ADAPTATION FUND

AFB/B.43-44/8
30 January 2025

Adaptation Fund Board

REQUEST FOR CHANGE IN PROJECT OUTPUTS, MATERIAL CHANGE, REVISION OF DISBURSEMENT SCHEDULE, AND EXTENSION OF PROJECT COMPLETION DATE: IFAD (GEORGIA)

Background

1. At its 34th meeting, the Adaptation Fund Board (the Board) approved through Decision B.34/5 a four-year project titled “Dairy Modernization and Market Access: Adaptation Component (DiMMAdapt)” in Georgia, implemented by the International Fund for Agricultural Development (IFAD), for a requested amount of US$ 4,644,794.

2. The overall objective of the project is to enhance vulnerable dairy producers’ resilience to climate change. The project includes two components: (i) Climate-proofing pastoral ecosystem services (water management, pasture regeneration, and disaster risk reduction); (ii) Supporting the climate resilience of market vulnerable smallholders.

3. As mandated by the aforementioned Decision, an agreement was prepared and signed between the Board and IFAD on 8 April 2020. The first tranche of disbursement for the implementation of the project was released following the signature of the agreement, for a total amount of US$ 973,737. The project held its inception workshop on 16 April 2021. To date, the Trustee has disbursed a total amount of US$ 3,755,531 to the project.

4. On 15 October 2024, based on findings arising from the project Mid-Term Evaluation, IFAD submitted through the secretariat a request for changes in project outputs, material change, revision of disbursement schedule and extension of completion date (see annex 1). The delay in adopting the Law on sustainable pasture management is presented as the underlying reason justifying this request. A letter from the Designated Authority endorsing the proposed changes was included (see annex 4).

5. The secretariat subsequently informed IFAD that the Fund’s Operational Policies and Guidelines Annex 7 required IFAD to obtain prior approval from the Board, as per paragraphs 6 to 8 (material change) and paragraph 10 (changes in project outputs, including introductions, modifications and deletions). IFAD was also informed that the revision of the project disbursement schedule triggered the need to amend the project agreement, and that the extension of the project completion date triggered provisions set forth in paragraphs 13 and 14 of the AF policy for project/programme delays, which required IFAD to submit such a request using Annex A of the policy.

6. IFAD was therefore invited to share a revised project document addressing some discrepancies, and a signed and dated Annex A of the AF policy for project/programme delays. The secretariat also requested IFAD to consider these changes as void until the Board approves them.

7. On 9 January 2025, IFAD shared a revised project document (see annex 3) and a signed Annex A of the AF policy for project/programme delays (see annex 2).

Suggested changes

8. In light of the unexpected delay in adopting the Law on sustainable pasture management, IFAD’s request consists in:

(i) Reducing the geographic scope of the target sites to focus on those areas where land registration and categorization were resolved separately than through the adoption of the Law on sustainable pasture management (i.e., Akhaltsikhe municipality);

(ii) Compensating the reduction of pasture restoration works (from 9,500 ha to 1,000 ha and from 3,900 households to 1,283) by bringing 3,800 ha of pastures under

improved management (community-based Pasture Management Plans and trainings on rotational grazing), registering 15,900 ha of pastures, completing an inventory of 106,163 ha of pastures in Ninotsminda municipality, and developing a national document for identification, surveying and registration of pastures. This would materialize through the creation of a new output 1.1.2 on “Inventory and registration of pasturelands”.

(iii) Extending the project completion date from 16 April 2025 to 30 June 2026 to ensure a thorough and timely implementation of the activities within the project’s updated scope.

9. The above changes, which were backed by the findings of the recent Mid-Term Evaluation report, are deemed essential not only to help in reaching the project’s goal, but also to pave the way for a smooth implementation of the subsequent IFAD-implemented project “Dairy Modernization and Market Access: Adaptive and Climate-Resilient Pasture Management (DiMMAdapt+)” approved by the Board at its 42nd meeting through Decision B.42/12.

10. When reviewing the documents provided by IFAD, the secretariat identified a material change (defined by the Board as a cumulative total budget change at output-level that involves 10 % of more of the total project budget), which involves 35% of the total budget.

11. Finally, IFAD also requests a change in the disbursement schedule to ensure optimal use of resources and alignment with the new project’s end date. The total project cost and project fees remain unvaried, and the only revision is to merge the last two tranches to optimize the project implementation time.

Secretariat’s review of the request

12. Following a review of the documents submitted by IFAD, the secretariat notes that the request for change in project outputs, material change, revision of disbursement schedule, and extension of project completion date is in line with the recommendations made by the mid-term evaluation report, that is has been endorsed by the Designated Authority, and that they do not impact the environmental and social risks and associated mitigation measures delineated in the project’s Environmental and Social Management Plan. As a result, the secretariat is of the view that the request could be recommended for approval, in application of paragraphs 6, 7, 8 and 10 of the Annex 7 of the Fund OPG, and paragraphs 13 and 14 of the AF policy for project/programme delays.

Recommendation

13. The Board may consider and decide to approve the request for change in project outputs, material change, revision of disbursement schedule and extension of project completion date for the project “Dairy Modernization and Market Access: Adaptation Component (DiMMAdapt)” implemented in Georgia, as requested by the International Fund for Agricultural Development (IFAD).

Annexes

- **Error! Reference source not found.**Request for changes in project outputs, material change, and revision of disbursement schedule submitted by IFAD
- Annex 2 – Request for extension of project completion date submitted by IFAD
- **Error! Reference source not found.** by IFAD
- **Error! Reference source not found.** endorsing the proposed changes

Error! Reference source not found.**Request for changes in project outputs, material change, and revision of disbursement schedule submitted by IFAD**

DiMMAdapt Proposed Changes

Project Full Title: Dairy Modernization and Market Access: Adaptation Component (DiMMAdapt)
Project Code: GEO/MIE/Agric/2019/1
Approval: 11 October 2019

Background and Clarification

Originally the project proposal was designed and approved with the assumption that the Pasture Law would be adopted and enacted during the project implementation cycle. Due to various objective reasons, particularly the lack of a developed methodology for the identification, categorization, registration, and transfer of pastures to end users, the Pasture Law has not been yet adopted, though currently, it is in a very active phase of discussion with all the key stakeholders and government administration. This situation presents significant challenges to the comprehensive and coherent implementation of the original design, particularly concerning activities such as: Restoration of degraded pastures, reforestation and windbreaks; Water management measures to favor pasture resilience; Measures to prevent soil erosion, mudslides and floods; Restoration of riverine vegetation for better water management as barriers against floods, to improve water quality and as a source of fodder. These core project activities are closely tied to the legal and administrative framework that the Pasture Law would establish. Without the adoption of this law, the project faces several obstacles.

- **Restoration and Management Activities**: The absence of a legal framework makes it difficult to carry out activities like pasture restoration, reforestation, water management, etc. These efforts require clear land ownership and categorization to ensure that interventions are sustainable and legally supported.
- **Land Registration, Categorization and Ownership**: The fact that most lands that are used as pasture lands are not yet registered and/or categorized, and remain under state ownership, adds another layer of complexity. Currently existing lengthy process of land registration/categorization and the transfer of ownership rights to municipalities (detailed description see below) creates delays, further complicating project implementation.

