and implement the new law through piloting community-based pasture recordation and management approaches. The pasture resources accounting, user inventory and pasture allocation (Component 1) present a one-off planning process for 300 villages laid out by the "National Pastureland Management Policy Document". The process consists of four steps:

1. **Pasture resources accounting**. Identifying where pastures are, whom they belong to and in what condition they are;

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2. **Participatory user inventory**. Recording groups and individuals, what pastures they use and how they are using them;
3. **Defining grazing units**. Delineating units/allotments according to usage, users and other criteria; recommending a tenure regime and obtaining the consent to users to the suggested; and
4. **User registration and rights allocation**. Registering potential leases, and existing pasture user groups as pasture user unions, and allocating use rights to them.

Pasture allocation to users is the primary factor in pasture management. It determines how grazing occurs on the landscape and ecosystem scale, and is an enabler for adaptation. An effective allocation system provides incentives for pasture users to adapt to climate change whilst making it possible to hold them accountable when resources are not well managed.

The project aims to increased access to natural resources. Through increased tenure security and the rehabilitation of stock routes, pasture users and their communities will have better access to pastures and water sources. Secure access to pastures is of great importance for vulnerable households and individuals such as women and youth, because many do not own land and rely on the commons to feed their animals. The demarcation of state-owned pastures and documentation of current users of these pastures will inform the pasture allocation procedure. Greater tenure security is achieved through the participation of vulnerable users in the pasture-use planning procedure and assigning usage rights to groups of users with whom the project will develop management plans.

Because of the project, pasture users will be better coordinated and in a better position to sustainably manage pastures, as well as respond to climate extremes. Group cohesion will be strengthened through the participatory establishment of management plans and agreeing on broad rules and conditions for pasture use. Youth and women will be fully engaged in the process. The better pasture users are organized, the less likely a “tragedy of commons” scenario will occur where individual users act independently according to their own self-interest causing the degradation of pasture resources.

Potential risks. The project design team aims to mitigate the following risks:

- Inadequate participation of pasture users poses a risk. Vulnerable pasture users including women are not adequately represented in the municipal pasture use planning. Users are at risk of being excluded from pastures because they or their claims are not identified, or they do not reveal which pastures they are using.
- Resentment could be caused due to overlapping use claims over pastures (that are unlikely to be resolved), or because grazing units have inappropriate boundaries, pasture zone and tenure regime (make grazing inefficient, ignoring stock routes, not respecting traditional usage).
- Users face registration problems. They do not join the union (e.g. they are reluctant to join, very busy, or others want to exclude them) hence prohibiting them to use pastures under the common resource property management system, or they have difficulties to register as lessees and to obtain leaseholds.

Mitigation measures. The project will apply the following measures:

- Ensure participatory and consultative processes of pastures users to ensure their participation in the pasture use planning process. Social mobilization will occur at times and in locations convenient to vulnerable user groups, and where applicable make arrangement for translation.
- Identify all current users and mapping the pastures they use through the participatory mapping process.
- Establish grazing units that recognise and are based on historic and current usage.
- Obtain the consent of communities to proposed grazing units, their zoning and tenure regime. Allocate usage rights to users only when there are no overlapping usage claims.
- Map stock routes and integrate them into management plans to ensure that livestock migration is supported and not obstructed (e.g. by fencing or reducing the extent of resting areas).
- Establish councils consisting of all pasture-related stakeholders – including vulnerable users – to guide municipal pasture use planning.
- Use the grievance redress mechanism to actively capture complaints and resolve them.

Indicators. The project will measure the following indicators:

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- Number of identified user groups and individual pasture users, and their main characteristics (e.g. number of livestock, type of grazing system, number of agricultural holdings (large, medium and small), number of women-headed holdings, number of professional shepherds, presence of ethnic minorities, etc.)
- Number and area size in hectares of grazing units that
    1. have been delineated
    2. are subject to overlapping claims (this means that several users or groups claim the usage rights over the same pasture) and are being mediated
    3. are excluded from the project because of conflict or other reason
    4. have received consent to the borders, zoning and tenure regime from its users
    5. have been awarded to lessess
    6. have been allocated to pasture user unions
- Number of lessees (disaggregated by gender) who
    1. registered
    2. received leasehold contracts
- Number of pasture user unions
    1. registered
    2. received land documents for grazing units
- Main characteristics of a pasture user union:
    1. Number of agricultural holdings
    2. Number of women-headed holdings
    3. Estimate number of livestock per type
    4. Number and hectares of grazing units by pasture zone
- Number of grievances reported, addressed and escalated
- Number of pasture management plans recognizing transhumance migration.

Principle 3: Marginalized and vulnerable groups

Risk level. The project is unlikely to impose any disproportionate adverse impacts on marginalized and vulnerable groups. On the contrary, the project aims to support on vulnerable pasture users including small livestock-keeping households (owning less than 5 cattle or 20 sheep), women, youth, ethnic minorities, shepherds and transhumant farmers that use pastures under state ownership, both in lowlands and highlands.

Assessment. The following analysis is largely based on detailed assessments that have been carried out during the design of Dairy Modernization and Market Access Project (DiMMA) and DiMMAdapt projects.

Unemployment is high in Georgia. According to Geostat, 17.3% of the labour force was unemployed in 2022, with women at 14.6% and men at 19.3%. Migration to cities and abroad is largely driven by the lack of decent jobs and opportunities. The majority of those who migrate from Georgia are men aged 24-34.

Poverty is still persistent. Georgia was classified by the World Bank as upper-middle income country with GNI per capita US$ 5,620 in 2022. According to Geostat, poverty reached its highest level in country's history of 37.3% in 2010, then decreased to 22% in 2016 and further to 15.6% in 2022. Nevertheless, structural challenges persist, notably weak productivity and limited high-quality job creation. The Government of Georgia is assessing poverty level in country using two methods: i) Registered Poverty for assessing beneficiaries of social assistance programmes, ii) Relative Poverty based on median consumption.

Poverty is more pronounced in rural areas. Two thirds of all poor households live in rural areas, where every second household can be considered poor along the US$2.50/day international poverty

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line (in urban areas poverty is considerably lower, affecting one out of every four households). According to Geostat, 20.6% of rural households were below the absolute poverty line in 2022, compared to 12.3% in urban areas. The mean monthly income per household in rural areas was 92.2 GEL in 2015, making it 21 percent less compared to urban areas, where it was 1,142.3 GEL (Geostat data, 2015). The average income of those self-employed in agriculture (including in-kind consumption) is only around 20 percent of that of urban salaried workers.

Poverty level has geographic characteristics in Georgia. Different regions develop unequally, with Tbilisi, the capital, accounting for half of the country's GDP. The city-region's per capita output levels are almost twice the national average and more than three times that of the most lagging regions. However, poverty is not fully defined by administrative boundaries in Georgia. It is evident that poverty in general is lower in industrial (Kvemo Kartli) and services oriented regions (Adjara), than in agrarian (Mtskheta-Mtianeti). Poverty level is the lowest in Tbilisi and is highest in Shida Kartli and Mtskheta Mtianeti region. The latest official data gives a picture of a poverty level by region by tracking those who applied and were registered to be recipients of the Targeted Social Assistance (TSA) and on the actual recipients of the TSA by region. The Social Services Agency's data for 2016 and 2017 is in line with the poverty data by regions assessed by the World Bank in 2015.

There is a large variation of poverty level within the regions. The large variation of the recipients of TSA by municipalities shows various level of poverty level within the regions. It can be seen, that the number of poor in one municipality can range from 5.3 percent to 32.6 percent in Imereti, from 5.5 percent to 46.8 percent in Samegrelo-Zemo Svaneti, and from 2.7 percent to 15 percent in Samtskhe-Javakheti.

The demographic and employment factors of the household can affect poverty level of community. The causes of poverty in rural areas include the level of education, labour market status and gender of the household head. According to the WB Poverty Assessment, the poor and bottom 40 are more likely: (i) to live in larger households with a greater number of dependents; (ii) to live in households headed by someone with less than secondary education; (iii) to be unemployed or economically inactive; (iv) to have household heads who are less likely to be in paid work and more likely to be self-employed (which is largely how subsistence farmers are classified); and (v) to live in households headed by women. Among those households where the head is unemployed, poverty rate is 24 percent as compared to 14 percent among households whose head is employed.

Poor and extremely poor households in Georgia own limited land and livestock. About 36 percent of poor households report no land ownership, and 50 percent of landless are extremely poor. Poor households in general do not hold cattle, and only 16,5 percent of those who live under poverty line have cattle, with no more than three heads.

According to the Economic and Social Vulnerability Assessment in Georgia conducted by the UNDP (2013), households living in mountainous areas are more prone to economic and environmental shocks. Of all households that took part in the assessment, and who have experienced at least one shock with a negative impact, 50 percent did not have the resources to resort to any mitigation strategy. This group of population, along with the IDPs, have also much lower access to education and health services, due to financial constraints. Moreover, lack of market opportunities is more pronounced among households living in mountainous areas. They are less likely to be able to raise cash and 55 per cent of the participant in the assessment claimed that it is very difficult to find a job and generate income in their area.

According to the Integrated Household Budget Survey only 16.5% of those who live under poverty line had cows, most of them 91.4% had no more than 3 cows in 2014. However, to be eligible for state social benefits, household should not possess any livestock and thus, poor households prefer not to have livestock.

Country has a high number of vulnerable groups, such as Internally Displaced Persons (IDP). These are people had escaped conflicts or had to leave their homes in two waves: first wave was in the early nineties from the Tskhinvali Region-South Ossetia and the Abkhazian Autonomous Republic, and second wave was again in August 2008. The IDP status in Georgia is granted to the children of IDPs as well. The number of IDPs in country reached 246,974 in 2014, making them 6 percent of total population. Families displaced from Abkhazia have mainly settled in the adjacent regions of Samegrelo and Imereti, and in major urban areas such as Tbilisi and Batumi. IDPs from the Tskhinvali Region - South Ossetia are largely located in the adjacent region of Shida Kartli. The GoG provides IDPs with the one-off cash assistance, universal status-based welfare assistance that includes, among other benefits, the provision of a monthly cash allowance to IDPs. The IDP families living in extreme poverty are also eligible for a one-time cash allowance and rental assistance. However, about 80 percent of the IDPs are unemployed and still face livelihood challenges.

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Agricultural products sale and labour wages are becoming key factors of poverty reduction in rural areas. The World Bank poverty assessment concluded that rural poverty reduction is only associated with the rural growth and growth in agricultural sector, and was not influenced by the urban growth, meaning that agricultural product sales have not increased or if they have, have not affected rural poverty levels. In addition to social benefits, the major drivers of poverty reduction have been wages, which have increased 1.8 times, sales of agricultural products, which increased 1.6 times, and income from self-employment, which increased 1.5 times during last five years.

Youth makes about fifth of the population in Georgia. About 40 percent of population in Georgia are children and young people up to 29 years old, and every fifth Georgian is 15-29 years old (Population census, 2014). However, the share of young people has decreased by 4 percent during the last decade. More than 40 percent of young people of 15-29 year old live in rural areas.

Unemployment is an issue for youth. Young people, especially in rural areas experience many challenges, and especially lack of decent employment opportunities. At age 29, 81.3 percent of males are economically active, against 61.7 percent of females. At the same time, almost 30 percent of young people of 15-29 year old were unemployed in 2014, with significantly more women being out of labour market than men. Data suggests, that chances for poverty are higher in households with young people.

Due to lack of off farm employment, many in rural areas are engaged in agriculture, but with limited knowledge and skills they are mostly working as labour, or self-employed as subsistence or semi subsistence smallholders. A significant group of young people continues to work in agriculture: at age 25 – 29, 16.6 percent of males and 9.9 percent of females work as self-employed farmers. When they are motivated to increase their production, they face problems with access to finances mostly due to lack of credit history and collateral. Several state and donor funded programmes address issues of young people in rural areas through improvement of their skills to match current demands with reforming vocational professional training programmes, introducing work based learning in agricultural sector. Several NGOs work with young farmers empowering them through coaching and training programmes based on the Farmers Field School (FFS), providing matching grants while facilitating their access to loans.

The primary food security and nutrition issue is the affordability of food, with various data suggesting that an average household in Georgia spends more than half, and poor households more than 56 percent of the income on purchasing food. Hunger does not present significant problem in Georgia, with stunting prevalence in country 11.3 percent, wasting at 1.6 percent in 2015 (UNICEF, WHO and WB). Of children less than five years, underweight prevalence was 1.2 percent, wasting 1.6 percent, and stunting 11 percent. Overall, food consumption is generally sufficient in calories with average dietary supply adequacy at 116% (2014-2016), and an average protein intake of 75 g/day. However, food consumption is characterized by low to medium nutritional diversity leading to worrisome levels of the obesity among adult population and children, with adult and child obesity prevalence at 20 percent, and non-pregnant women at 42 percent (2015, UNICEF, WHO and WB).

Project interventions. The project aims to support vulnerable pasture users such as small livestock owning households, shepherds, women-headed households, rural women, youth as well as ethnic minorities such as Azeri-speaking community members to have more secure tenure over pastures and better manage them. Pasture users will be better coordinated and in a better position to sustainably manage pastures, as well as respond to climate extremes. Group cohesion will be strengthened through the participatory establishment of management plans and agreeing on broad rules and conditions for pasture use. The better pasture users are organized, the less likely a “tragedy of commons” scenario will occur where individual users act independently according to their own self-interest causing the degradation of pasture resources.

Potential risk: Vulnerable pastures users including women are not adequately mobilized, and hence are excluded from project activities.

Mitigation measures: Vulnerable pasture users will be mobilized to partake in the municipal pasture planning process and in the development of pasture management plans and activities. The project’s targeting approach aims to help vulnerable groups have better and more secure access to pastures. Measure include:

- Mainstream social criteria in the guidelines and detailed protocols for the pasture use planning at municipal level, and in the guidelines with eligibility rules and criteria for leasehold award;
- Ensure representation of vulnerable pasture users in municipal pasture management councils;
- Identify, capture and involve vulnerable users in the participatory user inventory, formulation pasture user unions and registration of lessees;

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- Ensure the participation of vulnerable users in the development of pasture management plans; and
- Include vulnerable users in policy consultations.

Indicators. These are covered in principle 3 and in the gender action plan.

Principle 4: Human rights

No risks of human rights violations have been identified during project design. The project will not tolerate any human rights violations. The project will comply with the requirements of all relevant human rights conventions. Compliance will be monitored through the grievance redress mechanism, progress reports, supervision missions, the mid-term review; impact assessment; and terminal evaluation. No further assessment of potential impacts and risks has been carried out.

Principle 5: Gender equity and women's empowerment

The project is designed and shall be implemented in such a way that both women and men (a) are able to participate fully and equitably; (b) receive comparable social and economic benefits; and (c) do not suffer disproportionate adverse effects during the development process.