Although the project is facing some challenges in implementing pasture rehabilitation activities, it remains committed to continuing these efforts, albeit on a smaller scale. In order to advance process, the subcontractor, the Regional Environmental Center for Caucasus (RECC), under the amended CONTRACT No. DiMMA/CS/QCBS-45 with the Ministry of Environmental Protection and Agriculture (MEPA), in close cooperation with the National Agency of Sustainable Land Management and Land Use Monitoring (LA) has been involved in the process of identification, surveying and registration process of non-registered or uncategorized pastures. The subcontractor has been working in the Akhaltsikhe municipality, Samtskhe-Javakheti region. RECC's involvement is crucial as it helps to push the project forward despite the challenges, ensuring registration and categorization of some part of pastures. With RECC’s support, the PMU is ready to support finalization of pastureland plot transfer process to the Akhaltsikhe municipality,

which is expected to be completed by the end of this year. Following this transfer, project will be able to begin physical pasture rehabilitation works in Akhaltsikhe in early 2025. However, even after these land plots are officially transferred to the Municipality, the option of transferring them to the Pasture User Unions (PUUs) will remain limited until the Pasture Law is enacted.

When considering scaling up this approach to other municipalities, it has become evident that this interim solution is not currently feasible, as most of the lands in the project area intended for transfer to municipalities (as in Georgia overall) have yet to be identified, registered and categorized as pastures. The process for the identification, registration, and categorization of non-registered and uncategorized pasture lands in Georgia is quite comprehensive based on the established Georgian rules and procedures, yet it requires the significant time and resource. Below is an outline of the steps, along with an estimated timeline required for implementation:

Detailed Steps for transmission of right of use on pastures to municipalities and estimated timelines

Step 1: Identification and Primary Mapping by LA (Up to 2 Months)
Activity: National Agency of Sustainable Land Management and Land Use Monitoring (LA) identifies potential land parcels to be registered as pastures. For this purpose, LA will mobilize local community and respective representatives of local authority, obtain and analyze existing land-use plans, maps, GIS data, and cadastral information to prepare the primary map of the pastures. After identification and categorization and prior to implementation of land surveying works draft pastureland maps will be discussed and agreed with the municipal administration and local population. Both the municipality and the local population will be involved in the process and that will ensure the transparency and inclusiveness and avoid any conflicts of interest between the parties. LA will organize the respective visits /meetings. In sake of good administration and recording, respective meetings will be documented (minutes of meeting, list of participants, etc.) by the LA.
Key Considerations Requires accurate and up-to-date data and coordination between various stakeholders.

Step 2: Final Mapping and Land Survey (4-6 Months)
Activity: LA prepares the final map of the pastures ready for surveying through fields visits (this will entail identification, categorization and land surveying works of pasturelands and its registration) and prepare registration documentation**.**
Key Considerations: Geographic and weather conditions can significantly impact the timeline. Large areas or difficult terrain will require additional time and resources.

Step 3: Submission to NASP (2 to 4 Weeks)
Activity: LA submits the registration documents to the National Agency of State Property (NASP).
Key Considerations: The completeness of documentation is crucial to avoid delays at this stage.

Step 4: NASP Review and Public Institution Approvals (1-2 Months)
Activity: NASP initiates the registration and categorization procedure, coordinating with multiple public institutions (Ministry of Interior Affairs, Ministry of Defense, Agency of Protected Areas, National Forestry Agency, etc.) for approval.
Key Considerations: Coordination between multiple agencies, each with its own response time, can lead to delays, particularly for large areas with numerous plots.

Step 5: NASP Submission to NAPR (Up to 1 Month)
Activity: After approvals, NASP submits the final documentation to the National Agency of Public Registry (NAPR) for official registration.
Key Considerations: The workload of NAPR and the completeness of the documentation are key factors in this step's duration.

Step 6: NAPR Registration Process (2 Weeks to Additional Weeks)
Activity: NAPR processes the registration/categorization.
Key Considerations: Delays often arise from errors or incomplete documentation, requiring additional time for corrections.

Step 7: Municipality Request for Use Rights (1 to 2 Weeks)
Activity: The Municipality prepares and submits a request for pasture land use rights to the Governor's Office of the region, which then forwards it to NASP. The draft law specifies that once pastures are categorized and transferred to municipal management, the municipality will have the authority to identify and document pasture users.
Key Considerations: Timely coordination between the Municipality, Governor's Office, and NASP is essential.

Step 8: NASP Request to Cabinet of Ministers (1 Month or More)
Activity: NASP submits the request to the Cabinet of Ministers for approval of the use rights, which, if approved, results in a decree signed by the Prime Minister.
Key Considerations: The workload and priorities of the Cabinet of Ministers can significantly affect the timeline.

Step 9: Final NAPR Registration of Use Rights (2 to 4 Weeks)
Activity: After the decree, NASP applies to NAPR for the final registration of the use rights for the identified pasture lands. Registered pasturelands will be distributed according to Law on Pastures that is being drafted. The issues of management and distribution of pastures will be regulated by the Law on "Pasture Management". The preparation of the draft law was initiated by the Ministry of Environment Protection and Agriculture and its preparation is in the finalization phase.

According to the draft law, the National Agency for Sustainable Land Management and Land Use (Land Agency) in cooperation with the municipality and local pasture user groups will ensure the identification of pastures within the borders of the municipalities, agreement with the relevant government agencies, assignment of the category and registration in the public register, after which the management and distribution powers will be transferred to the municipalities.

The municipality, as a body authorized to manage pastures, ensures the identification of local farmers and their livestock, the identification of pastures in the collective use of local farmers, recognition of current de-facto pasture users, and the assignment of appropriate status.

By giving priority, local farmers will be given the right to use the common pastures of the village according to the number of cattle they own, and the rest of the pastures will be leased by auction.

The municipality will develop a municipal plan for pasture management, which reflects the location, areas, actual users, qualitative condition and other information of the pastures in the municipality, ensures the agreement of grazing plans, supervision of the observance of the rules

for the use of pastures, and the implementation of municipal support programs for the sustainable management of pastures.

Key Considerations: The final step in the process depends on the workload of NASP and NAPR, and any delays in previous steps can cause further bottlenecks.

Summary of Estimated Timeline for pasture identification, categorization and registration activities

- **Total Estimated Time: 11 to 14 months** or more, additionally depending on various factors such as geographic conditions, coordination between institutions, and administrative workload.

Given the current situation in the pilot municipality, it is highly likely that the majority of pasture land plots in the selected villages will not be registered or categorized as pastures within the required project timeframe. Even if some progress is made in registering these lands, the subsequent process of transferring state-owned land to municipalities is expected to be lengthy due to the complex and multi-step procedures involved.

Given the challenges related to the non-adoption of the Pasture Law, obstacles related to registration/categorization and time constraints, and in order to implement the **recommendations received from the Mid-Term Review**, MEPA and the PMU propose an updated project implementation strategy as follows:

- **Reduction of targeted geographical areas:** Implement smaller scale pasture management plans within the selected villages of Akhaltsikhe municipality, focusing on areas where land registration and categorization issues are resolved or more straightforward.
- **Physical pasture restoration works:** Concentrate on an area that will be in the service of **1000 ha** rather than the initially planned 9,500 hectares. For the physical restoration works 4 villages (Tkemlana, Mugareti, Khaki and Andriatsminda) were selected, with detailed PMPs, registered pastures, clearly defined pasture-user groups, source of water, etc. This approach allows for tangible results within the project timeline, ensuring that efforts are focused where they can have the most immediate and tangible impact.
- **3800 ha Pastures under improved management in 15 villages through:**

- Preparation of PMPs,
- Field mobilization and training on rotational grazing.

To reflect the changes in project scope, the original indicator related to pasture management is proposed to be split into two by introducing a new indicator on *Pastures under improved management*.

Next steps:

- Continue engaging with local authorities in Akhaltsikhe municipality to finalize agreements and ensure local support for the pilot projects.
- Ensure that all necessary legal and administrative approvals are in place to proceed with the restoration activities on the selected 1,000 ha.

While this new plan represents a reduction in the area covered, the importance and impact of these physical restoration works as pilot actions remain substantial. The restoration efforts in the selected pilot villages will involve testing different restoration methods tailored to the specific needs of local farmers. This approach will serve as a valuable model for pasture restoration, providing insights and strategies that can be scaled up nationwide. Moreover, the experience and lessons learned from this pilot phase will not only contribute to the success of this project but will also be instrumental in shaping future initiatives. The PMU is already planning to leverage this experience in upcoming new AF DiMMAdapt+ (approved in April 2024) project, which aims to scale up similar activities over a larger area, as well as in other donor-supported or government projects. Therefore, despite the reduction in the target area, the pilot's value remains undiminished. It will play a crucial role in guiding subsequent large-scale restoration projects across the country.

As emphasized previously, PMU faces two significant obstacles in implementing the project specifically, and more broadly, in advancing sustainable pasture management policy in Georgia. The first challenge is that most pastoral lands are either unregistered or not categorized as pasture lands. This situation restricts the Government of Georgia from having reliable and precise information regarding the total amount of pastureland in the country. This data gap makes it impossible to implement a sustainable pasture management policy or effectively enforce related legislation. The second issue is that the majority of these lands are owned by the state rather than the municipalities.

The new law on sustainable pasture management is designed to comprehensively address both of these issues. It will provide the necessary legal framework to support the registration of pasture lands and streamline their transfer to municipalities. Based on new draft law all identified and registered state pasture lands will be transferred to the local governments. To advance this process ahead of the law's adoption, the first and most crucial step is the identification, inventory, and registration of pasture lands**.** Without this baseline information - covering the quantity, condition, boundaries, and ownership of pasture lands - any attempt at sustainable management would be fundamentally flawed. In addition, this is vital for overcoming current obstacles and ensuring that local authorities can effectively assume and fulfill their new responsibilities.

In this respect, DiMMAdapt is seen as an opportunity to support the government’s new priority by providing a robust mechanism for this process and especially in light of the new DiMMAdapt+ project. By financing the full-scale identification, inventory, and registration of pasture lands in selected pilot areas, the project can serve as a model for how to carry out this critical work on a nationwide scale. This pilot will also allow to test the collaboration among all stakeholders involved, while the selected municipality is one of the 17 pre-selected by the DiMMADapt+. This approach will enable the new project to avoid delays related to registration issues and allow for the immediate commencement of pasture rehabilitation works.

A newly introduced output (**Output 1.1.2: Inventory and Registration of Pasturelands**) under the on-going project will be dedicated to piloting the upcoming nationwide inventory and registration of pasture lands, laying the groundwork for effective pasture management reform across the country and ensuring the successful implementation new law. Below is the description of the proposed new output and associated budget reallocation to it:

Title: Output 1.1.2: Inventory and Registration of Pasturelands

Target Municipalities: NINOTSMINDA
Targeted pasture areas: 106,163 ha
Proposed date of commencement of works: October 1, 2024.
Proposed date of completion of works: 30 JUNE, 2026
Estimated duration: 14 months
Total budget: 794,120 USD
Unit Price per/ha: 7.5 USD/ha

Main stakeholders:

- MEPA – Ministry of Environmental Protection and Agriculture of Georgia
- LA – National Agency of Sustainable Land Management and Land Use Monitoring
- NASP – National Agency of State Property
- NAPR – National Agency of Public Registry
- NFA – National Forestry Agency
- APA – Agency of Proacted Areas
- SAG – Shepherds Association of Georgia
- Municipalities

Phase 1. Preparatory Works
Activity 1.1 Development of pasture identification/registration methodology and pasture categorization criteria;
Activity 1.2 Organization of stakeholder workshop with main stakeholders (MEPA, NASP, NAPR, NFA, APA, Municipalities, SAG);
Activity 1.3 Development of the project action plan.
Output: Pasture identification/registration methodology, pasture categorization criteria and project action plan are prepared. All stakeholders are consulted.

Phase 2. Carry out Situation Analysis in Target Municipalities to Identify Potential Pastures
Activity 2.1 Collection, digitization and analysis of old Soviet-era land-use plans, existing orthophotos (aerial or satellite imagery) cadastral information from public registry, data on pastures in protected areas, forest areas, etc.;
Activity 2.2 Identification of registered (including registered in state and municipal ownership) and unregistered/uncategorized pasture land plots according to public registry data;
Activity 2.3 Preparation of current land-use map to define potential pasture areas in target municipalities through decoding existing orthophotos (aerial or satellite imagery, etc.);
Activity 2.4 Random field verification of decrypted data;
Activity 2.5 Preparation of the initial draft of pasture map with pasture boundaries.
Output: A map will be created, where the following type of land plots will be indicated: registered

with the category of state and municipal pastures, registered state and municipal land plots without pasture category, unregistered state and municipal land plots potentially to be registered as pasture based on actual land-use.

Phase 3. Verification of Identified Pastures

Activity 3.1 Field verification, correction and refinement of initial draft pastures map through discussion with the municipal administration, local population, SAG, NFA, APA;
Activity 3.2 Assessment of land plots according to pasture categorization criteria;
Activity 3.3 Agreement and final adjustment/clarification of identified pasture plots and pasture boundaries with the NASP;
Activity 3.4 Preparation of an updated final pasture map for surveying.
Output: A map of identified pasture land plots agreed upon by all parties involved.

Phase 4. Surveying of Pastures and Preparation of Documentation for Registration

Activity 4.1 Implementation of land surveying works on unregistered land plots in target municipalities, including in forest and protected areas;
Activity 4.2 Preparation of a proposal for the categorization of registered but uncategorized agricultural land plots as pastures;
Activity 4.3 Preparation of final package of documents for registration of pastures and submission to NASP for final approval;
Activity 4.4 Preparation of an updated final package of registration documents and submission to NAPR for registration.
Activity 4.5 Preparation and publication of final map of confirmed pasture areas in targeted municipalities.
Activity 4.6 Presentation of project results.
Output: Prepared all documents for registration in the National Agency of Public Registry.

Implementation Arrangements

The National Agency of Sustainable Land Management and Land Use Monitoring (LA) within the Ministry of Environmental Protection and Agricultural (MEPA), which is the executing entity of the project, will be coordinating the activities under the newly introduced output on identification, surveying, and registration of pastures in selected areas.