Assessment. The design team carried out the following activities in accordance to the Gender Policy of the Adaptation Fund:

- Preliminary gender assessment was carried out during concept note stage;
- Field consultations were carried out in November 2022 and April 2023 by a social inclusion and gender expert who was part of the design team;
- A gender assessment was carried out by the social inclusion and gender expert; and
- A gender action plan with measures and indicators was developed.

Stakeholder consultation and engagement. See the gender assessment and action plan in annex 4.

Gender-responsive intervention measures. See the gender assessment and action plan in annex 4.

Gender-responsive results framework and indicators. See the gender assessment and action plan in annex 4.

Principle 6: Core labour rights

No risks were identified at project appraisal. The project will comply with the core labour standards as identified by the International Labor Organization, of which Georgia is a member and has ratified the eight Fundamental Conventions. To date, no violations of this principle have been reported in IFAD operations in Georgia. The project will ensure that all appropriate health and safety measures are taken in accordance to national and international standards. It will not engage or promote child labour in any of its activities. Compliance will be monitored through the grievance redress mechanism, progress reports, supervision missions, the mid-term review, and terminal evaluation.

Principle 7: Indigenous peoples

This principle does not apply, as there are no indigenous peoples in Georgia. No further assessment of potential impacts and risks has been carried out.

Principle 8: Involuntary resettlement

This principle does not apply, as the project does not involve resettlement. Tenure issues are addressed in Principle 2 on access and equity. No further assessment of potential impacts and risks has been carried out.

Principle 9: Protection of natural habitats

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Risk level. The risk of unjustified conversion or degradation of critical natural habitats is low. The project will not intervene on pastures in national parks and forestlands because of different land use objectives and management approaches. The project's social and environmental management plan lays out measures to mitigate potential risks, as described in the following paragraphs.

Assessment. The project design team conducted the following activities:

- Reviewed available literature and management plans, and compiled cartographic material;
- Interviewed livestock keepers using pastures in protected and/or forested areas in three municipalities;
- Interviewed staff from the Agency of Protected Areas (APA) and the National Forestry Agency;
- Visited a pasture management project around the Chachuna managed reserve of the Society for Nature Conservation (SABUKO).

Legally protected areas and forestlands. Approximately 10% of pastures are located in areas with a legal protection such as managed reserves, national parks, natural monuments, nature reserves or protected landscapes. These areas are managed by the Agency of Protected Areas (APA). These pastures are important grazing areas. Examples include the alpine summer pastures of the Tusheti protected areas and the steppe winter pastures of the Vashlovani national park. Several national parks (such as the Tusheti protected areas, the Vashlovani national park and the Chachuna managed reserve) have established pasture management plans and systems to give users access to pastures and regulate grazing to ensure that conservation objectives are met while the resource is used sustainably. There is no consistent methodology for developing these plans. A number of agencies have contributed to the development of the plans, including the Centre for Biodiversity Research & Conservation (NACRES), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the Society for Nature Conservation (SABUKO). Users can obtain leaseholds for 5 years. Half of the fees go to the agency, the other half to the municipality. Most of the pastures are used by individuals with large herds.

Forests cover about 40% of the country and are managed by forest funds of the National Forestry Agency. Management plans exist for a quarter of the forest area. There are few grazing lands (less than 2% of all grazing lands). Most are very small plots. Grazing in forests is not allowed, but it is common. It is one of the causes of forest degradation as it hinders forest regeneration. Restricting grazing and other forest uses, such as timber extraction, is difficult because rural people depend on the resource.

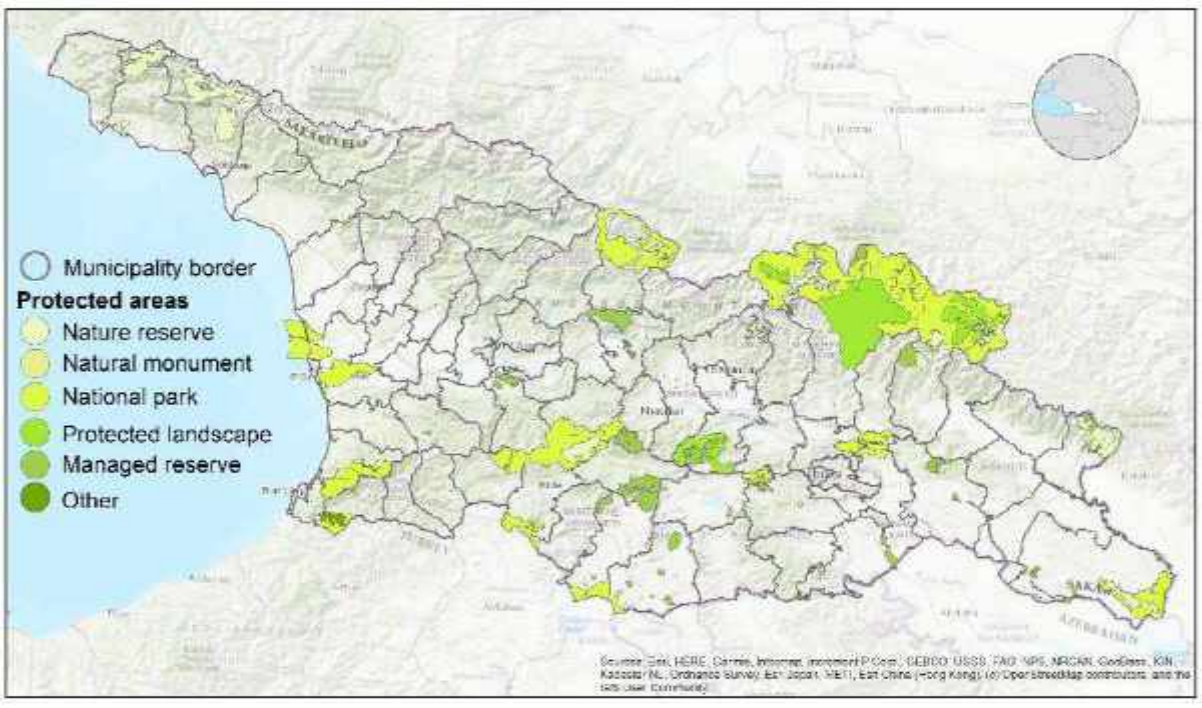

***Figure 1**. Map of legally protected areas in Georgia*

11.

Project interventions. The project aims to have a positive impact on grassland habitats. Healthy pastures ecosystems have a greater capacity to adapt to a drier, hotter and more variable climate. A successful project will improve ecosystem services associated with grazing. Roaming livestock distribute nutrients contained in dung and urine across landscapes. By carrying seeds in their guts and coats, livestock distribute seeds and support habitat connectivity.

Field-level interventions will take place in 8 municipalities that have a high number of degraded pastures, covering 300 villages/settlements. For each of the villages the project will develop a pasture management plan with grazing strategies and investment priorities for rehabilitation activities.

The project will not develop plans for or intervene in pastures located in national parks and forestlands due to different land use objectives and management approaches. Interventions will take place in the vicinity of protected areas and forests, and management plans will take their presence into account. The project is likely to intervene in sites of the Emerald Network.

Project implementers need to be aware that in some cases livestock keepers allow their animals to graze in neighbouring forests, damaging young trees and hindering forest regeneration. Plans should therefore seek alternatives to this practice by providing access to other areas or improving available pastures on state-owned land.

Potential risks. The current pasture allocation and management practices are neither appropriate nor adequate in terms of sustainable pasture and livestock management. The project will aim to change this. Yet there might be the risk that grazing plans are not implemented, poorly designed or not effective, altering habitats or changing degradation patterns.

Mitigation measures. The project will carry out the following measures:

- Exclude pastures in legally protected areas (managed reserves, national parks, natural monuments, nature reserves or protected landscapes) and in forestlands from pasture management plans;
- Evolve officers from the Agency of Protected Areas and the National Forestry Agency in pasture use planning councils and in the development of pasture management plans for areas adjacent to protected and/or forested areas;
- Recognize the proximity of protected areas and forests in pasture management plans, consider buffer zones or ecological corridors to improve ecosystem connectivity, and offer alternatives to grazing in forests; and
- Evaluate the implementation of grazing strategies and annual planning, and adjust them for the next grazing cycle.

Indicators. The project will monitor mitigation measures through the following indicator (in addition to the indicators listed under principle 10 (conservation of biological diversity);

- Number and size of grazing units bordering protected areas; and
- Number of hectares and percentage of pastures under improved grazing management.

Principle 10: Conservation of biological diversity

Risk level. The risk of significant or unjustified reduction or loss of biological diversity is low. The project will not introduce invasive species. On the contrary, the project aims to improve grazing practices. Unsustainable and uncoordinated grazing is flagged as one major threats to biological diversity. The project will identify critical habitats and define appropriate measures to protect them in pasture management plans. The project is likely to intervene on sites of the Emerald Network that covers 18.5 % of the country. Pasture management plans will adhere to conservation guidelines of the network.

Assessment. The project design team carried out the following activities:

- Reviewed available literature and compiled cartographic material;
- Reviewed regulations and guidelines of Emerald Network sites; and
- Interviewed staff of the Society for Nature Conservation (SABUKO) and the Centre for Biodiversity Research & Conservation (NACRES).

Grassland types and habitats. Grasslands are an important and integral part of Georgia's biodiversity. Pasturelands and haylands cover around 1.7 million ha, which present 25% of the country's area. They account for more than 50% of agricultural areas, according to the National Pastureland Management

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Policy Document from December 2022. The Fourth National Communication of Georgia to the UNFCCC, published in 2021, has a dedicated chapter on pastures and climate change. Pasture ecosystems can be divided into four main categories:

- **High mountain meadows** around found above 1600 meters altitude. They are divided into typical high mountain meadows, subalpine meadows and alpine meadows;
- **Low mountain and valley meadows** are found in west and east Georgia's foothills and valleys;
- **Steppes** are found in east Georgia in the driest areas of Kakheti and Shida Kartli; and
- **Semi-deserts** are found in the Eldari plain and valleys of Kvemo Kartli, as well as, on the plains of Shiraki and Alazani at between 200-800 meters above sea level.

The Communication also lists 25 grassland habitats that are found in Georgia, using EUNIS, a comprehensive pan-European system for habitat identification system:

- E1.1. Inland sand and rock with open vegetation:
- E1.2. Perennial calcareous grassland and basic steppes:
- E1.2E. Irano-Anatolian steppes:
- E1.4. Mediterranean tall-grass and Artemisia steppes:
- E2.1. Permanent mesotrophic pastures and aftermath-grazed meadows:
- E2.2. Low and medium altitude hay meadows:
- E2.32. Ponto-Caucasian hay meadows:
- E2.5. Meadows of the steppe zone:
- E2.7. Unmanaged mesic grassland:
- E2.8. Trampled mesophilous grasslands with annuals:
- E3.4. Moist or wet eutrophic and mesotrophic grassland:
- E3.5. Moist or wet oligotrophic grassland:
- E4.1. Vegetated snow-patch.
- E4.13. Ponto-Caucasian snow-patch grassland:
- E4.2. Moss and lichen dominated mountain summits, ridges and exposed slopes.
- E4.3. Acid alpine and subalpine grassland:
- E4.44. Ponto-Caucasian alpine grassland:
- E4.442. Caucasian alpine grassland:
- E5.1. Anthropogenic herb stands.
- E5.2. Woodland fringes and clearings and tall forb stands.
- E5.3. Pteridium aquilinum fields.
- E5.4. Moist or wet tall-herb and fern fringes and meadows:
- E5.5. Subalpine moist or wet tall-herb and fern stands
- E5.5A. Pontic-Caucasian Highland Communities:
- E6.2 Continental inland salt steppe

Emerald Network. The Emerald Network is a network of areas of special conservation interest. It was established by the Council of Europe as part of its work under the Bern Convention that aims to conserve Europe's wildlife and natural habitats with specific protection measures. These habitats and species are listed respectively in Resolution No. 4 (1996) and Resolution No. 6 (1998) of the Standing Committee to the Bern Convention.

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According to the Emerald Network Barometer, there are 66 Emerald Network sites in Georgia, covering more than 12,900 km^2 or 18.5 % of the country's territory. Information on each site such as habitat types and species listed in Resolution 6 can be found in the Emerald Network Viewer.

The majority of Emerald Network sites in Georgia that hold pastures do not have management plans. Therefore, the project should follow the "Draft guidelines on managing the Emerald sites, including climate change adaptation and mitigation". The guidelines provide practical guidance on how to identify measures to protect habitats and species in Emerald Network sites.

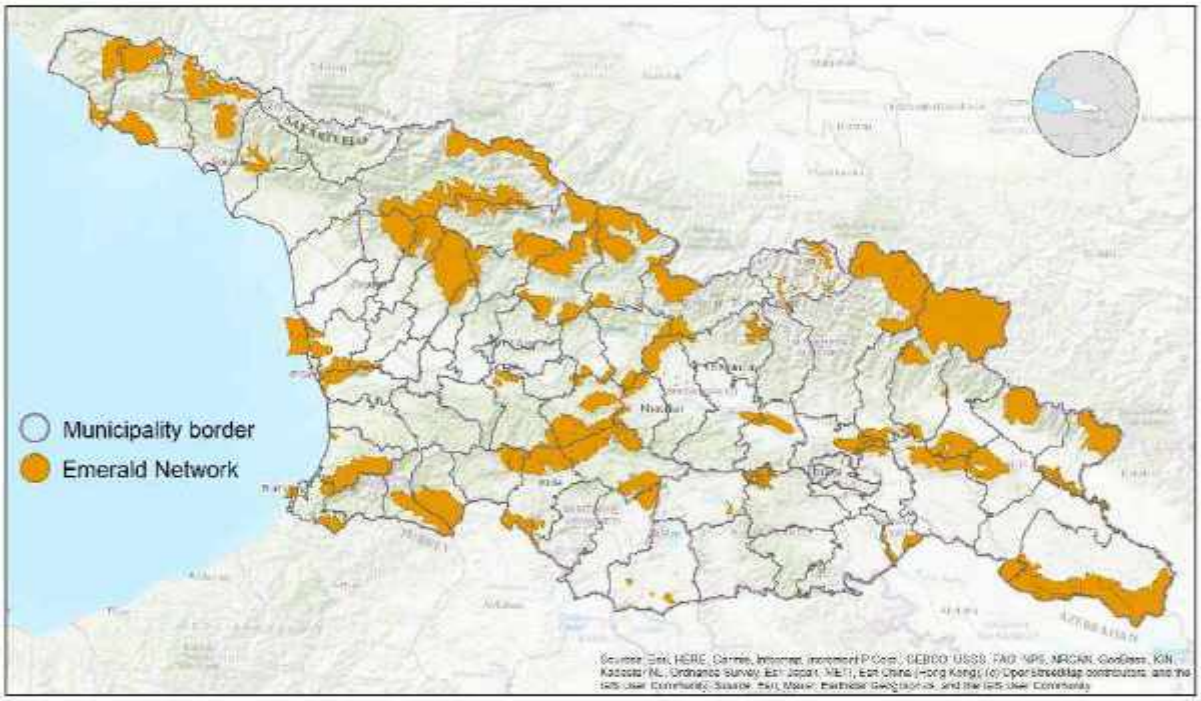

***Figure 2**. Map of Emerald Network sites in Georgia*

Threats to grassland diversity. Georgia's Fourth National Communication to the UNFCCC states that Georgia's rangelands are under severe threat. Pasture degradation is accelerating. It is mainly caused by human activities and exacerbated by the adverse effects of climate change. The rate of destruction of vegetation exceeds the rate of recovery, reducing the ability of ecosystems to regenerate themselves. Excessive and unregulated grazing is the main cause of degradation.

According to the National Biodiversity Strategy and Action Plan of Georgia 2014-2020, overgrazing by livestock is also a threat to Georgia's forests. In some areas – particularly around human settlements and on summer and winter pastures – grazing is occurring in an unsustainable manner, hampering forest regeneration.

Georgia's Fourth National Communication to the UNFCCC and the country's National Biodiversity Strategy and Action Plan recognize the lack of an institutional and legal framework for the sustainable pasture use and control mechanisms. They also highlight the lack of detailed information on the number and extent of pasture plots under state ownership, and their status, including levels of use, pressures, vegetation cover and productivity.

A study by Slodowicz et al. 2018 analysed the risk of invasive plant species spreading in Georgia due to climate change. It assessed the current and future potential distribution of 27 alien invasive species under four climate change scenarios. It predicts a shift of invasive species towards eastern Georgia and higher altitudes and an increased susceptibility of areas of high conservation value under future climate change, as shown in the following maps.

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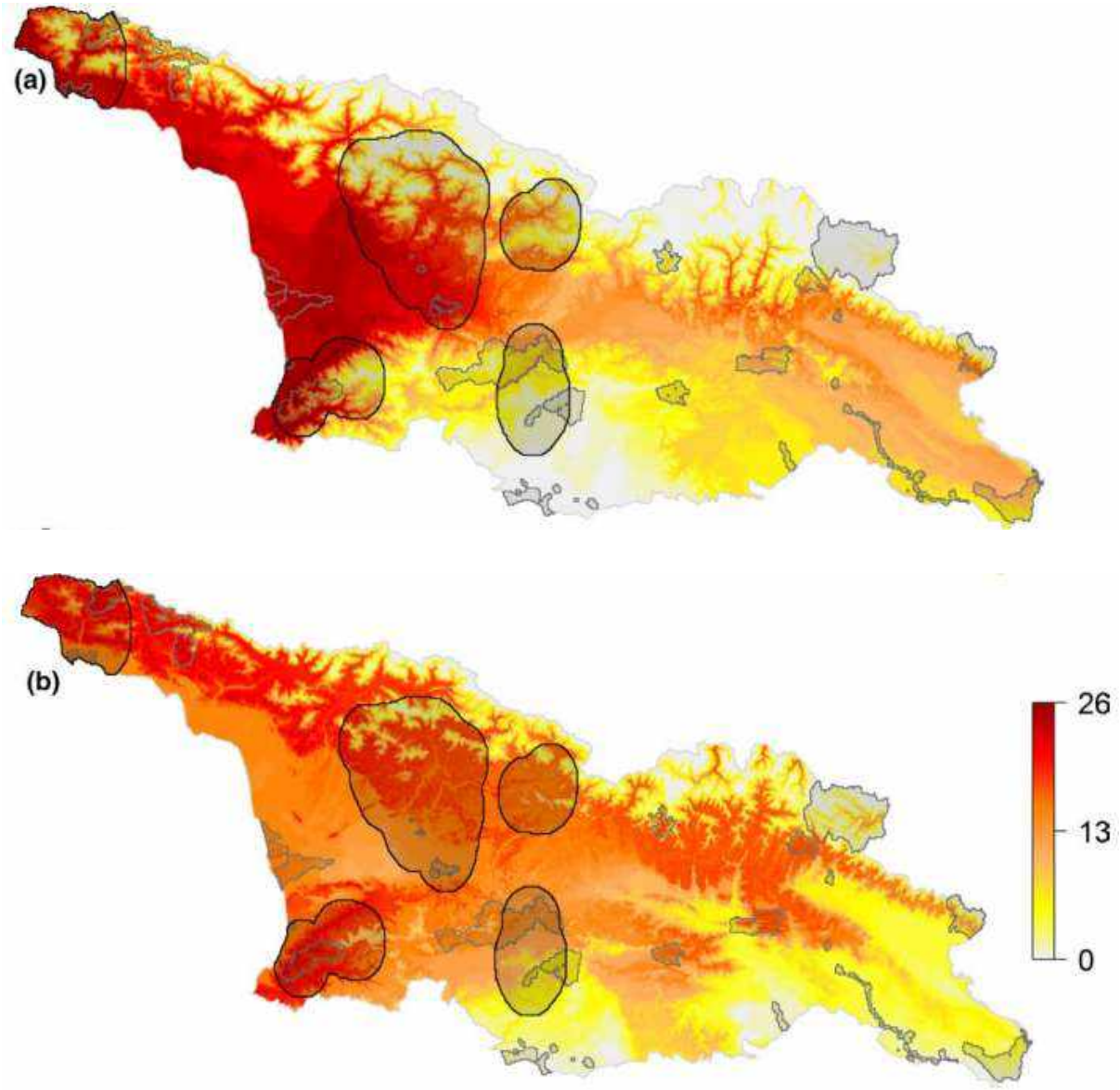

***Figure 3**. Invasive alien plant species richness in Georgia for the (a) present climate and (b) future climate for the year 2050 (RCP 8.5 IPSL-CM5A-LR climate change scenario). The coloured scale represents the species richness. Each pixel represents the invasive alien plant richness on this site location (resolution: 1 km2). The protected areas are shown as grey-shaded frames and areas of high plant endemism as black-rimmed frames (Source: Slodowicz et al. 2018)*

Project interventions. The project aims to have a positive impact on grassland habitats and their biological diversity. It will support the introduction of a sustainable governance system for pastures. It will help pasture users and extension services to effectively plan grazing and vegetation recovery periods in an adaptive manner, monitor pastures conditions, identify areas in need of support, and intervene when grazing norms are violated.

The project aims to protect riparian vegetation and other sensitive habitats. Management plans will lay out measures (e.g. grazing restrictions or fencing) to protect for habitats of high ecological value such as wetlands and riverine vegetation. There areas are important as emergency forage reserves, for water quality, and as habitats for plants and animals.

The project aims to increase the capacity of the ecosystem to adapt to the effects of climate change. Pasture ecosystems that are in a healthier state are better able to respond to climatic shocks such as prolonged summer droughts or heavy rainfall events in spring. Habitats can also adapt more easily to a warmer climate (e.g. by moving to higher altitudes).

Potential risks. The current pasture allocation and management practices are neither appropriate nor adequate in terms of sustainable pasture and livestock management. The project will aim to change

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this. Yet there might be the risk that grazing plans are not implemented, poorly designed or not effective, altering habitats or changing degradation patterns.

Mitigation measures. All measures under Principle 9 (protection of natural habitats) apply to the principle on conserving biological diversity. In addition, the project will implement the following measures:

- Identify habitats and species of high ecological value in pasture management plans, and include appropriate measures to protect them (e.g. grazing restrictions, fencing of critical habitats such as woodlands around frequently visited water points, or control of invasive species);
- Engage an environmental and pasture specialist in the development of pasture management plans to help identify critical habitats and define appropriate conservation measures;
- Follow management plans for pastures located in Emerald Network sites, and where not available, follow the "Guidelines on managing the Emerald sites, including climate change adaptation and mitigation"; and
- Use native grass and tree species for reseeding and afforestation that are best-suited to a site's location.

Indicators. In addition to the indicators under Principle 9 (protection of natural habitats), the project will monitor the following indicators:

- Number and area size estimates in hectares of habitats of high ecological value identified in pasture management plans; and
- Number, type and location of measures to protect habitats of high ecological value.

Principle 11: Climate change

Risk level. The risk of increased greenhouse gas emissions is low. According the assessment with the EX-ACT tool the project will have a positive carbon balance and is expected to sequester 1,865,816 tCO2-eq thanks to improved pasture management and rehabilitation measures.

Assessment. The carbon balance was calculated using the Ex-Ante Carbon-balance Tool (EX-ACT), an assessment system developed by FAO to measure greenhouse gas emissions of agricultural and forestry development programmes and policies. The tool helps project designers to estimate and prioritize activities with economic and climate change mitigation benefits. The results can be used in economic analyses.

The carbon balance is defined as the net balance of all greenhouse gases, expressed in CO_2 equivalents, emitted or sequestered as a result of project implementation as compared to a business-as-usual scenario. It is an ex-ante analysis that assesses future greenhouse gas emissions prior to project implementation. The minimum time horizon for assessing future emissions is 20 years. EX-ACT estimates carbon stock changes (i.e. emissions or sinks of CO_2) as well as greenhouse gas emissions per unit of land, expressed in equivalent tonnes of CO_2 per hectare per year.

EX-ACT is based upon the Intergovernmental Panel on Climate Change 2006 Guidelines for National Greenhouse Gas Inventories that furnishes EX-ACT with recognized default values for emission factors and carbon values (the so-called Tier 1 level of precision), and Chapter 8 of the Fourth Assessment Report from Working Group III of the IPCC (Smith et al., 2007). Other required coefficients are taken from published reviews or international databases.

The IFAD-funded DiMMA project is currently applying the Global Livestock Environmental Assessment Model-interactive (GLEAM-i). The model simulates biophysical processes and activities along livestock supply chains using a life cycle assessment approach. It estimates GHG emissions using the Intergovernmental Panel on Climate Change (IPCC) more advanced Tier 2 methodology. This allows for a more detailed calculation of emissions in the livestock sector. The tool helps to generate baseline and improved scenarios for herd management (including reproduction and health), feeding and manure management systems. The model parameters settings and results were not available during the design of this project, but GLEAM-I is intended for use during project implementation.

EX-ACT settings. Specific settings were selected for DiMMAdapt+ taking into account the climate, moisture conditions and dominant soil type in the region. Normally, the minimum project duration time for a carbon balance estimation is 20 years. The project implementation period is 5 years and the remaining 15 years are for the capitalization phase.

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Carbon sequestration will be achieved through the two main activities – sustainable grazing management of pastures, and infrastructure and rehabilitation measures (the latter being climate-conservative measures). It is estimated that pasture management plans for 300 villages will cover around 30,000 ha, while hard investments in infrastructure will be carried out on half of this area, around 15,000 ha.

Project Name	DiMMA-Adapt +	
Continent	Eastern Europe	
Climate	Warm Temperate	
Moisture regime	Moist	
Dominant Regional Soil Type	LAC Soils	
Duration of the Project (Years)	Implementation phase	5
	Capitalisation phase	15
	Duration of accounting	**20**

***Figure 4**. Settings of EX-ACT for the calculation of the carbon balance of the project*

Estimated carbon emissions. The net carbon balance is the difference between the gross results of With and Without Project scenarios achieved over 20 years, including 5 years of project implementation and 15 years of capitalization periods. This amount is estimated at 1,865,816 tCO2-eq of mitigated emissions (see the results table below). The total balance can be translated into -93,290.8 tCO2-eq per hectare over 20 years, or -3.1 tCO2-eq per hectare per year. It is recommended to carry out this analysis once the exact villages have been identified and the actual livestock inventories have been incorporated into the model.

Project Name	*DiMMA-Adapt +*		Climate	*Warm Temperate (Moist)*			Duration of the Project (Years)		*20*
Continent	*Eastern Europe*		Dominant Regional Soil Type	*LAC Soils*			Total area (ha)		*30000*
Components of the project	**Gross fluxes**			**Share per GHG of the Balance**					**Result per year**		
	Without	**With**	**Balance**	**All GHG in tCO2eq**					**Without**	**With**	**Balance**
	All GHG in tCO2eq			**CO_2**			**N_2O**	**CH_4**			
	Positive = source / negative = sink			**Biomass**	**Soil**	**Other**					
Land use changes											
Deforestation	0	0	**0**	**0**	**0**		**0**	**0**	0	0	**0**
Afforestation	0	0	**0**	**0**	**0**		**0**	**0**	0	0	**0**
Other LUC	0	0	**0**	**0**	**0**		**0**	**0**	0	0	**0**
Agriculture											
Annual	0	0	**0**	**0**	**0**		**0**	**0**	0	0	**0**
Perennial	0	0	**0**	**0**	**0**		**0**	**0**	0	0	**0**
Rice	0	0	**0**	**0**	**0**		**0**	**0**	0	0	**0**
Grassland & Livestocks											
Grassland	757,969	-1,107,847	**-1,865,816**	**0**	**-1,865,816**		**0**	**0**	37,898	-55,392	**-93,291**
Livestocks	0	0	**0.0**				**0**	**0**	0	0	**0**
Degradation & Management											
Forest degradation	0	0	**0**	**0**	**0**		**0**	**0**	0	0	**0**
Peat extraction	0	0	**0**		**0**		**0**	**0**	0	0	**0**
Drainage organic soil	0	0	**0**		**0**		**0**	**0**	0	0	**0**
Rewetting organic soil	0	0	**0**		**0**		**0**	**0**	0	0	**0**
Fire organic soil	0	0	**0**	**0**				**0**	0	0	**0**
Coastal wetlands	0	0	**0**	**0**	**0**		**0**	**0**	0	0	**0**
Inputs & Investments	0	0	**0**			**0**	**0**	**0**	0	0	**0**
Fishery & Aquaculture	0	0	**0**			**0**	**0**	**0**	0	0	**0**
Total	757,969	-1,107,847	**-1,865,816**	**0.0**	**-1865815.9**	**0.0**	**0.0**	**0.0**	37,898	-55,392	**-93,290.8**
Per hectare	25.3	-36.9	**-62.2**	**0.0**	**-62.2**	**0.0**	**0.0**	**0.0**			
Per hectare per year	1.3	-1.8	**-3.1**	**0.0**	**-3.1**	**0.0**	**0.0**	**0.0**	1.3	-1.8	**-3.1**

***Figure 5**. Results sheet of EX-ACT estimating the future carbon balance of the project*

Potential risks. The risk of higher emissions through the increase of livestock number was raised in previous AF-funded projects. As done for the DiMMAdapt, the environment and social management plan (ESMP) will include the monitoring of livestock numbers through the "National Animal Identification, Registration and Traceability System (NAITS)" and will report numbers of cattle and sheep in areas subject to management plans. Capacity building activities will emphasize that the productivity per animal is of greater value than having a large number of unproductive animals.

Another risk is that grazing plans are not implemented, poorly designed or ineffective, resulting in that carbon sequestration in soils and vegetation does not occur.