Role of LA in Pasture Management

In the current absence of specific pasture management legislation in Georgia, there is no legally designated authority for the identification, categorization, and mapping of pasture lands. However, based on existing national land legislation, the LA already holds a mandate that aligns closely with these responsibilities. This agency is tasked with the national-level inventory of land resources, including pasture territories, the creation of national land-cover and land-use maps, the development and operation of the Land Information System (LIS), and the publication of an annual national land balance report.

Given that a significant portion of lands in Georgia are used as pasturelands without registration or categorization, the land-use maps currently being developed by LA are the most reliable tools for identifying actual pasturelands for future registration and categorization.

Consequently, the draft pasture law designates LA as the responsible entity for these functions, recognizing its authority to conduct nation-wide identification/categorization of pastures.

Rationale for LA's Involvement in the DiMMAdapt Project

Given its expertise and legal mandate, LA is well-positioned to serve as the main coordinating agency within MEPA for the identification, surveying, and registration of pastures in selected areas under the DiMMAdapt project. Involving LA offers several key benefits:

1. **Institutional Strengthening:** LA is a newly established agency (since 2020) within the structure of the Ministry of Environmental Protection and Agriculture (MEPA), and its involvement in the project will contribute to building its capacity, which is essential for Government of Georgia for effectively implementing pasture reforms in the country. MEPA is already the executing entity of the project.
2. **Long-Term Sustainability:** Enhancing the capabilities of LA will not only benefit the ongoing DiMMAdapt project but also ensure smoother execution of upcoming initiatives, such as those funded by the Adaptation Fund. A well-prepared land agency will reduce the need for additional investments in institutional and technical enhancements in new project.
3. **Cost Efficiency and Operational Streamlining:** A strengthened LA will allow for more streamlined operations, reduced expenditures, and overall better coordination of the pasture management agenda. This is crucial for the success and sustainability of pasture management reforms in Georgia.

Contribution to the project from Land Agency

The Land Agency will play a significant role in supporting the project by leveraging its institutional structure, technical expertise, and resources:

1. **Institutional Structure and Administrative Capacity**: LA is an established state institution responsible for land resource management and monitoring. Its administrative, financial, procurement, and legal departments will all contribute to the project's effective implementation. This comprehensive institutional backing will provide a strong foundation for the administrative and operational needs of the project.
2. **Existing Technical Experience in Land Inventory**: LA has gained considerable technical experience in land inventory through its work under the Law of Georgia on Windbreaks and the State Program on Inventory of Windbreaks. This experience includes identifying and cataloging current and potential areas for windbreaks, supported by specialized departments and experienced staff. This technical expertise will be directly applicable to pasture identification and inventory, particularly for the preparation of a pasture identification/registration methodology, setting pasture categorization criteria, and creating the project action plan. Additionally, LA can provide training to consultants hired for the project.
3. **Updated Land-Cover and Land-Use Map**: The ongoing work by LA on national land-use and land-cover maps will significantly aid the project. These maps, which will include the

targeted project areas, will be used to identify pastures and prepare an initial map of pasture lands.

4. **Existing Equipment**: LA has procured equipment such as computers, GPS devices, and a plotter under a World Bank-funded project. This equipment will be made available for use in the project, which will save costs and provide the necessary tools for technical tasks like mapping and surveying.

5. **Transportation Support**: To support field visits in remote and mountainous areas, LA proposes that if the project purchases two cars suitable for challenging terrains, the Ministry of Environment Protection and Agriculture will manage to allocate the remaining cars needed for the project, provided that transportation-related costs (e.g., fuel, maintenance, and driver services) are covered by the project budget.

6. **Office Space**: LA will provide office space for project consultants, allowing for efficient collaboration and coordination within the institution.

Overall, the Land Agency's contribution in terms of institutional support, technical expertise, resources, and infrastructure are pivotal for the successful implementation of the project.

In summary, LA’s involvement is pivotal for the success of sustainable pasture management reforms in Georgia, and its strengthened role under the DiMMAdapt project will have lasting positive impacts on future initiatives.

Given the importance of the issue, it is crucial to begin the process of identifying, surveying, and registering pasture lands across the country as soon as possible. The proposed reallocation is both reasonable and timely, as it will directly contribute to the success of the ongoing reform efforts and the planned adoption of the new law. In view of the importance of adhering to the original project goals, and proposed reallocation will not compromise other critical components of the project. This adjustment will enhance the overall impact of project’s efforts and align with the evolving needs of the country’s land management framework.

In light of concerns regarding the limited time remaining for project completion and the successful implementation of agreed activities, MEPA is proposing an extension for DiMMAdapt. Specifically, it suggests extending the original completion date of 16 April 2025 to 30 June 2026. This extension is deemed necessary to ensure the thorough execution of activities within the project scope. MEPA is fully committed to facilitating the necessary processes for this extension.

Revised Budget at output-level with comparison to the original

Original Item/activity	Original Amount (USD)	Revised Item/activity	Amount Actual **Spent** (USD)	Amount **Committed** (USD)	Planned to spend **(USD)**	**Revised (USD)** (Spent+committed+ planned to spend)	**Difference (USD)**	Material changes of project costs at output level (%)	**Comments**
Component 1: Climate-proofing pastoral ecosystem services (water management, pasture regeneration, and disaster risk reduction)									
Outcome 1.1. An enabling environment developed through training and capacity building.									
Output 1.1.1: Climate resilient and DRR solutions for pasture rehabilitation and increased productivity promoted.									
Training support and exchange visits for the development of Pasture Management Plans by the PUA's and smallholder and progressive farmers (GIS mapping, PMP format, threat analysis, adaptation strategy, adaptation activities, management plan, fees and revenue generation, business plan for PAF grant, herd and grazing management).	$475,403	**Exchange visits** for the development of Pasture Management Plans by the PUA's and smallholder and progressive farmers**,** herd and grazing management	$51,135	$0	$0	**$51,135**	$424,268	**-**	
Silage production (fodder conservation) demonstrations (including the production and dissemination of awareness raising and visual learning materials).	$358,856	Silage production (fodder conservation) demonstrations (including the production and dissemination of awareness raising and visual learning materials).	$12,000	$0	$0	**$12,000**	$346,856	**-**	6 demostration prolts in Fodder production and consultant for fodder conservation
Manure composting demonstrations (including the production and dissemination of awareness raising and visual learning materials).	$34,464	canceled	$0	$0	$0	**$0**	$34,464	**-**	-
Development of Pasture Management Plans	$140,119	Development of Pasture Management Plans (RECC)	$278,682		$147,702	**$426,384**	-$286,265	**-**	Transferred funds for RECC - **278,682 USD;**