Mitigation measures. The project will conduct the following measures to mitigate the risk:

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- Emphasize in trainings (under output 2.1.1.) that a greater productivity per animal is more important than having many animals that are unproductive. Productivity gains can be achieved through better feed, water provision and veterinary services.
- Monitor livestock numbers through MEPA's National Animal Identification, Registration and Traceability System (NAITS) once per year. Elaborate measures to discourage herd growth if an unsustainable increase in livestock numbers is detected in project areas.
- Repeat EX-ACT analysis and apply the GLEAM-I methodology at project completion to calculate greenhouse gas emissions of the project.
- Implement mitigation measures under Principles 9, 10 and 15 to improve carbon sequestration in soils and vegetation.

Indicator:

- Annual livestock numbers from NAITS; and
- tCO2-eq of mitigated emissions per hectare and in total.

Principle 12: Pollution prevention and resource efficiency

No risks have been identified under this principle. Project implementation will comply with applicable international standards for maximizing energy efficiency and minimizing material resource use, the production of wastes, and the release of pollutants. The use of chemicals is not foreseen. Over-fertilization of pastures is unlikely. Risks related to natural resources such as pastures, soil and water have been assessed under the Principles 9, 10 and 15. No further assessments have been made. Compliance will be monitored through the grievance redress mechanism, progress reports, supervision missions, the mid-term review, and terminal evaluation.

Principle 13: Public health

No risks have been identified. The project is designed and will be implemented in a way that avoids potentially significant negative impacts on public health. Animal health related issues will be referred to the National Food Agency that is responsible for food safety and veterinary services. Compliance will be monitored through the grievance redress mechanism, progress reports, supervision missions, the mid-term review, and terminal evaluation.

Principle 14: Physical and cultural heritage

No risks have been identified under this principle. The project will not alter, damage, or remove any physical cultural resources, cultural sites, or sites with unique natural values recognized as such at the community, national or international level. The project will not intervene in areas having the status of a natural monument. Pasture management plans will not cover heritage sites.

Principle 15: Lands and soil conservation

Risk level. The risk of degradation or conversion of productive lands is low. On the contrary, the project aims to have a positive impact on vegetative cover, introduce soil conservation measures, plant resilient and diverse native plant species and improve water management.

Assessment. The project design team conducted the following activities:

- Reviewed available literature, and compiled cartographic material;
- Interviewed livestock keepers about pasture conditions and the causes of degradation;
- Interviewed staff from the Agency of Protected Areas (APA) and the National Forestry Agency;

Natural capital of pasturelands. According to the World Bank (2020), pastureland is the most valuable natural resource in Georgia. Data from 1995 to 2014 show a declining trend in natural capital, mainly due to a sharp decline in the productivity of pasture land.

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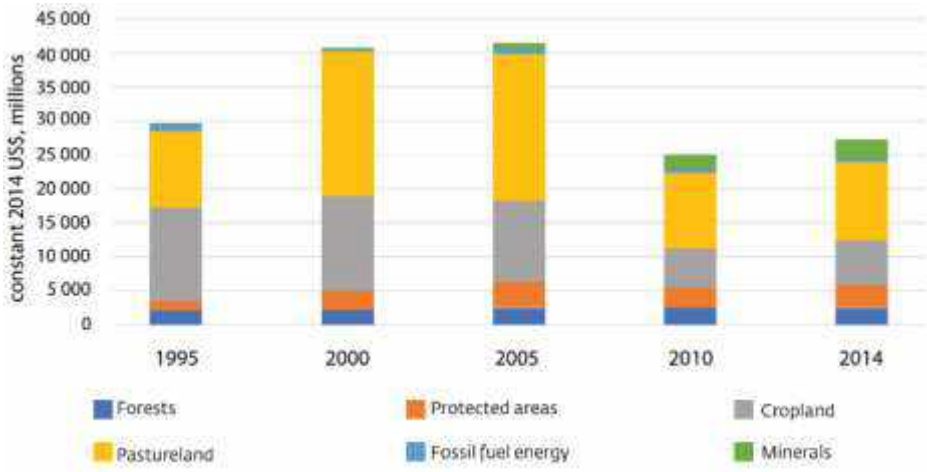

***Figure 6**. Natural capital in Georgia (Source: World Bank 2020)*

Soil and land degradation. Pasture conditions in Georgia are variable. Summer pastures are often underused or unevenly grazed; winter pastures are intensively grazed. Statistics on pasture degradation varies. According to the Fourth National Communication to the UNFCCC, about 700,000 ha of pastures (36% of all pastures) are degraded. The World Bank (2020) reports that 439,600 ha (23% of all pastures) are degraded, resulting in a total annual loss of USD 59 million from pasture degradation if the average reduced productivity of 0.7 tons per hectare is applied and multiplied by the average price of barley (a priced substitute for pasture) of USD 192 per ton. GIS data on land productivity dynamics retrieved from FAO's Earth Map for 2022 suggest 40% of pastures are showing early signs of decline, and 10% are declining.

The majority of the degraded pastures are in the eastern part of the country. Village pastures, areas around camps, stock tracks and arid regions are particularly vulnerable to damage. Degradation of vegetation on natural pastures is significantly higher than the recovery rates. This reduces the ability of natural self-regeneration of vegetation cover and increases the ecosystem's vulnerability towards climate-induced shocks.

Georgia's semi-arid ecosystems are most at risk. They are used as winter pastures and are threatened by excessive and disorganized grazing. The processes of land degradation and erosion that began during the Soviet period have reached critical levels in some areas. Without restoration, the damage may soon become irreversible.

Project interventions. The project aims to have a positive impact on vegetative cover, introduce soil conservation measures, plant resilient and diverse native plant species and improve water management. Improved grazing management, soil conservation measures such as gully rehabilitation, as well as planting of trees will reduce soil loss on sites that are prone to soil erosion. Grazing strategies aims to increase the recovery periods of grasses and will increase the vegetative cover.

Rehabilitation interventions will be guided by recent manuals of integrated erosion control and pasture management, including:

- GIZ (2019): Handbook on integrated erosion control. A practical guide for planning and implementing integrated erosion control measures in Georgia; and
- GIZ (2013): Monitoring manual for summer pastures in the Greater Caucasus in Azerbaijan.

Potential risk. Pasture management plans are not implemented, poorly designed or ineffective, altering habitats and patterns of degradation.

Mitigation measures and indicators. These are the same as for principles 9 and 10.

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3. Environment and social management plan

Component	Environmental & social risks	Mitigation measures	Indicators	Responsible	AF principles	Verification
Component 1. Pasture resources accounting, user inventory and pasture allocation						
Output 1.1.1. Pasture resources accounted and conditions assessed	No risks identified.	-	-	-	-	-
Output 1.1.2. Capacity built on municipal pasture use planning	Vulnerable pasture users including women are not adequately represented in municipal councils.	Ensure representation of vulnerable pasture users in municipal pasture planning councils, including at least 30% representation of for women.	Percentage of women in councils	Project coordinator and gender focal point	2 (access and equity) 3 (vulnerable groups) 5 (gender equality)	Annual progress reports describing the composition of municipal pasture councils Reporting on gender action plan
	Female government officials are poorly represented in trainings.	Ensure that at least 30% of government officials and field staff attending in trainings to be women.	Percentage of female participants in training sessions	Gender focal point	5 (gender equality)	Annual progress reports with figures on training participation Reporting on gender action plan
Output 1.1.3. Pasture users inventoried, registered and rights allocated	Users are at risk of being excluded from pastures because they are not identified or do not reveal which pastures they are using.	Moblilize all relevant stakeholders via different means. Go to villages and farms, conduct field walks. Engage the councils and local actors. Ensure that informal grazing on state-owned pastures will not be prosecuted. Include clauses in union charters for compulsory membership of all pastures users in one area.	See list of indicators under principle 2	Inventory team	2 (access and equity) 3 (vulnerable groups) 5 (gender equality)	Database of the user inventory
	Grazing units have inappropriate boundaries, pasture zone and tenure regime (make grazing	Refine boundaries, zoning or tenure regime after consultation with pasture users.	See list of indicators under principle 2	Inventory team	2 (access and equity)	Database of the user inventory

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Component	Environmental & social risks	Mitigation measures	Indicators	Responsible	AF principles	Verification
	inefficient, causing resentment).	Ensure that the principle users of a potential grazing unit give their consent to its boundaries, pasture zone and tenure regime. Exclude pastures that are subject to overlapping use claims unlikely to be resolved from pasture allocation under the project.				
	Vulnerable users including women are poorly represented in the pasture planning process.	Organize village-level meetings with adequate representation of vulnerable users and at least 30% representation of women to obtain the consent to proposed grazing units. All principle users of a potential grazing unit must give their consent to proposed boundaries, pasture zone and tenure regime.	See list of indicators under principle 2 See gender action plan	Inventory team	2 (access and equity) 5 (gender equality)	Database of the user inventory documenting consent
	Overlapping use claims over pastures are unlikely to be resolved.	Exclude pastures that are subject to overlapping use claims unlikely to be resolved from pasture allocation under the project.	See list of indicators under principle 2	Inventory team	2 (access and equity)	Database of the user inventory with documented claims
	Women are underrepresented in the committees of pasture user unions.	Encourage women to be part of committees and aim for a 20% quota for women.	See gender action plan	Inventory team and gender focal point	5 (gender equality)	Registry of pasture users under the pasture administration system Reporting on gender action plan
	Pasture users do not join the union (e.g. reluctant to join, very busy, or others want to exclude them) hence prohibiting them to use pastures under the common resource property management system.	Include clauses in charters of pasture user unions for compulsory membership of all pastures users in one area.	See list of indicators under principle 2	Inventory team	2 (access and equity)	Template charters of pasture unions with clauses

11.

Component	Environmental & social risks	Mitigation measures	Indicators	Responsible	AF principles	Verification
	Vulnerable pasture users including women have difficulties to register as lessees and to obtain leaseholds.	Design procedures, information accessibility and conditionalities to be supportive of vulnerable uses. Make it easy to register as a lessee. Help users register. Ensure that eligibility criteria are socially inclusive, give preference to users in vicinity of pastures or with traditional use claims.	See list of indicators under principle 2	Inventory team and gender focal point	2 (access and equity) 3 (vulnerable groups) 5 (gender equality)	Registers of the pasture administration system Reporting on gender action plan
Component 2. Pasture management planning and rehabilitation						
Output 2.1.1. Capacity built on adaptive grazing management and pasture rehabilitation	Vulnerable users including women are underrepresented in trainings, or there could be bias in participant selection.	Ensure that 30% of trainees are women. Ensure that 20% of trainers are women. Ensure that the timing and location of trainings is convenient for and is clearly communicated to vulnerable users including women. Provide translation in Azeri when applicable.	Percentage of female trainers Percentage of female trainees	Regional extension officers and gender focal point	3 (vulnerable groups) 5 (gender equality)	Annual progress reports feature participation figures on vulnerable (including women) users Reporting on gender action plan
	Physical investments in demonstration plots are yet to be determined and are classified as unidentified sub-projects with unknown risk status.	Carry out a risk screening for each unidentified sub-project, using standardised checklists for each type of intervention. Identify appropriate measures if necessary, or seek alternatives if too risky.	Number, type, risk category and location of physical investments	Pasture expert	All relevant principles (2, 3, 5, 9, 10, 11, 15)	Annual progress reports includes screening results with list of all sub-projects GPS mapping of all sites
Output 2.2.1. Pasture management plans developed	Pasture management plans are developed for inappropriate areas causing resentment among users and agencies.	Exclude pastures from pasture management plans that are located in protected areas (managed reserves, national parks, natural monuments, nature reserves or protected landscapes) and in forestlands. Use cartographic material from the Agency for Protected Areas and the National Forestry Agency for this purpose. Exclude pastures from pasture management plans that are subject to overlapping use claims unlikely to be resolved.	See list of indicators under principle 2	Pasture expert	2 (access and equity) 9 (protection of natural habitats)	Screening of plans via checklist and cartographic materials Report on the selection of villages and groups for which pasture management plans will be developed

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Component	Environmental & social risks	Mitigation measures	Indicators	Responsible	AF principles	Verification
		Exclude private pastures on stock routes that are disputed (see web-GIS of the National Food Agency). Ensure a participatory and user-driven development of pasture management plans.				
	Pasture management plans are poorly designed, altering habitats and patterns of degradation.	Identify habitats and species of high ecological value in pasture management plans, and include appropriate measures to protect them (e.g. grazing restrictions, fencing of critical habitats such as woodlands around frequently visited water points, or control of invasive species). Ensure a participatory and user-driven development of pasture management plans. Engage an environmental and pasture specialist in the development of pasture management plans to help identify critical habitats and define appropriate conservation measures. Evolve officers from the Agency of Protected Areas and the National Forestry Agency in pasture use planning councils and in the development of pasture management plans for areas adjacent to protected and/or forested areas. Recognize the proximity of protected areas and forests in pasture management plans, consider buffer zones or ecological corridors to improve ecosystem connectivity, and offer alternatives to grazing in forests. Follow management plans for pastures located in Emerald Network sites, and where not available, follow the “Draft guidelines on managing the Emerald sites, including climate change adaptation and mitigation”.	Number and size of grazing units bordering protected areas Number and area size estimates in hectares of habitats of high ecological value identified in pasture management plans Number, type and location of measures to protect habitats of high ecological value	Pasture expert	9 (protection of natural habitats) 10 (biological diversity) 15 (soil conversation)	Pasture management plans to be reviewed by independent third party Annual progress reports describe and present results of the planning process

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Component	Environmental & social risks	Mitigation measures	Indicators	Responsible	AF principles	Verification
		Use native grass and tree species for reseeding and afforestation that are best-suited to a site's location.				
	Pasture management plans define measures that obstruct stock routes (e.g. via fencing or reducing forage availability in resting areas).	Recognize stock routes in pasture management plans, and identify measures to support livestock migration (e.g. define resting areas with sufficient forage, ensure access to water points).	Number of plans recognizing transhumance migration	Pasture expert and extension officers	2 (access and equity)	Same as cell above (independent review and annual progress report)
Output 2.2.2. Pasture infrastructure and rehabilitation measures implemented	Physical investments of pasture management plans are yet to be determined and are classified as unidentified sub-projects with unknown risk status.	Carry out a risk screening and classification for each unidentified sub-project, using standardised checklists for each type of intervention. Identify appropriate measures if necessary, or seek alternatives if too risky.	Number, type, risk category and location of physical investments	Pasture expert and extension officers	All relevant principles (2, 3, 5, 9, 10, 11, 15)	Annual progress reports includes screening results with list of all sub-projects GPS mapping of all sites
Output 2.2.3. Grazing strategies and plans implemented	Grazing plans are not implemented, poorly designed or ineffective, altering habitats and patterns of degradation.	Evaluate the implementation of grazing strategies and annual schedules, and adapt them for the next grazing cycle. Record the areas that have been successfully placed under improved management with GIS technology.	Number of hectares and percentage of pastures under improved grazing management	Pasture expert and extension officers	9 (protection of natural habitats) 10 (biological diversity) 11 (climate change) 15 (soil conversation)	Annual progress reports with figures and GIS maps showing implementation progress
	Greenhouse gas emissions increase due to increasing livestock numbers.	Emphasize in trainings (under output 2.1) that a greater productivity per animal is more important than having many animals that are unproductive. Productivity gains can be achieved through better feed, water provision and veterinary services. Monitor livestock numbers through MEPA's National Animal Identification, Registration and Traceability System once per year. Elaborate measures to discourage herd	Annual livestock numbers from NAITS tCO2-eq of mitigated emissions	M&E officer	11 (climate change)	Training materials and curriculum address herd management Annual progress reports state livestock numbers

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Component	Environmental & social risks	Mitigation measures	Indicators	Responsible	AF principles	Verification
		growth if an unsustainable increase in livestock numbers is detected in project areas. Repeat EX-ACT analysis and apply the GLEAM-I methodology at completion to calculate greenhouse gas emissions of the project.				Project completion reports include carbon balance of the project
Component 3. Strengthening governance and knowledge on pastures						
Output 3.1.1. Pasture policy reform supported	Vulnerable users are not consulted adequately. Their interests are not reflected in the policy.	Ensure the representation of vulnerable users in stakeholder consultations on the formulation of the pastureland policy. Hold at least one workshop in each municipality to invite views on the formulation of the pastureland policy.	-	Project coordinator	2 (access and equity) 3 (vulnerable groups) 5 (gender equality)	Annual progress reports document stakeholder consultations Reporting on gender action plan
Output 3.1.2. Knowledge services and products developed and disseminated	Users do not receive the information they need or are not informed about the project, and are unwilling to cooperate as a result.	Identify information needs (e.g. how to access additional pastures in case of need) and design information services accordingly. Ensure timely information about the municipal pasture use planning.	-	Communication expert	2 (access and equity)	Annual progress reports document communication efforts

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Annex 4. Gender assessment and action plan

1. Introduction

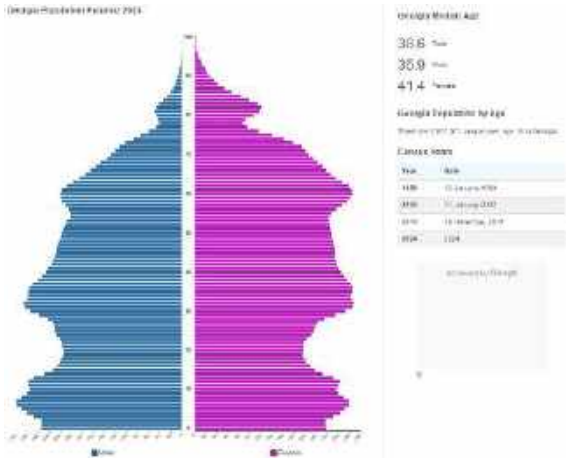
This gender assessment and action plan (GAP) provides a comprehensive overview of gender-related issues in Georgia, with a particular focus on thematic areas relevant to the Dairy Modernization and Market Access: Adaptive and climate-resilient pasture management (DiMMAdapt+) proposal. It identifies gender-specific opportunities and challenges towards pasture management and lists gender-responsive intervention measures.

The methodology employed for GAP involved a combination of desk review and consultations with various stakeholders, to gather a holistic understanding of existing gender dynamics, roles, and disparities in the agricultural sector, particularly in pasture management in Georgia. It combines desk research[9], insights from previous and current studies and projects, field findings from in-country consultations, and focus group discussions for equitable participation. These consultations engaged various stakeholders, providing opportunities to delve deeper into gender roles, challenges, and opportunities in pasture management. Inclusive discussions ensured that the voices and perspectives of both women and men were heard and considered, while specific interactions with women-only groups created a safe space for gender-sensitive discussions.

2. Country context and situational analysis

Demographics, gender and poverty

In January 2020, women comprised 51.8% of Georgia's population, which stood at 3.717 million (Geostat 2021). The gender distribution in Georgia exhibits a pattern where there are more men than women among the younger population up to the age of 30. However, this trend reverses as the age increases, with more women than men over the age of 30. This shift can be attributed to a higher mortality rate among men. Moreover, women in Georgia have a significantly higher average life expectancy of 78.4 years, compared to men's average of 69.8 years (Geostat 2022).



Additionally, Georgia's population is experiencing an ageing phenomenon. From 2002 to 2022[10], the proportion of women aged 65 and above increased by approximately 18%, while the percentage of men in the same age group rose by 12%. This demographic shift highlights the ageing trend in Georgia's population, while the population pyramid 2023 divides the median age of the female and male population in the country[11].

Migration continues to have a significant impact on Georgia's demographic population dynamics. Among migrants, men tend to exhibit higher mobility rates, comprising 56 % of immigrants and 62 % of emigrants in 2021.

In 2022, Georgia witnessed a decrease in the absolute poverty rate, with a decline of 1.9 percentage points compared to the previous year, reaching 15.6 per cent (Geostat 2022). The absolute poverty rate in urban areas saw a decrease of 2.7 percentage points, amounting to 12.3 per cent, while in rural areas, it decreased by 0.7 percentage points, totalling 20.6 per cent. For women, the absolute poverty rate decreased by 1.8 percentage points to 15.3 per cent, while for men, it decreased by 2.1 percentage points to 15.8 per cent. In terms of total incomes, the Gini coefficient changed from 0.37 to 0.36 in 2022 compared to the previous year, while it remained unchanged at 0.34 for total consumption expenditures (Geostat 2023).

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[9] Including those from the IFAD-funded Dairy Modernization and Market Access Project (DiMMA), FAO's GEF-funded project on pastures, and the gender assessment by FAO in 2018 and the latest Country Gender Equality Profile of Georgia 2021 by UN Women on the understanding of gender dynamics in the agricultural context.

[10] The National Statistics Office of Georgia (Geostat) implemented Georgia's first-ever Time Use Survey 2020-2021. The survey aimed at generating statistically reliable and internationally comparable time use data in Georgia, improving gender statistics, estimating indicators for the Sustainable Development Goals (SDGs) and informing policies focused on gender equality.

[11] World Population Prospects (2022 Revision) - United Nations population estimates and projections.

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Poverty is prevalent between men and women, however, the World Bank (2019)[12] analysis reveals disparities between the sexes, provides evidence of the following:(i) People living in female-headed households are more likely to be poor than people living in male-headed households in Georgia; (ii) People living in households with only women adults are more prone to poverty; (iii) Households with a person with disabilities are more likely to be poor; (iv) Girls are the most vulnerable group in Georgia, as more than one in every four girls (26 %) live in a poor household; (v) Divorced women are 10 % more likely to face poverty than married women; (vi)Women with incomplete secondary education are three times more vulnerable to poverty than women with higher education.

Ranking on international gender indices

Georgia ranks 63 of 191 countries covered by the **Human Development Index (HDI) in** 2022. This suggests that Georgia's overall human development is relatively high compared to its neighbouring countries. The female HDI 2022 value is 0.800, compared to the male HDI value of 0.817. The country is placed in Group 1, which means that the grouping takes into consideration inequality in favour of men or women equally.

The Gender Development Index (GDI) measures gender gaps in human development achievements by accounting for disparities between women and men in the three basic dimensions of human development (health, education, income) using the same methodology as HDI. In the case of Georgia, the female HDI value for 2020 is 0.800, while the male HDI value is 0.817, suggesting that there is a relatively low disparity between women and men in terms of human development achievements, specifically in the dimensions of health, education, and income. The country falls into Group 1, indicating a relatively higher level of gender equality compared to countries with larger gender disparities as opposed to the GII below, which suggests higher gender disparities.

On the **World Economic Forum's Global Gender Gap Index 2021**, Georgia ranks 49th of 156 countries and has a value of 0.731 (with '0' corresponding to imparity and '1' to gender parity)[13]. The index shows that Georgia's position has improved in terms of its overall ranking, rising from 54th place in 2006. However, its performance has deteriorated on some of the components of the Global Gender Gap Index, such as economic participation and opportunity. In terms of these areas, Georgia ranked 64th of 156 countries in 2021, compared to 41st of 115 countries in 2006. The country's performance on educational attainment also deteriorated (from 28th place in 2006 to 30th in 2021), as did its performance on political empowerment (from 59th place in 2006 to 60th in 2021)[14].

On the Gender Inequality Index (GII) 2021[15], Georgia is ranked 76th out of 162 countries, with a GII value of 0.331. The GII measures gender inequalities in three important aspects of human development – reproductive health (measured by the maternal mortality ratio and the adolescent birth rate), empowerment (measured by the proportion of parliamentary seats held by women and the proportion of adult women and men aged 25 and older with at least some secondary education) and economic status (measured by the labour force participation rate of the female and male populations aged 15 and older). This suggests that there are high gender disparities between women and men in Georgia, and the more the loss to human development.

Gender-based violence

Despite the Government's efforts, which included the enactment of the 2006 Law on Elimination of Domestic Violence, Protection, and Support for its Victims (Law on Domestic Violence) and the criminalization of domestic violence in 2012, domestic violence, encompassing physical, sexual, and psychological abuse, continues to be perceived as a private matter rather than a public concern in the majority of the country. The prevalence of domestic violence remains significantly underreported, primarily due to factors such as limited public awareness about this societal issue, the fear of reprisal and social stigma, lack of trust in law enforcement agencies, as well as inadequate availability of services and protective measures for victims of violence[16].

National research conducted in 2009, shows that, among the women interviewed, one woman in 11 had experienced physical or sexual abuse, either perpetrated by her husband or intimate partner and 34.7% have been injured as a result of physical or sexual violence.6 Ex-intimate partners and family

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[12] World Bank 2019b

[13] World Economic Forum, Global Gender Gap Report 2021, WEF, Cologny, 2021, available at: https://www3.weforum.org/docs/WEF_GGGR_2021.pdf

[14]*Gender Equality In Georgia In Gap Iii Priority Areas: Country Review Eu4genderequality Reform Helpdesk*. (2021).

15 United Nations Development Programme, Gender Inequality Index 2020, UNDP, New York, 2020, available at: http://hdr.undp.org/en/content/gender-inequality-index-gii

[16] Background note provided by UN-Women

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members are also among the perpetrators of violence. The main patterns of violence are physical, sexual, psychological and economic abuse, as well as coercion to carry out or fail to carry out an act[17].

Most of the women perceive domestic violence as a private matter. In 2009, 78.3% of the women interviewed in the National Research – the majority from rural areas – thought that family problems should be discussed exclusively within the family and 52.1% thought that if a woman is mistreated by her partner, people outside the family should not intervene.[18]

Rigid gender-based roles also affect men negatively. Men in Georgia are stereotypically expected to be the main breadwinners, providers and protectors of women and the family. These masculine gender roles – often associated with alcohol, tobacco consumption and risk-taking behaviours – put pressure on men, leading to frustration when these social expectations are not fulfilled. It is documented that the loss of status and position as providers of male IDPs has led to increased mental health problems and higher rates of suicide as well as higher rates of violence against women (Martkvishvili, 2010). 81 % of those who committed suicide in 2016 were men (Geostat, 2017).

International commitments

Georgia has made significant commitments at both the international and regional levels to promote gender equality and women's empowerment. In 1994, the country ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) - without reservations[19]. This convention emphasizes the need to ensure the full development and advancement of women and to eliminate discrimination against them.

In 1995, Georgia signed the Beijing Platform for Action (BPFA), which outlines strategic objectives and targets for gender equality and women's empowerment in various areas such as poverty, education, violence against women, economic participation, and decision-making.

At the regional level, Georgia is a member of the Council of Europe and ratified the European Convention on Human Rights in 1999, making it subject to the jurisdiction of the European Court of Human Rights. Georgia has also prioritized joining the European Union's legal and regulatory space and signed an Association Agreement (AA) and a Deep and Comprehensive Free Trade Agreement (DCFTA) with the EU in 2014.

In 2017, Georgia ratified the Council of Europe Convention on Preventing and Combatting Violence against Women and Domestic Violence, also known as the Istanbul Convention. This comprehensive international treaty aims to address violence against women and domestic violence.

Georgia actively embraces the implementation of the 2030 Agenda for Sustainable Development, encompassing all 17 Sustainable Development Goals (SDGs), including SDG 5, which focuses on achieving gender equality and empowering women and girls and places great emphasis on the core principle of "leaving no one behind." The government's policies and priorities are strongly aligned with the SDGs, providing a solid foundation for the country's reform agenda. Georgia's commitment to integrating the nationalized SDGs into its development planning is commendable, with an impressive level of 96% incorporation across 36 sector strategies and the EU-Georgia Association Agreement20. This not only reflects Georgia's aspirations for EU integration but also underscores its significant progress in prioritizing sustainable development. The government submitted its first GREVIO report in 2020 and has been working to enhance its legislative framework to comply with the Istanbul Convention.

The 2014 Association Agreement between Georgia and the European Union includes various cooperation frameworks for gender equality. These frameworks involve the ILO Decent Work Agenda and provisions in Chapter 14 of the Agreement, focusing on employment, social policy, and equal opportunities. The Agreement emphasizes cooperation in areas such as trade-related aspects of decent work, labour standards, social protection, and gender equality. Chapter 10 of the Agreement highlights cooperation in agriculture and rural development, including sharing knowledge, promoting economic well-being for rural communities, and ensuring equal opportunities and treatment for men and women.

National legal and policy framework on gender equality and women's empowerment

The Constitution of Georgia recognizes the social state principle and highlights the aspiration to establish a social and just state. Gender equality and the elimination of discrimination are safeguarded by Article 11, referring to equal rights and opportunities for both men and women, emphasizing the

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[17] National Research on Domestic Violence against Women in Georgia,2009, pp.33 and 44.

[18] Report of the Special Rapporteur on violence against women, its causes and consequences on her mission to Georgia* Note by the Secretariat 2018 https://evaw-global-database.unwomen.org/-/media/files/un%20women/vaw/country%20report/asia/georgia/sr%20georgia.pdf?vs=1004

19 Legislative Herald of Georgia, 'Additional Protocol to the Convention on the Elimination of All Forms of Discrimination against Women, 1994, available at: https://matsne.gov.ge/ka/document/view/3860268?publication=0

[20] https://hlpf.un.org/countries/georgia/voluntary-national-review-2020

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importance of substantive equality and the eradication of structural inequalities. In 2017, the term "substantive equality" replaced "formal equality," highlighting the State's responsibility to establish specific laws, policies, and programs to ensure equal opportunities and outcomes for women.

The Law of Georgia on Gender Equality (2010) further attempts to solidify the State's commitment by mandating special measures without discrimination to support and ensure equal rights for men and women in all aspects of public life. This encompasses areas such as labour relations, education, healthcare, social protection, and political participation.

The Law of Georgia on the Elimination of All Forms of Discrimination (2014) explicitly prohibits discrimination based on sex, sexual orientation, and gender identity. It outlines direct and indirect discrimination and introduces the concept of "multiple discrimination." The law places the responsibility on all legal entities, whether public or private, to promptly and effectively address any potential cases of discrimination.