									Committed funds for RECC - **147,702 USD;**
Pasture adaptation demonstrations for PUA farmers (including the restoration of degraded pastures; water management measures; soil conservation; mudslide and flood mitigation measures; riverine vegetation promotion).	$472,000	canceled	$0	$0	$0	**$0**	$472,000	-	
Pasture management demonstrations for private pasture farmers (including the production and dissemination of awareness raising and visual learning materials).	$149,643	canceled	$0	$0	$0	**$0**	$149,643	-	
On-demand demonstrations (including the production and dissemination of awareness raising and visual learning materials).	$60,562	canceled	$0	$0	$0	**$0**	$60,562	-	-
Sub-total	**$1,691,047**	**Sub-total**	**$341,817**	**$0**	**$147,702**	**$489,519**	**$1,201,528**	**-27.8%**	
Output 1.1.2 (NEW): Inventory and Registration of Pasturelands.									
N/A (newly proposed activities)	$0	Purchase of Equipment and Goods	$0	$0	$167,860	$167,860	-$167,860	-	
	$0	Purchase of 2 field vehicles	$0	$0	$74,000	$74,000	-$74,000	-	
	$0	Operating expenses	$0	$0	$24,000	$24,000	-$24,000	-	
	$0	Identification, categorization and surveying of pasturelands and hayfields in target areas	$0	$0	$316,568	$316,568	-$316,568	-	
	$0	Assessment of pasture vegetation types and their condition	$0	$0	$59,480	$59,480	-$59,480	-	
	$0	Mobilization of communities for identification and mapping of users.	$0	$0	$58,400	$58,400	-$58,400	-	
	$0	Submission for registration.	$0	$0	$93,812	$93,812	-$93,812	-	

Sub-total	**$0**	**Sub-total**	**$0**	**$0**	**$794,120**	**$794,120**	**-$794,120**	**+18.4%**	
Outcome 1.2. Pasture Management Plans Implemented.									
Output 1.2.1: Implementation of climate resilient and ecosystem-based adaptive pastoral grants.									
Restoration of degraded pastures, reforestation and wind breaks.	$1,103,064	Restoration of degraded pastures	$0	$0	$400,000	**$644,152**	$858,512		Dedicated funds for SP #3 TBD (Rehabilitation of selected village pastures) - **350,000 USD;** For training part of the services PMU will hire individual consultant services - at max **50,000 USD.**
Water management measures to favour pasture resilience.									
Measures to prevent soil erosion, mudslides and floods.									
Restoration of riverine vegetation for better water management as barriers against floods, to improve water quality and as a source of fodder.									
Fodder production (seed capital financing).		Fodder production (seed capital financing).	$195,322	$0	$0				
Silage production (fodder conservation).		Silage production (fodder conservation).	$48,830	$0	$0				
Sub-total	**$1,103,064**	**Sub-total**	**$244,152**	**$0**	**$400,000**	**$644,152**	**$458,912**	**-10.6%**	
Output 1.2.2: Consultancy services for GHG emission calculations.	$40,000	**Output 1.2.2:** Consultancy services for GHG emission calculations.	$0	$0	$40,000	**$40,000**	$0		
Sub-total	**$40,000**	**Sub-total**	**$0**	**$0**	**$40,000**	**$40,000**	**$0**	**0%**	
Cost for Component 1	**$2,834,111**	**Cost for Component 1**	**$585,969**	**$0**	**$1,381,822**	**$ 1,967,791**	**$866,320**	**-20.0%**	
Component 2: Supporting the climate resilience of market vulnerable smallholders.									
Outcome 2.1 Climate smart technology demonstrations and livelihood diversification.									
Output 2.1.1 Climate-smart technologies promoted though on-farm demonstrations.									
Energy efficient milk pre-cooling heat exchangers and renewable energy.	$774,080	Energy efficient renewable energy support through matching grants	$761,558	$0	$445,682	**$1,207,240**	-$433,160	**+10.0%**	

Output 2.2.1: Alternative non-extractive livelihoods.									
Non-extractable livelihood support (Beekeeping, mushroom production, greenhouses and orchards).	$354,000	Non-extractable livelihood support through matching grants (Beekeeping, greenhouses).	$148,226	$0	$638,934	**$787,160**	-$433,160	**+10.0%**	
Cost for Component 2	**$1,128,080**	**Cost for Component 2**	**$909,784**	**$0**	**$1,084,616**	**$1,994,400**	**-$866,320**	**+20.0%**	
Total Project	**$3,962,191**	**Total Project**	**$1,495,753**	**$0**	**$2,466,438**	**$3,962,191**	**$0**	**0%**	
Project Execution Costs									
Recruitment of a Climate Change Specialist	$63,858	Recruitment of a Climate Change Specialist	$33,009	$0	$42,000	**$75,009**	$0		
Facilitator Salaries	$163,968	Facilitator Salaries	$69,189	$0	$127,900	**$197,089**	$0		
Facilitator Incentives	$90,901	Canceled	$0	$0	$0	**$0**	$0		
MTR and Final Evaluation	$46,000	MTR and Final Evaluation	$38,760	$0	$10,984	**$49,744**	$0		
(New) Finance Manager salary	$0	Salaries	$0	$0	$24,750	**$24,750**	-$24,750		
(New) M&E Specialist salary	$0	Salaries	$0	$0	$18,135	**$18,135**	-$18,135		
Total Project Execution Costs	**$364,727**	**Total Project Execution Costs**	**$140,958**	**$0**	**$223,769**	**$364,727**	**$0**	**0%**	
Total Project Costs	**$4,326,918**	**Total Project Costs**	**$1,636,711**	**$0**	**$2,690,207**	**$4,326,918**	**$0**	**0%**	
Project Cycle Management Implementing Entity Fee									
Operational and Financial Management	$100,000	Operational and Financial Management	$0	$0	$100,000	**$100,000**	**$0**		
Project Development and implementation support	$117,876	Project Development and implementation support	$0	$0	$117,876	**$117,876**	**$0**		
Technical support and supervision	$100,000	Technical support **and supervision**	$0	$0	$100,000	**$100,000**	**$0**		
Total Project Cycle Management Implementing Entity Fee	**$317,876**	**Total Project Cycle Management Implementing Entity Fee**	**$0**	**$0**	**$317,876**	**$317,876**	**$0**		
Amount of Financing Requested	**$4,644,794**	**Amount Total**	**$1,636,711**	**$0**	**$3,008,083**	**$4,644,794**	**$0**	**0%**	

Revised Results' Framework with Comparison to the Original

Type of Indicator	Indicator	ORIGINAL Target for Project End	REVISED Target for Project End	Comments
Overall objective: Enhancing the resilience to Climate Change of vulnerable dairy producers.	**NEW:** Number of hectares of pasture brought under improved management	N/A	3,800 hectares pastures under improved management (through PMPs preparation and Field mobilization and training of de-facto pasture users on rotational grazing)	pasture management improved in 15 villages
	Number of hectares of pastures rehabilitated, restored, protected	9,500 ha of pastures rehabilitated, restored or protected.	1,000 ha (out of 3,800 ha) rehabilitated, restored and protected	pastures rehabilitated in 4 villages
	NEW: Area of pastures registered	N/A	At least 15,900 ha (15% of 106,163 ha) pastures are registered	In NInotsminda municipality
	Number of households benefitting from climate resilient improvements	3,900 households (12,870 people) will benefit from climate resilient improvements.	1,283 households (4,876 people) will benefit from climate resilient improvements.	280 trained beneficiaries in fodder conservation and energy saving + 413 grant ben. + 590 PMP's ben
Outcome 1.1 An enabling environment developed through training and capacity building.				
Output 1.1.1: Climate resilient and DRR solutions for pasture rehabilitation and increased productivity promoted.	~~Number farmers receiving pasture management, silage and fodder conservation demonstrations~~. Number of farmers receiving silage and fodder conservation demonstration and improved pasture management approaches.	6,000 farmers (1,800 women, 4,200 men and 3,000 youth) are to receive awareness raising demonstrations	870 farmers (261 women, 609 men and 435 youth) are to receive awareness raising demonstrations	590 farmers (15 PMP's population) + 280 trained farmers in fodder conservation and energy saving demonstrations.
	NEW: Area of pasture inventoried	N/A	106,163 ha of pastures in Ninotsminda municipality is inventoried	Multicriteria full inventory is conducted on pastures in Ninotsminda municipality to define the actual area, boundaries, ownership, status and condition of pastures (state, municipal, private)
	NEW: National level document produced	N/A	1 national level document produced (Concept document for identification, surveying and registration of pastures developed)	Concept document with guidelines, methodology, estimated unit costs and recommendations.