Gender equality policies in Georgia are implemented through three strategic documents:

- The National Strategy of Human Rights 2022-2030.[21] This strategy focuses on four priority directions: enhancing the effectiveness of civil and political rights, strengthening the rule of law and institutional democracy, protecting economic and social rights, ensuring the implementation of constitutional guarantees of equality, and safeguarding human rights and freedoms without discrimination. Additionally, it includes provisions for the protection of the rights and liberties of individuals affected by the illegal occupation of Georgian territory by the Russian Federation, such as internally displaced people, refugees, and residents of villages near the occupation line.
- Pending the updated version in the process of elaboration, the National Action Plan 2018–2020 on Combatting Violence against Women and Domestic Violence, and Measures to be implemented for the Protection of Victims (Survivors).
- The National Action Plan for 2022–2024 on the implementation of the Women, Peace and Security agenda.

Despite progress made in Georgia's legislative and institutional frameworks, there are still challenges in effectively implementing gender equality policies. Important gender gaps persist in legislation, such as equal pay for equal work, minimum wage regulations, fair payment for parental leave, and laws addressing violence against women, including the definitions of rape and domestic violence. Additionally, the Law on Gender Equality lacks effective implementation mechanisms and fails to outline specific measures for the state to enforce gender equality legislation (Eggret, 2022)[22].

Sectoral strategies and programmes lack gender mainstreaming, while ministries and other state agencies do not usually apply gender budgeting. Among the reasons for this are a lack of expertise and human resources, as well as the lack of legal obligations (UN Women 2022).

Social protection system and gender disparities

Georgia's social protection system exhibits gender disparities, particularly concerning pension schemes and social packages, which have implications for gender equality, including for adult and older age groups. According to an ILO and UN Women analysis (2020), Georgia's social protection system tends to benefit women more throughout their lives, except during working age. This may be attributed to women's lower labour force participation and inadequate maternity protection benefits. The largest category in the social security system is the old-age pension, with women being eligible from the age of 60 and men from 65. Due to women's longer life expectancy, around 71.4% of old-age pension recipients in 2020 were women, while 28.6% were men. However, the newly adopted pension scheme, which is savings-based and considers women's younger retirement age, lower labour force participation, and the gender pay gap, is believed to reinforce and widen the gender gap.

On the other hand, men are almost twice as likely as women to receive social packages. The distribution of social package beneficiaries by sex and age group shows that men outnumber women in all age groups, and the number of women beneficiaries significantly decreases after the age of 60. Domestic workers, who are predominantly women, face exclusion from targeted social protection due to the connection to formal employment, depriving them of opportunities to be included in the pension scheme.

1.

[21] https://www.parliament.ge/en/media/news/parlamentma-2022-2030-tslebistvis-sakartvelos-adamianis-uflebata-datsvis-erovnul-strategiaze-imsjela

[22] *Gender equality in Georgia in Gap III priority areas: country review eu4genderequality reform helpdesk*. (2021). https://euneighbourseast.eu/news/publications/gender-equality-in-georgia-in-gap-iii-priority-areas-country-review/

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This design of social protection and pension schemes contributes to higher levels of gender inequality among older age groups.

3. Analysis of gender role in the project context

Agriculture, pasture and natural resource management, labour and gender

Approximately 43.4% of the country's territory is designated as agricultural land. Although a significant portion of the country's labour force is engaged in agriculture, this sector contributes only 7.4% to the real GDP. The limited contribution of agriculture to the real GDP is attributed to its low productivity and subsistence-oriented practices. Notably, 45% of those employed in agriculture are unpaid family workers[23], indicating a high reliance on subsistence farming.

Women constitute a significant majority of farmers in regions that are highly vulnerable to climate change. 41.7% of Georgia's population lives in rural areas and 75% of the rural population is self-employed, largely in the agricultural sector.[24] Some 59% of self-employed women involved in small-family farming are unpaid.[25] Except for the small region of Racha-Lechkhumi and Kvemo Svaneti, the proportion of females and males working in agriculture is similar across most regions in Georgia (Table 1). However, in the majority of regions, including Kvemo Kartli, the share of agricultural employment is higher for females than males. This difference can be partially attributed to the lower level of formal employment for women in non-agricultural sectors. Kvemo Kartli stands out with a 12-percentage point gap in favour of females, as it has one of the highest agricultural employment rates among all regions and a significant ethnic minority population compared to the total population.

Table 1:
Share of labour force working in agriculture, by gender, 2019

	Employed in agriculture		Share of labour working in agriculture*	Share of females working in agriculture**	Share of males working in agriculture***
	Female	Male			
Tbilisi	523	2,724	1%	0%	1%
Adjara	28,178	24,963	30%	34%	26%
Guria	20,284	20,936	61%	62%	60%
Imereti	59,114	59,061	41%	44%	39%
Kakheti	50,166	51,237	58%	60%	56%
Kvemo Kartli	48,190	43,632	40%	47%	35%
Mtskheta-Mtianeti	11,456	11,496	40%	44%	37%
Racha-Lechkhumi and Kvemo Svaneti	5,696	5,726	57%	55%	58%
Samegrelo-Zemo Svaneti	44,565	45,093	51%	53%	48%
Samtskhe-Javakheti	27,254	30,139	58%	60%	56%
Shida Kartli	24,340	30,114	40%	42%	40%
Total	319,769	325,120	34%	36%	32%

Source: GEOSTAT and UN Women 2021

*Total employment in agriculture over total labour force.
**Total female employment in agriculture over total female labour force.
***Total male employment in agriculture over total male labour force.

Pastures in Georgia serve as a vital source of livestock feed, and medicinal and culinary herbs, and also contribute to recreational activities and tourism. Men are primarily responsible for animal feeding and herding on pastures, while women dedicate more time to livestock, specifically in milking and milk processing and women's higher workload can be attributed to their intensive involvement in animal husbandry throughout the year. Whether or not women are directly involved in pasture management, depending on prevailing gender norms, they are key actors in the dairy sector and have primary responsibility for household nutrition; they, therefore, have an important stake in sustainable pasture management. Poor quality, unsustainable pastures have both commercial and health implications: they translate into poor quality milk and sub-optimal nutrition benefits for the household. The Project will therefore set a 30% target of women and will include women heads of household for membership of PUUs established, which can include women dairy and livestock entrepreneurs. Within the Georgia context, despite their active contribution and critical role in agricultural activities, women, especially those residing in rural areas, are frequently excluded from conservation, management, planning, and decision-making processes related to natural resources. This exclusion can be attributed to prevailing gender norms and limited inclusion and outreach efforts. To address this, it is important to recognize and enhance women's roles, increase their participation, and provide gender-responsive services in pasture and livestock management. This will promote gender equality and improve overall pasture management practices. *Project opportunities: (iii) Create opportunities for women to be part of the decision-making processes in shaping pasture management plans, evaluating their condition and national policy/ legislation, as well as community/ household decisions related to project activities in pasture management; (ii) Consider rural woman and their time constraints to ensure they have equal opportunity to participate in pasture management activities; (iii) Consider proper outreach activities to ensure woman are informed about opportunities.*

Labour market and pay gap

The labour market is characterised by both horizontal segregation, i.e. women tend to work in less profitable sectors of the economy and vertical segregation, i.e. women tend to occupy lower-paid

1.

[23] Geostat, Labour Force Survey 2019.
[24] Food and Agriculture Organization of the United Nations, Gender, Agriculture and Rural Development: Country Gender Assessment Series, FAO, Rome, 2018
[25] Food and Agriculture Organization of the United Nations, Gender, Agriculture and Rural Development: Country Gender Assessment Series, FAO, Rome, 2018

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positions than men within the same sector. Women tend to dominate in the fields of education, social services and health care, while men predominate in management-level positions in the government and private sector. Women face discrimination in economic and social life. In terms of labour relations, women are concentrated in sectors that leave them vulnerable and involve unequal employment conditions. Over the last decade, Georgia's labour participation rate was between 62%–67% for men and 40%–46% for women, indicating significant gender differences in terms of entry into the labour market. Based on data from 2020, 33.9% of women and 49.5% of men are employed. The unemployment rate is 12.5% for men and 6.6% for women.[26]

The gender pay gap remains significant. Women earn about two-thirds (67.6% in 2020) of men's average monthly salary (Geostat 2022), indicating a gender pay gap of 32.4%. Over the past 10 years, this ratio remained stable with no clear indication that the gender pay gap is shrinking. Moreover, employed women have better education-related labour market characteristics than men, but earn lower wages per hour than employed men[27]. The minimum wage in Georgia has been GEL 20 since 1999 and has never been adjusted to account for inflation, real wages, or changing living standards. In 2005, the minimum wage for employees in the executive branch of government was set at GEL 135. Moreover, women are more likely to be involved in unpaid and informal work. The "invisible" nature of their work means that their roles relating to pasture management are underestimated. Women generally devote more time to livestock than men, although women are involved in milking and milk processing while men are mostly in charge of cattle maintenance (cattle feeding and cleaning) and pasturing. They are considered knowledgeable in livestock health. These roles may be different in women-headed households. At the local level, women's role in livestock and pasture management may be underestimated with the risk that they are left out of relevant capacity development and decisions. Lack of time and input may deter women from seeking alternative income-generating opportunities or employment that could help communities adopt adaptation measures on pasture lands. *Project opportunities: Pasture management plans at the municipal and plot levels to explicitly target women with economic incentives, including women-headed households. Identify and draw on women's often unique and traditional knowledge of biodiversity-related to pasture management.*

Land tenure and access to resources

Historical land tenure in Georgia experienced significant changes under the Soviet Regime until 1991, with no private land ownership allowed. After the regime's end, the Georgian state took over ownership of land and initiated a privatization process. While arable land has been transferred to private hands, the privatization of pasture land was halted around 2008. Presently, the Georgian state still owns substantial amounts of land, including pastures, forests, and unproductive areas. However, the ownership and control arrangements seem conflicting, with the state having de jure ownership of pastures, while municipalities de facto decide their usage. Registration of state-owned land remains incomplete, hindering privatization efforts and making it difficult to impose leases and taxes. Some communities are reportedly attempting to register undocumented pasture land, but their motivations seem primarily driven by fiscal goals rather than investing in pasture improvement.

Access to land and resources presents a significant challenge for women in Georgia. The land is the most important asset for households that depend on agriculture for their livelihoods. Access to and control over land is strongly correlated with wealth, status and power in many areas as well as with the possibility of accessing other resources and services. Women are consistently less likely to own or operate land and less likely to have access to rented land. The land they do have access to is often of poorer quality and divided into smaller-sized plots (FAO, 2011). Data reveals that documented ownership of agricultural land is disproportionately skewed, with only 12.6% of documented land owners being women, while men account for 30.6%. Undocumented data suggests that the figures are slightly higher, but still unequal, at 34.1% for women and 47.7% for men. The absence of registered land ownership hinders women's access to credit, grant schemes, and government subsidies. Additionally, women face barriers in accessing information, modern technologies, and other agricultural resources compared to their male counterparts[28].

Differential acquisition of asset ownership between men and women contributes to the gender gap. The studies[29] show that men mostly acquire ownership through inheritance and allocation of gifts, while women acquire ownership mainly through marital laws.[30] Some of the reasons for unequal access to land rights include as follows: (i) Traditional inheritance practices when sons have favour over

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[26] National Statistics Office of Georgia, Women and Men in Georgia, Geostat, Tbilisi, 2021.
[27] *Gender Equality In Georgia In Gap Iii Priority Areas: Country Review Eu4genderequality Reform Helpdesk*. (2021).
[28] Food and Agriculture Organization of the United Nations, Gender, Agriculture and Rural Development: Country Gender Assessment Series, FAO, Rome, 2018.
[29] The Public Defender's Office (PDO) of Georgia, the Gender Equality Department, 2021c.
[30] Ibid

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daughters; (ii) Women's limited access to economic resources to buy land; (iii) Traditional understanding of women's role in the household; (iv) Women leaving households when getting married without claiming their share of land/assets; (v) Lack of knowledge and understanding about their rights and the law.[19] Funding schemes in rural areas are less accessible for women except when women are the target group. Women, including women-led households, have less access to pastures for subsistence or income generation, and less voice in their management. More importantly, limited access to land (or any other property) ownership and registration also diminishes women's status in and outside the family. **It has been demonstrated that women who own property are less likely to suffer from domestic abuse, as they have a way out (FAO, 2016). *Project opportunities: Pasture management plans to explicitly target women with access to entitlements, inputs and economic incentives, including explicit women heads of household.***

The recent Voluntary National Review of Georgia (2020) highlights the challenges posed by land fragmentation and registration, which are identified as major factors contributing to the poor performance of the agricultural sector. Georgia aims to address this by increasing the proportion of the adult population with secure land rights to 80% by 2030, with a specific focus on increasing land registration among women by 10-15%. Positive progress has been observed since 2015, with the share of registered lands among the adult population increasing from 50% to 59%, and the share of registered land owned by women rising from 35% to 38%.[31]

Access to credit poses challenges, despite the absence of any formal legal barriers. The primary obstacle is that loans are less accessible to women due to a lack of financial capital and their low level of property and asset ownership overall, as many lack land or property to use as collateral. Special concessional programs offered by banks, microfinance institutions (MFIs), and international organizations seldom target the most impoverished individuals, whether men or women or initiatives aimed at start-ups. Moreover, these initiatives often fail to consider the specific needs of the agricultural sector. Ethnic minority women face limitations in accessing microfinance products due to linguistic and cultural barriers, while internally displaced persons (IDPs) and women affected by conflict struggle due to the lack of collateral options. In a similar vein, the major challenges that women face when embarking on entrepreneurial ventures are related to the lack of access to financial and other types of resources along with land and property entitlements. This is particularly pronounced in rural areas[32]. Funding schemes in rural areas are less accessible for women except when women are the target group. Women, including women-led households, have less access to pastures for subsistence or income generation, and less voice in their management. *Project opportunities: Pasture management plans to explicitly target women with access to inputs and economic incentives, including women heads of household.*

Enterprises, agricultural cooperatives, access to technology and knowledge

Women are underrepresented in cooperatives, both as members and as chairpersons. Significant gender disparities exist in terms of the distribution of agricultural holdings by women and men, as well as the distribution of the land area operated by agricultural holdings. gender equality considerations are not systematically mainstreamed in other laws and decisions, including the Law on Cooperatives. Programs are focusing especially on women's participation, but they are insufficient. In 2020, 32.2 % of agricultural holdings were managed by women, while 67.8 per cent were managed by men; and 20.7 per cent of lands operated under agricultural holdings were held by women, while men held 79.3 per cent of them. The gender gap has been maintained over the years (UN Women, 2021). *Project opportunities: Promote equitable and inclusive participation of women and men from the start, for example through defining the minimum quotas for women in establishing pasture user unions and their memberships. Reduce collateral barriers for women in recognition of their unequal access to assets compared to men. Municipalities with women in informal groups for pasture management should be included and possibly prioritized. Their chairperson and leadership roles are to be promoted and possibly prioritized.*

Women's access to information, technology, innovation and knowledge is lower compared to men's. Due to deeply entrenched bias, 'farmers' are perceived only as men, while women are seen only as 'wives of farmers.' Rural advisory services, as it was revealed by FAO field research from 2028, inform farmers by contacting a small number of men from local communities, who tend to inform other men farmers of the neighbourhood. Women are usually excluded from these communications and

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[31] Secretariat of the SDGs, Voluntary National Review Georgia / VNR 2020 – Report on the Implementation of the 2030 Agenda on Sustainable Development (Administration of the Government of Georgia, Interagency Council of Georgia, 2020). Available at https://sustainabledevelopment.
un.org/content/documents/26389VNR_2020_Georgia_Report.pd

[32] United Nations Entity for Gender Equality and the Empowerment of Women, Country Gender Equality Profile of Georgia, UN Women, Tbilisi, 2021.

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mobilization channels because they are less likely to be regarded as farmers in their own right. Furthermore, women are only between 9 and 25 per cent of employees of rural advisory services in the regions, which reinforces the consideration of extension service channels as "masculine" domains. This low access to information, knowledge and agricultural innovation hinders, in turn, women's economic opportunities. Furthermore, data show that in family farming practices, women mainly are involved in manual work; they do not have access to available technologies and machinery, which are considered men's prerogative. Due to the prevalent stereotypical attitudes, building women's technical and professional expertise in this regard is considered - neither at the family level nor at the wider/national level. This is connected to the barriers to women's representation in higher managerial positions (UN Women 2021). According to research conducted by FAO (2018): *"given the socially existing patrilocal form of marriage, rural households have less interest in investing in girls because the potential economic returns are perceived to be significantly lower than that of boys.* This has long-term implications for the status of young women and their life opportunities, limiting their abilities to have access to well-paid jobs and other various resources. It also has an impact on overall agricultural productivity and rural development." **Because men are regarded as decision-makers and those responsible for dealing with providers, women experience *de facto* barriers in accessing these resources**. ***Project opportunities****: pasture management plans to explicitly target women with access to inputs, including women heads of household.*

Gender equality in the public space: Representation, participation and leadership

Women encounter various structural barriers that hinder their participation in policy formulation and they are underrepresented at all levels of leadership in politics and public life in Georgia, whether in elected office, civil service or the judiciary. The underrepresentation of women in decision-making positions is vivid across all spheres in Georgia. The existing political context does not ensure women's equal participation. Women are underrepresented in the legislative and executive branches of the government, in both central and local governments, in the judiciary system and managerial positions, among others. Furthermore, structural and systemic barriers-including the disproportionate burden of family and caregiving roles coupled with long and inflexible hours in both public and political work as well as the violence against women in politics and elections prevent women from participating fully in decision-making at all levels.

Historically, women's representation in parliament has been low, ranging from 7% to 15% until 2020, while low representation in local authorities persists even more. In the 2021 local elections, 68.59% of local council members elected from proportional lists are men, while 31.41% are women. Among majoritarian candidates, 92.86% are men and 7.14% are women. Only three out of 64 mayors of local municipalities, including self-governing cities, are women[33].

The judiciary in Georgia has a relatively good representation of women, with 55.6% of judges being women. However, women face a glass ceiling in decision-making positions. Only 10.7% of decision-making positions in the judiciary are held by women, and 22.2% of the Presidents of Chambers are women. Additionally, 15.4% of Court Chairs are women, and no woman judge chairs a judicial panel. Among Georgia's High Courts, 37.5% of the members of the Constitutional Court and 40% of the members of the Supreme Court are women[34].

Despite the underrepresentation of women in decision-making positions, the general attitude towards female leadership in both national and local levels is positive[35]. Numerous surveys have shown that both men and women support women's participation in the public sphere. For instance, the Population's Life Experiences in Georgia Survey (EBRD, 2016) revealed that 92.5 % of men and 95.6 % of women believe that women make good local leaders. Additionally, 89.5 % of men and 93.4 %of women consider women to be just as competent as men in occupying positions such as president or prime minister of the country. Moreover, according to an NDI poll, a majority of Georgians recognize the need for more women in parliament and self-governance, with 63 % supporting quota legislation to enhance women's representation (NDI, 2018)[36].

The hidden barriers need to be looked into. There is a disconnect between existing, even comprehensive gender-responsive policies and legislation and their actual implementation on the ground. ***Project opportunities***: Along with promoting gender considerations in the new law on pasture management, ensure the consultations are conducted with rural women and men to further enquiry their concerns with regards to 'what works and what does not work on the ground'. Inclusive discussion

1.

[33] *Gender Equality in Georgia In Gap Iii Priority Areas: Country Review Eu4genderequality Reform Helpdesk*. (2021).
[34] Council of Europe, Main factors contributing to the under-representation of women judges in the management of the common courts of Georgia, COE, Strasbourg, 2019.
[35] GIZ Gender Assessment under the "Enabling implementation of forest sector reform in Georgia to reduce GHG emissions from forest degradation" Submitted to the Green Climate Fund (GCF) Nana Samkharadze 2019.
[36] https://www.ndi.org/publications/results-december-2018-public-opinion-polls-georgia

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processes for the formulation of adaptive grazing strategies and the new pasture legislation and policies should include a rural woman and their representatives.

Climate change, environment and gender

Natural disasters such as floods, landslides and fires are another significant aspect that disproportionally affects women and men. According to recent studies, due to the prevailing attitudes and perceptions on women's role, women are mainly less ready to react quickly to natural disasters (UN Women 2021)[37]. The most vulnerable groups towards natural disasters are people living in high mountainous regions and rural areas, as well as poor people and those living below the poverty line and people living alone[38].

In Georgia, 14.3% of the rural population lacks access to drinking water on their premises, and only 15.8% have a piped sewer system. Both men and women (aged 15 and above) are involved in collecting drinking water, with 50.6% of men and 45% of women responsible for this task39. Recent studies and grey literature claim that due to the prevailing traditional norms in Georgia, housework is considered a women's responsibility. Natural gas, firewood and electricity are used mainly for housework-related activities such as heating water, heating homes and preparing meals.

Project opportunities. Promoting women's role in pasture management: As climate change affects pasture ecosystems and productivity, the project can empower women in sustainable pasture management. This will include providing training and capacity building on adaptive grazing techniques, pasture rehabilitation, and diversification of livestock. Creating opportunities for women's participation in pasture user unions and ensuring their legal entitlements for access to land and resources will be critical. Since livestock farming and dairy production are important sources of income for rural households, the project can support women's economic empowerment by improving pasture productivity and animal health. This can be achieved through training on improved livestock management practices, access to veterinary services, and facilitating market linkages for livestock products, such as cheese, building on and scaling up on DiMMA and DiMMAdapt to experience. The project or the partnerships within and beyond the project lifecycle can aim to improve access to safe and reliable water sources and promote further activities after the piloting. This can involve the construction of water infrastructure closer to communities, reducing the burden on women's time and physical labour. Additionally, efforts will be made to promote gender equality in decision-making processes related to water and sanitation as well as overall natural resource management and ecosystem restoration. Initiatives can include access to knowledge, raising awareness, improving access to early warning systems, and enhancing women's participation in disaster management committees.

Findings from field focus group discussions and community meetings

Several community meetings in Akhaltsikhe and Kakheti regions and two field focus group discussions in the Akhaltsikhe region were conducted to gather insights from community members on pasture management from a gender perspective (see Annex 2 and Table below indicating locations visited). Despite some challenges in organizing the focus group discussions, bearing in mind the geographical coverage being limited, still valuable information was obtained, confirming the desk-review outcomes above.

After tree field visits, community meetings and group discussions, the following key findings have emerged:

- **Overall attitude expressed by farmers towards pasture privatization attempts and ongoing policy changes or attempts to changes**. Most farmers interviewed expressed a preference for maintaining the current free access to pastures rather than pursuing further privatization. They voiced concerns that privatization could lead to the loss of common village pasture areas through sales or rentals. Herder's organization directors identified two main reasons for the opposition to pasture privatization among herders. Firstly, buying previously free-of-charge land is financially burdensome for herders, as it involves investment costs and subsequent land taxes that may exceed their financial capabilities. Secondly, without clear preferences given to pasture users, non-farming investors may dominate the land market, potentially displacing local herders. Additionally, farmers with low incomes and nomadic herders face disadvantages due to their limited spending power and technical challenges, such

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[37] WeResearch 2019b
[38] Women's Fund in Georgia 2017
[39] ILO and Geostat 2016.

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as accessing e-auctions or participating in pasture registration processes in municipalities where they are not resident.

- **Limited participation**. Participants highlighted that women are rarely invited to village discussions on pasture management and related matters. As a result, they lack awareness of ongoing initiatives and do not participate in community-led discussions. Village gatherings are predominantly organized and managed by men. However, reportedly, they compensate for this by sharing information within their households.
- **Lack of outreach and engagement**. The local government lacks effective tools and methods to involve the community, including women, in pasture management activities. Women reported being unaware of any formal or informal groups or activities related to pasture management and overall natural resource management initiatives. They expressed a strong desire to be informed and engaged in such initiatives. Yet, some expressed concerns related to time poverty, due to gender norms on the division of house labour. ***Project opportunities for enhancing women's participation****: organizing inclusive and well-publicized meetings, providing information through multiple channels, and encouraging women's representation in village gatherings and committees*.
- **Knowledge and skills needs**. Participants expressed a keen interest in learning about milk hygiene and animal feed management. They highlighted the importance of acquiring knowledge on these topics to improve livestock care and productivity. Additionally, concerns were raised about infrastructure, roads and the need for access to veterinary services in mountain grazing areas. ***Capacity building and knowledge sharing****: Training programs on milk hygiene, animal feed management, and sustainable pasture practices designed with gender lenses, including considering time constraints for women. Empowering women with the necessary knowledge and skills will enhance their engagement and enable them to contribute effectively to pasture management.*
- **Land ownership**: None of the women reported owning land, livestock, or engaging in formal activities related to pasture management. Land ownership primarily rests with male household heads and village gatherings are predominantly organized and managed by men.
- **Seasonal pasture use.** The majority of women in groups reported participating in seasonal pastures in the mountains for a few months, sharing responsibilities with their households. They mentioned the construction of cottages for temporary living, although the legality of these structures is uncertain.
- **Infrastructure challenges**. Participants highlighted the lack of electricity and water as key problems in the seasonal cottages. Having access to amenities such as a washing machine would significantly impact their time availability and reduce the burden of household chores. ***Project opportunities for infrastructure improvement****: Where possible, the provision of basic amenities such as electricity and water in seasonal cottages can alleviate the workload of women and enhance their overall well-being.*
- **Limited platforms for women's voices**: Women expressed frustration over the lack of platforms to express their opinions and provide feedback. Village meetings rarely include women, limiting their opportunities for participation and influence. ***Project opportunities for creating platforms for women's voices***: *Efforts should be made to establish inclusive platforms where women can express their opinions, provide feedback, and actively participate in decision-making processes. This can include women's self-help groups, WhatsApp groups created during the technical training for beneficiaries, Facebook groups, as well as diverse types of feedback mechanisms. To address concerns about hesitancy in providing feedback or concerns, all participants can be requested to insert their feedback on individual papers during gatherings, training, and meetings. Even in the absence of feedback, blank papers should be still inserted by every participant. This inclusive practice ensures that everyone can freely provide feedback without fear or hesitation. It will encourage open and honest communication while protecting the privacy and traceability of each participant's input. Project activities will ensure that women's perspectives are considered and integrated into pasture management plans and policies.*

Last but not least, within the proposed targeted regions, the high mountain regions – Mestia, has been least in the consultation processes, due to the difficulty to reach the regions, therefore, it will need special attention on further consultations and dynamics, which has very unique customary laws and traditions, including on land-tenure and pasture management.

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4. Gender strategy

General considerations and pathways

In the context of prevailing gender norms, women play a pivotal role in the dairy sector and bear primary responsibility for household nutrition, regardless of their direct involvement in pasture management. Consequently, women have a significant vested interest in the sustainable management of pastures. The presence of poor-quality and unsustainable pastures yields negative consequences both in terms of commercial viability and health implications. Specifically, such pastures contribute to the production of substandard milk that may not comply with EU regulations, thereby affecting marketability. Moreover, they compromise the nutritional benefits derived from dairy products within the household. Women also play a key role in sustainable resource management for building climate resilience and

To address these challenges, the Project aims to ensure gender inclusivity by setting a target of 50% representation of women, including women heads of household, in the membership of Pasture User Units (PUUs) established under its purview. These PUUs encompass various stakeholders, including women dairy and livestock entrepreneurs. By actively involving women in pasture management and decision-making processes, the Project seeks to enhance sustainable pasture practices, improve soil and land, improve milk quality, and promote optimal household nutrition.

Strategic pathways. By specifically focusing on gender equality and women's empowerment, the project will deepen the impact and strengthen the sustainability of its efforts to reduce the vulnerability of livelihoods and ecosystems in Georgia to the negative impacts of climate change. The gender strategy takes the dual approach, namely, to analyse and address gender-differentiated impacts and risks ("do no harm") and to detail gender-responsive opportunities to proactively address persistent gender gaps ("do good"). It will use a combination of multiple and complementary gender practices that facilitate changes in gender roles and relations. The project will improve women's access to resources and opportunities in combination with practices to enhance women's and men's awareness and consciousness. In addition, it will engage in policy dialogue on gender equality and women's empowerment in the formulation and adoption of the policy and law on sustainable pasture management.

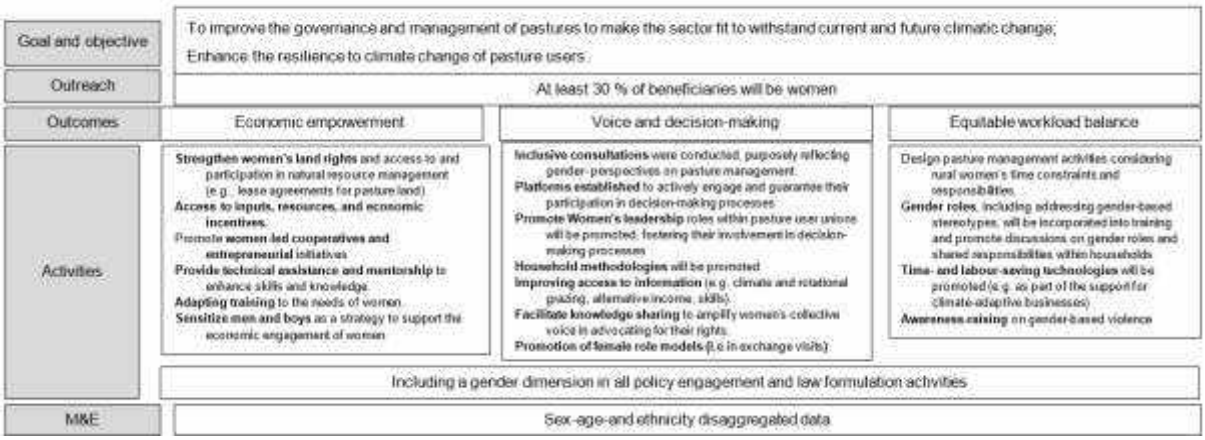
Targeted landscape actions that address gender- and age-specific needs and capacities will be included. These actions might be needed to reduce the vulnerability of livelihoods, recognise gender-specific roles, overcome gender-based barriers to resource access and control or channel resources on a priority basis to groups that are typically excluded, such as women-headed households (WHH), women's and youth groups, to ensure that they can meaningfully participate in the planning and implementation of actions. As the actions are implemented, it will be important to engage with decision-makers at different levels to raise awareness of discriminatory policies and practices and to promote governance of ecosystem services that are gender-equitable and inclusive

The planning of landscape and cluster initiatives will be guided by a comprehensive gender and youth analysis. This analysis will adopt an intersectional perspective, examining the roles and interconnections among individuals of diverse genders. It will also explore gender- and youth-specific opportunities, obstacles, and levels of decision-making influence. Armed with this understanding, actions can be strategized and executed in a manner that acknowledges and accommodates gender and age-related roles and dynamics. Simultaneously, these actions will aim to challenge discriminatory norms and practices prevalent in the community.