	Number of PUA's receiving training	76 PUA's to receive capacity building in pasture management.	15 PUUs (Informally mobilized de-facto pasture users) to receive capacity building in pasture management.	15 villages
Outcome 1.2. Pasture Management Plans Implemented.				
Output 1.2.1: Climate resilient and ecosystem-based adaptive pastoral investments implemented.	**NEW:** Number of hectares of pasture under improved management	N/A	3,800 hectares pastures under improved management (through PMPs preparation and Field mobilization and training of defacto pasture users on rotational grazing)	pasture management improved in 15 villages
	Number of hectares of pasture rehabilitated, restored or protected	9,500 ha of pastures rehabilitated, restored or protected.	1,000 ha (out of 3800) ha rehabilitated, restored and protected	pastures rehabilitated in 4 villages
	Number of households benefitting from pasture rehabilitation.	3,900 households will benefit from Climate resilient and ecosystem-based adaptive pastoral investments	590 households will benefit from Climate resilient and ecosystem-based adaptive pastoral investments and pastures improved management	population of 15 villages
Output 1.2.2 GHG from DiMMA cattle increases offset	~~tCO2eq resulting from DiMMA cattle numbers~~ tCO2eq emissions offset of DiMMA cattle numbers	A maximum of 0 tCO2eq will result **from** the DiMMA cattle numbers.	Offsetting of 150,000 tCO2eq from DiMMA	-
Outcome 2.1 Climate smart technology demonstrations and livelihood diversification.				
Output 2.1.1 Climate-smart technologies and alternative livelihood measures promoted.	Number of farmers exposed to climate smart technology demonstrations. ~~in milk precooling, AI and crossbreeding and solar power.~~	3,800 market vulnerable farmers to receive climate-smart demonstrations	151 primary producers /farmers to receive climate-smart demonstrations	Number of grant beneficiaries in PV
Output 2.1.2 Alternative, complementary, non-competitive, non-extractive livelihood jobs created.	Number of households benefitting from alternative non-extractive industry activities.	250 jobs (75 women, 175 men and 125 youth) will be created for the market vulnerable beneficiaries.	262 jobs (69 women, 161 men and 115 youth) will be created for the market vulnerable beneficiaries.	Number of grant beneficiaries in non-extractive industry activities

Project changes. Activity-wise description

Outcome 1.1. An enabling environment developed through training and capacity building

1. Output 1.1.1, **Activity** "Training support and exchange visits for the development of Pasture Management Plans by the PUA's and smallholder and progressive farmers (GIS mapping, PMP format, threat analysis, adaptation strategy, adaptation activities, management plan, fees and revenue generation, business plan for PAF grant, herd and grazing management)". The original budget of USD 475,403 is revised and makes USD 51,135.
2. Output 1.1.1. **Activity** "Silage production (fodder conservation) demonstrations (including the production and dissemination of awareness raising and visual learning materials)" – its original budget was USD 358,856 and **decreased to USD 12,000.** It includes the following sub-activities: 1) Receiving services of one consultant for fodder conservation services (at no cost as a result of sourcing volunteer consultancy services from USAID funded Farmer to Farmer Programme that is being implemented by ACDI/VOCA in Georgia) 2) Equipment and materials for Fodder Productions (USD 12,000) -
3. Output 1.1.1. Activity "Manure composting demonstrations (including the production and dissemination of awareness raising and visual learning materials)" with the original budget of USD 34,464 is cancelled.
4. Output 1.1.1. **Activity** "Development of Pasture Management Plans ". The original budget was USD140,119, but needs to be **changed and increased to USD 426,384** because the scope of work for the service provider (RECC) was expanded and includes (a) Conduct of the Situational Analysis in DiMMA Target Regions, (b) Pasture Inventory (*Identification, Categorization, Assessment, Zoning*) and Planning at Municipal Level in Akhaltsikhe Municipality, and (c) Developing of Technical Guidelines and Disseminate Municipal Level Pasture Inventory Results to Enable Pasture Inventory and Planning at National Level;
5. Output 1.1.1. **Activity** "Pasture adaptation demonstrations for PUA farmers (including the restoration of degraded pastures; water management measures; soil conservation; mudslide and flood mitigation measures; riverine vegetation promotion)". The original budget was USD 472,000 and it is **cancelled**.
6. Output 1.1.1**. Activity** "Pasture management demonstrations for private pasture farmers (including the production and dissemination of awareness raising and visual learning materials)" with the original budget of USD 149,643 and it is **cancelled.**
7. Output 1.1.1. **Activity "**On-demand demonstrations (including the production and dissemination of awareness raising and visual learning materials)" with its original budget of USD 60,562 is **canceled** as the activities above fully meet the needs of target beneficiaries.
8. Output 1.1.2. **Activity:** NEW: Inventory, identification, cadastral survey and registration of pasturelands in Samtskhe-Javakheti region (Ninotsminda Municipality). Funds of this activity is allocated to hire National Agency of Sustainable Land Management and Land Use Monitoring (LA) and makes **USD 794,120**.

9. Output 1.2.1. **Activity:** Restoration of degraded pastures. Original budget of the respective output was USD 1,103,064 and was decreased to **USD 244,552**. As a result funds remaining under component 1 totals to USD 1,265,920, this latter being moved to Component 2, namely for Output 2.1.1 Climate-smart technologies promoted though on-farm demonstrations and Output 2.2.1: Alternative non-extractive livelihoods.