The process of planning actions will be conducted in a participatory manner, ensuring the active involvement of all relevant stakeholders. This inclusive approach will encompass local authorities, conservation organizations, and members of the community. The leaders responsible for facilitating the planning processes will proactively strive to create opportunities for meaningful participation, particularly from underrepresented groups such as women and youth, who are frequently marginalized in decision-making processes. Achieving this goal will necessitate targeted consultations, capacity-building initiatives, and the engagement of facilitators from the excluded groups. Three strategic pathways for gender equality and women's empowerment will be followed as indicated in the figure below.

11.

Project Strategic pathways for GEWE



5. Gender action plan

Objective: The GAP integrates gender-related priorities in Project activities and results to address gender differences and empower women for improved pastureland management, contributing to achieving climate resilience, food security, land degradation neutrality and gender equality and SDG targets of Georgia.

Operational principles: the GAP will (i) support the Project to implement the gender-related requirements and guidelines of international and gender frameworks relating to climate adaptation and mitigation (ii) wherever possible, carry out gender analyses before main related Project activity to facilitate uptake of gender-related issues (iii) build on women's roles as agents of change in pasture management (iv) be led by the Project Director but supported operationally by a gender focal point appointed by the Project, as well (a) gender expert(s) contracted/hired for specific technical inputs (v) gender competency will be included in the Terms of Reference for all staff and consultants/contractors (v) all relevant data will be disaggregated by sex, age and ethnicity.

Approach: the GAP will be delivered through the Project components, specifically through:

- Component 1 (i) ensure gender mainstreaming; engaging women as well as men in pasture resource accounting, user inventory and resource allocation in identifying gender-responsive strategic (municipal) and operational (plot level) pasture management plans (ii) gender-responsive business models and incentives for access to rights and resources, including rights allocation and alternative livelihoods;
- Component 2 (i) increasing women's participation in capacity building and development at all levels: national and sub-national and (ii) contributing to improved knowledge on gender dimensions of sustainable pasture and natural resource management, contributing to adaptation practices in Georgia; (ii) gender-responsive business models and incentives for access to rights and resources, including rights allocation and alternative livelihoods; (iii) engaging women as well as men in developing pasture management planning at a local, national and sub-national level
- Component 3 (i) engaging women and women's representatives in policy and legislation formulation processes (ii) engaging and promoting gender-responsive national policy and legal framework, including adopting temporary special measures, if and as needed to ensure gender equality; gender-sensitive Monitoring and Evaluation plan and (iii) targeting women as well men on issues in pasture management.

The table below sets out the GAP provisions for Project Components and Outputs/ Activities. Responsibilities and budgets should be allocated and duly considered.

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***Table 1**. Gender action plan*

Component / output	Gender actions by project activity	Indicators and targets
Component 1. Pasture resources accounting, user inventory and pasture allocation		
Output 1.1.1. Pasture resources accounted and conditions assessed	**Assessing pasture vegetation types and their condition** • Involve women in field surveys of the assessment on pasture vegetation types and their condition. **Assessing stock routes** • Capture the needs and priorities of female pasture users, youth and ethnic minorities in the study, especially of women and their needs who migrate between summer and winter pastures with the herd.	-
Output 1.1.2. Capacity built on municipal pasture use planning	**Developing guidelines and detailed protocols for the pasture use planning at municipal level** • Integrate gender considerations into the guidelines and protocols of pasture user planning; Detail how women, women-headed households, and ethnic minority groups will partake in the planning process. • Integrate gender considerations in templates for charters of and land agreements for pasture user unions; Integrate gender considerations in the terms of leasehold contracts. • Determine eligibility criteria that favour women with regards to awarding leasehold contracts. **Establishing municipal pasture management councils** • Ensure a representation of all pasture-related stakeholders in councils including stakeholders on land tenure, women and youth grassroots organizations, women representatives, government and non-government organizations. • Include minimum quotas for the representation of vulnerable groups in municipal pasture management councils, including women, women-headed households and ethnic minority groups (i.e. council with 30% of females, including, where relevant, at least one representative from ethnic minority groups). • Establish municipal-level gender focal points to guide municipal pasture management councils on social inclusion, and raise awareness on the opportunities to mainstream gender in sustainable pasture management. **Training of government officials and field staff** • Ensure that at least 30% of government officials and field staff participants to be women. • Ensure that the training curriculum to train government officials includes gender considerations and highlights the needs and challenges of women and minority ethnic groups in pasture management. • Monitor the gender balance of participants, and take measures to ensure adequate representation of gender and other vulnerable pasture users in trainings.	At least 30 % women in municipal pasture use planning councils (logframe indicator) At least 30% of government officials and field staff participating in trainings are women (logframe indicator) 8 municipal gender focal points

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Output 1.1.3. Pasture users inventoried, registered and rights allocated	**Participatory inventory of pasture users** • Mobilize vulnerable livestock owners, shepherds, women, youth, and ethnic minorities to actively participate in the inventory process. Aim to have equal representation of women and men in consultations and document views from all participants. • Make sure that meeting times, field visits and locations are convenient for vulnerable users, considering gender-sensitive time constraints (e.g. milking hours, harvesting periods and school holidays). Organize translation where there are language barriers. • Ensure pasture user inventory data is disaggregate data by sex, age and ethnicity. • Invite and ensure representation of other stakeholders in the consultations –municipal, NGOs, cooperatives and women's groups. • Target women in communication campaigns to mobilize their participation. **Delineating grazing units** • Target for quota of minimum 30% of women to partake in consultations on delineating grazing units, and providing their consent to the boundaries, pasture zone and tenure regime of grazing units. **Registering user groups and lessees, and allocating usage rights.** • Provide support and advice for women and female-headed households, to be part of pasture user unions or register as lessee to apply for leaseholds. • Ensure the entitlement of the registered pasture user groups include female and female headed households. Define minimum quota: Each registered pasture user groups to include at least 50% of women and, where relevant, all women headed households with livestock ownership who use or potentially can use pasture lands in the relevant area should be part of registered user groups with the rights to access/lease allocated. • To support reaching equality and quota, eligibility criteria for pasture users can request female households being included together with male member as co-members of user groups from the same households. • Include provisions in land agreements to protect and explicitly recognize the rights of women in common resource property rights and leaseholds, ensuring their equal participation and benefits. • Raise awareness among women about their rights and provide support to address any discriminatory practices or barriers they may face in accessing and benefiting from land/lease agreements. • Collect gender-disaggregated data on pasture management units and ownership to identify any gender disparities or gaps in access and ownership. • Use the grievance redress mechanism to ensure that complaints made by women and other groups get recorded.	30% participation of women in meetings where users give their consent to boundaries, pasture zone and tenure regime of grazing units
Component 2. Pasture management planning and rehabilitation		

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Output 2.1.1. Capacity built on adaptive grazing management and pasture rehabilitation	**Developing pasture management plans** • Consider gender in the selection and establishment of demonstration plots. Consider establishing demonstration plots on women-headed households, where possible. **Training pasture users** • Ensure that women comprise at least 30% of training participants in each municipality, and at least 20 % are women heads of household. • Ensure training sessions are accessible to women as well as men e.g. times and venues. • Use different communication channels to inform women and men about the training. • Monitor participation of women/ men and take immediate corrective measures if gender indicators/ targets are not met. Consider delaying trainings until gender targets are met. • Feature gender considerations in the training curriculum, including how gender roles and inequalities in Georgia impact in pasture management (e.g. leaving women out capacity development means that if men migrate, they may inadvertently increase the damage through poor practices or because they do not have access to pasture management decisions and cannot contribute their ideas). • Women to comprise at least 20% of trainers trained. • Ensure that training content are relevant to women as well as to men. **Organizing study tours for pasture users** • Ensure that 30% of study tour participants are women.	At least 30 % of training participants are women (logframe indicator) At least 20% of training participants are women heads of households 20% of trainers are women 30% of study tour participants are women
Output 2.2.1. Pasture management plans developed	**Preparing pasture management plans** • Ensure that at least 30 % of participants are women in community meetings to development pasture management plans. • Brief facilitators leading the development of pasture management plans on gender aspects and how to include these. • Conduct consultations with women and men to address gender in pasture management plans. Identify barriers, opportunities, needs and priorities of women (including vulnerable women heads of households). • Promote technologies and practices accessible to women and prioritize them. These technologies and practices will be determined in consultation with women[40].	At least 30 % of participants are women in community meetings to development pasture management plans

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[40] See TABLE 10 (List of technologies, services and practices with a labour-saving potential for women) in FAO. 2018 attached. Developing gender-sensitive value chains – Guidelines for practitioners. The list of technologies for land preparation is relevant.

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	• Identify management practices that can be carried out by men as well as women (to ensure equal rights and manage the risk that practices may be discontinued e.g. because male household members are sick, or migrate to urban areas in seek of work).	
Output 2.2.2. Pasture infrastructure and rehabilitation measures implemented	**Funding pasture infrastructure and rehabilitation activities** • Ensure that all physical investments are screened against standardized checklists ensuring compliance to the Adaptation Fund's social and environmental principles. • Fund infrastructure development and rehabilitation measures that address the needs and priorities of vulnerable groups. • Encourage gender-responsive infrastructure solutions, such as improved livestock shelters or water points that consider the specific needs and roles of women in livestock management. • Ensure that the committee responsible for reviewing and approving grants includes representatives with gender and social inclusion expertise (or gender focal point) who can assess the proposals from a gender-responsive and vulnerable group perspective. • Provide clear guidelines to the committee members to ensure they are aware of the importance of gender and vulnerable group considerations in their decision-making.	100% of physical investments are screened against gender-sensitive criteria
Output 2.2.3. Grazing strategies and plans implemented	**Providing extension services to support grazing assessment and planning** • Evaluate the implementation of grazing strategies and annual schedules with a gender lens. Adapt them for the next grazing cycle.	
Component 3. Strengthening governance and knowledge of pastures		
Output 3.1.1. Pasture policy reform supported	**Hiring legal expertise for further legislative development** • Hire a specialist to conduct a Gender Impact Assessment (GIA) of the new pasture management policy. • Consider hiring a gender in agriculture and pasture management expert to (i) refine preliminary gender analysis and (ii) make concrete and detailed recommendations for national pastureland management policy. • Conduct gender-responsive land tenure assessments to address any gender-based land tenure issues and promote equitable access to pasture management units. **Supporting the multi-stakeholder engagement process and pasture user representation** • Ensure the participation of women in workshops of the Intersectoral Governmental Working Group on Pastures. • Ensure that at least one workshop in each municipality is held to invite views on current pastureland policy, with provision for hearing from women as well men equally e.g. through separate workshops and/ or consultations with representatives of women pasture users/ actors representing their interests. Feedback from women as well as men to be reflected in any changes to the policy.	At least 30 % of participants are women in stakeholder workshops

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	Assessing and building NASLM's capacities • Analyse gender considerations in the assessment of NASLM. **Developing a web-based solution to manage and administer pasture information** • Ensure that the system's registries are capable of storing gender-disaggregated data. • Ensure that gender-disaggregated data of the pasture user inventory and registration are inserted in registries of the pasture administration system.	
Output 3.1.2. Knowledge services and products developed and disseminated	**Producing extension materials on good management practices in the context of climate change.** • Mainstream gender aspects in pasture management in extension materials. **Providing information services** • Design information services to cater for the information needs of women and men in pasture management. **Communication campaign.** • Promote 2-3 key messages on gender and pasture management, climate change and natural resource management. • Conduct awareness campaigns to encourage women's participation in pasture user groups and facilitate their registration. • Target women, youth and minority groups in awareness raising campaigns.	-
	General considerations for all activities	
Overarching human resources and financial commitments	All activities: • Provide employment opportunities to women as well as men in carrying out relevant exercises. • Ensure that women comprise 30% of incentive beneficiaries. • Project activities meet the practical needs and strategic priorities of women as well as men i.e. will take account of women's/ men's specific barriers in contributing to sustainable pasture management. • Eligibility criteria will take into account other barriers and introduce temporary special measures for women to address identified gender gaps: o women's time burden and lack of labour (more likely for women heads of household) as a barrier to engaging in effective pasture management and related decision-making (potential mitigation measure: time-saving technologies and practices adapted to women e.g. physically able to operate, low maintenance, double-use such as able to rent out to others)	

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	○ cultural barriers to women earning and managing finance outside the home (potential mitigation measure: direct targeting of 30% women (including but limited to women heads of household) balanced with sensitization of men regarding importance of mobilizing all community members to tackle pasture degradation). A Gender-sensitive Project Monitoring & Evaluation Plan and a relevant system are in place • See also the main Project indicators. • Project officer responsible for gender contributes to establishing participatory monitoring system that ensures that varied stakeholder groups, including women, support data collection efforts and validate results, including qualitative methods to measure social impact. To include the following. Monitoring*:* • Quarterly updates on this Gender Action Plan, based on participatory reports from municipality level Gender Focal Points. • Problems with achieving gender targets to be reported and Project Director to assume responsibility for ensuring corrective action. • Every 6 months, Project officer responsible for gender visits each municipality to verify results and support implementation of the GAP. Evaluation – see Project MNE and outputs Gender milestone actions • Identify Project GFP, possibly M&E officer with 10% time dedicated in TOR to operational support of Project Gender Action Plan including implementation of gender-sensitive M&E plan. • Insert gender/ social inclusion standards in all project staff/ consultants TOR: ○ Project Director: has overall responsibility for GAP implementation and gender-related results including timely mobilizing relevant human and financial resources and taking timely remedial action as needed ○ Project GFP: see above ○ All staff/ consultants: “identify and integrate practical actions to respond to gender-differentiated issues and their implications for women and men” Carry out briefing on Project GAP for all staff and require that all consultants familiarize themselves with the Project Gender Analysis and GAP.	