In total for Output 1.1.1, it is expected to have a revised outreach of total 870 farmers (261 women, 609 men and 435 youth) who would receive awareness raising demonstrations and 15 PUU's (Informally mobilized de-facto pasture users) to receive capacity building in pasture management, instead of 6,000 farmers (1,800 women, 4,200 men and 3,000 youth) originally estimated to receive awareness raising demonstrations. Such a drastic decrease in the outreach can be explained by the fact that there is a limited possibility to showcase pasture activities in the absence of the Pasture Law. The pastures around villages simply do not legally belong neither to herders nor to municipalities. The project has an exceptional agreement with the Government that the Municipality of Akhaltsikhe will receive a right-to-use over pastures located in this municipality from the Ministry of Economy enabling some physical activities in this municipality. Municipality has already applied for granting this right to the National Agency of State Property (NASP)

Outcome 1.2. Pasture Management Plans Implemented

1. The budget for Output 1.2.1 activities: **Activity** "Restoration of degraded pastures, reforestation and wind breaks, Water management measures to favor pasture resilience, Measures to prevent soil erosion, mudslides and floods, Restoration of riverine vegetation for better water management as barriers against floods, to improve water quality and as a source of fodder"; **Activity** "Fodder production (seed capital financing)" and **Activity** "Silage production (fodder conservation)" is reduced to USD 644,152;
2. Output 1.2.2: **Activity** "Consultancy services for GHG emission calculations" with its budget of USD 40,000 remains the same.

*In total for **Output 1.2.1**, with preparation of PMPs for 15 villages, it is expected to have a revised outreach of total of 3,800 ha rehabilitated and pasture management improved, out of which 1000 ha of pasture land will be rehabilitated (under 4 PMPs) with physical investments. All 15 PMPs have been already developed. This will result in 590 households benefitting from Climate resilient and ecosystem-based adaptive pastoral investments and improved management, also Offsetting of 150,000 tCO2eq from DiMMA, compared to original targets of 9,500 ha of pasture land rehabilitated, restored or protected, 3,900 benefitting from Climate resilient and ecosystem-based adaptive pastoral investments and a maximum of net 0 tCO2eq resulting from the DiMMA cattle numbers.*

Outcome 2.1 Climate smart technology demonstrations and livelihood diversification

1. Output 2.1.1. **Activity** "Energy efficient milk pre-cooling heat exchangers and renewable energy" with its original budget of USD 774,080 changed into USD 1,207,240. This latter is allocated for 151 beneficiaries.

2. Output 2.1.2. **Activity** “Non-extractable livelihood support (Beekeeping, mushroom production, greenhouses and orchards)” with its original budget of USD 354,000 changes into USD 787,160. This latter is allocated for creation of 262 beneficiaries with new jobs.

Project Execution Costs

3. DiMMA PMU cost, including the costs for the Finance Manager and M&E Specialist are currently covered by the IFAD Loan (DiMMA Project), however, there will be a period from September 2025 to June 2026 during when these two key positions will need to be covered by the AF Grant. The current balance is sufficient for this, and no additional funds are requested for Project Execution Costs, however the budget table requires inclusion of these two staff members.

In total, for Output 2.1.1, it is expected to have a revised outreach of total 151market vulnerable farmers to receive climate-smart demonstrations and 262 jobs (69 women, 161 men and 115 youth) created for the market vulnerable beneficiaries instead of 3,800 market vulnerable farmers to receive climate-smart demonstrations and 250 jobs (75 women, 175 men and 125 youth) created for the market vulnerable beneficiaries. It is worth mentioning that the original target of 3,800 beneficiaries mistakenly included Artificial Insemination (AI) beneficiaries to be covered under IFAD DiMMA project, which entails that the real difference in the outreach under this output is not critical.

Project Disbursement

	Disbursement Schedule										
	Original					Revised					Total
Year	2020	2021	2022	2023	2024	2020	2023	2024	2025*	2026	
Project Funds (USD)	910,162	1,429,343	1,225,301	490,317	271,795	910,162	1,429,343	1,225,301	762,112	0	**4,326,918**
IE fee (USD)	63,575	63,575	63,575	63,575	63,576	63,575	63,575	63,575	127,151	0	**317,876**
Total (USD)	973,737	1,492,918	1,288,876	553,892	335,371	973,737	1,492,918	1,288,876	889,263	0	**4,644,794**

* In 2025, the tranches expected for 2025 and 2026 have been consolidated. This strategic reallocation is aimed at providing the project with ample time to effectively implement activities leading up to the revised closure date in 2026. This adjustment ensures optimal utilization of resources and aligns with the project's extended timeline.

Annex 2 – Request for extension of project completion date submitted by IFAD

ANNEX A: REQUEST FOR EXTENSION OF CONCRETE ADAPTATION PROJECT/PROGRAMME

Request for extension of project/programme completion date

Implementing Entity Name:	International Fund for Agricultural Development (IFAD)		
AF Project/programme ID:	GEO/MIE/Agric/2019/1		
Project/programme Title:	Dairy Modernization and Market Access: Adaptation Component (DiMMAdapt)		
Country:	Georgia		
Project/Programme Approval (date)	11 October 2019		
Expected Project/programme Completion (date)	16 April 2025	**Proposed Revised Completion** (date):	30 June 2026

Reasons/justifications for the extension of project/programme completion:

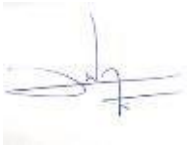
The ongoing DiMMAdapt project faces implementation challenges due to delays in adopting the Pasture Law, which would provide the legal framework for sustainable pasture management. Key activities such as pasture restoration, reforestation, water management, and erosion prevention are hindered by the lack of land registration, categorization, and ownership clarity. To address these issues, the project proposes scaling down efforts to focus on pilot interventions in the Akhaltsikhe municipality. These include physical restoration works planned for 1,000 hectares and improved pasture management practices over 3,800 hectares across 15 villages. This pilot approach aims to generate tangible outcomes and inform future pasture management reforms while advancing the preparation of the national framework.

To strengthen the project's impact and align with the Mid-Term Review recommendations, a new output titled **Output 1.1.2: Inventory and Registration of Pasturelands** has been introduced. This output will support the identification, surveying, and registration of pasturelands in targeted municipalities, laying the groundwork for a nationwide approach. Additionally, a new indicator has been proposed to reflect the adoption of improved pasture management practices, further emphasizing the project’s focus on sustainable land management. By leveraging the expertise and mandate of the Land Agency, the project aims to develop methodologies, engage stakeholders, and finalize the registration process for 106,163 hectares of pasturelands in Ninotsminda municipality. These efforts will contribute significantly to institutional strengthening, sustainable land management, and scaling up similar activities under future initiatives, including the planned DiMMAdapt+ project. All details, including the full description of this new output, are provided in the restructuring proposal itself.

Given the challenges and the time-intensive nature of land registration and pasture rehabilitation, the International Fund for Agricultural Development (IFAD) fully

supports the Ministry of Environmental Protection and Agriculture (MEPA) in its proposal to extend the project timeline. The proposed extension, from April 2025 to June 2026, will ensure the successful execution of all activities under the revised implementation plan. This additional time will enable the project to achieve its intended outcomes, laying a robust foundation for future pasture management reforms in Georgia.

Implementing Entity certification

This request has been prepared in accordance with Adaptation Fund policies and procedures, has been agreed by participating executing entities, and the designated authority (DA) has been notified.	
Name & Signature Pierre Yves Guedez Lead Climate and Environmental Funds Specialist  Project/programme contact person	
Date: *(Month, Day, Year)* January 09 2025	Tel. and Email: p.guedez@ifad.org +39-0654591 (ext:2452)

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ADAPTATION FUND

PROJECT PROPOSAL TO THE ADAPTATION FUND

PROJECT CATEFORY:	**REGULAR**
COUNTRY:	**GEORGIA**
TITLE OF PROJECT:	**Dairy Modernization and Market Access: Adaptation Component (DiMMAdapt)**
TYPE OF IMPLEMENTING ENTITY:	**MULTILATERAL IMPLEMENTING ENTITY (MIE)**
IMPLEMENTING ENTITY:	**INTERNATIONAL FUND FOR AGRICULTRUAL DEVELOPMENT (IFAD)**
EXECUTING ENTITY:	**MINISTRY OF ENVIRONMENTAL PROTECTION AND AGRICULTURE (MEPA)**
AMOUNT OF FINANCING REQUESTED:	**USD 4,644,794**
MAIN PARTNER:	**MINISTRY OF FINANCE (MOF)**

Table of Contents

LIST OF FIGURES

LIST OF TABLES

5.1.1.1 Currency Equivalents

Currency Unit		
EUR 1	=	USD 1.18
EUR 1	=	GEL 3.12

5.1.1.2

5.1.1.3 Weights and Measures

1 kilogram	=	1000 g
1 000 kg	=	2.204 lb.
1 kilometre (km)	=	0.62 mile
1 metre	=	1.09 yards
1 square metre	=	10.76 square feet
1 acre	=	0.405 hectare
1 hectare	=	2.47 acres

5.1.1.4 Abbreviations and Acronyms

ACDA	Agricultural Cooperative Development Association
ADS	Agricultural Development Strategy
AI	Artificial Insemination
AMMAR	Agriculture Modernisation, Market Access and Resilience Project
APMA	Agriculture Projects Management Agency
APR	Annual Project Report
ASP	Agency of State Property
CCKP	Climate Change Knowledge Portal
CCNAP	Climate Change National Adaptation Plan
CMIP5	Coupled Model Intercomparison Project Phase 5
DCFTA	Deep and Comprehensive Free Trade Area
DiMMA	Dairy Modernisation and Market Access Programme
DRR	Disaster Risk-Reduction
ENRM	Environmental Natural Resource Management
ERASIG	Enhancing Resilience of Agriculture Sector in Georgia
ESIA	Environmental and Social Impact Assessment
FAO	United Nations Food and Agriculture Organisation
FLSP	Farmer-level Service Provider
GCM	Global Circulation models
GIS	Geo-localized Information System
GoG	Government of Georgia
IFAD	International Fund for Agricultural Development
IPCC	Intergovernmental Panel on Climate Change
IRSWR	Internal Renewable Surface Water Resources
KMS	Knowledge Management Strategy
LCO	Local Coordination Office
LEDS	Low Emission Development Strategy
LME	Liquid Milk Equivalent
M&E	Monitoring and Evaluation
MEPA	Ministry of Environmental Protection and Agriculture
MoE	Ministry of Energy
MoENRP	Ministry of Environmental and Natural Resources Protection
MoESD	Ministry of Economy and Sustainable Development
MoA	Ministry of Agriculture
MoF	Ministry of Finance
MOLI	Market Opportunities for Livestock Innovators
MRDI	Ministry of Regional Development and Infrastructure
MTR	Mid-Term Review
NAPA	National Adaptation Plan for Agriculture
NAPR	National Agency of Public Registry
NBSAP	National Biodiversity Strategy and Action Plan
PAF	Pasture Adaptation Fund
PEC	Project Execution Costs
PIM	Project Implementation Manual
PMP	Pasture Management Plan
PMU	Programme Management Unit
PUU	Pasture User Union
RO	Regional Office
SAD	Strategy for Agricultural Development
SECAP	Social Environmental and Climate Assessment Procedures
SP	Service Providers
TNC	Third National Communication
TSA	Targeted Social Assistance
UHT	Ultra-High Temperature Processing
UNCBD	United Nations Convention on Biological Diversity
UNDP	United Nations Development Programme

UNFCCC	United Nations Framework Convention on Climate Change
VC	Value Chain

Figure 1 Project Regions

Georgia

Dairy Modernisation and Market Access Programme

Design report

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

IFAD

Map compiled by IFAD | 15-01-2018

PART I: PROJECT INFORMATION

Project Background and Context

5.1.1.5 Geography and Climate

1. The Republic of Georgia is situated in the South Caucasus region and covers an area of 69,700 square kilometres. It is surrounded by Russia to the North, Azerbaijan to the East, Armenia and Turkey to the South, and the Black Sea to the West. Its complex geology and climate determine the variety 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 percent of land at an altitude over 1,000 m above sea level. Nearly 40 percent of land is covered by forests, mainly located in the mountainous areas. Georgia is rich in water resources with more than 26,000 rivers within its borders amounting to 54,768 km in total length. Rivers are supplied by water from glaciers, precipitation and underground sources, and river flow equals 49.8 km^3 in Western Georgia and 16.5 km^3 in Eastern Georgia. Georgia has 850 lakes, totalling 170 km^2, most of which are very small. The largest lakes are located in South Georgia's mountainous region. Almost 80 percent of the fresh water is found in the western part of the country.

2. 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 moderating Georgia's climate and protects the nation from the penetration 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 is 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 precipitation 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 consistent throughout the year, although it can be particularly heavy during the autumn months. The foothills and mountainous areas experience cool, wet summers and snowy winters, with snow cover often exceeding 2 meters in many regions. Annual precipitation in Eastern Georgia ranges from 400–1,600 mm, and is considerably less than in Western Georgia.

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

5.1.1.6 Socio-Economic Context

4. Georgia has a population of about 3.7 million, of which 1.7 million live in rural areas (46.2percent). The rate of urbanization is high, (about 55percent in 2000) with 1.5 million people (27 percent of the population) living in the capital, Tbilisi. Georgia has experienced a slow but steady loss of population due primarily to economic outmigration (reducing 0.5 percent annually), and the rural population is decreasing at over twice the rate of the urban population. Regions where high external migration has taken place, such as Racha, are significantly less able to engage in agricultural production. However, as agriculture is increasingly seen as a viable livelihood opportunity, these external migrants could bring back valuable skills, contacts, and capital to invest in the agricultural sector.

5. **Youth.** About 40 percent of the population in Georgia are children and young people up to 29 years old and life expectancy is 73 years. The education level in Georgia is high, and as much as 17.5 percent of the population have a post-secondary education. Nearly 30 percent of 15-29 year olds were unemployed in 2014, with significantly more women being out of the labour market than men. Youth unemployment can be explained by low motivation to practice farming, and a desire to have salaried jobs which are mainly offered in larger cities. Nevertheless, a significant group of young people continue to work in agriculture despite facing problems with shortage of knowledge, skills, lack of resources, and limited access to finance.

6. **Gender.** Nearly 30 percent of the family holdings were headed by women in 2014 (Agricultural Census, 2014) and about one third of the households in Georgia are led by women, who are more prone to poverty compared to male-headed households. In general, female remuneration is about 20 percent lower than male (Geostat, 2016) in the agriculture sector. Georgian legislation recognizes equal rights of men and women. A Gender Equality Law adopted in 2010, a Non-discrimination Law adopted in 2014, and the Gender Equality Strategy for 2014-2016 all aim to ensure women's security, equality in the labour market and the strengthening of women's political participation. Livestock is an important sector for women, with high engagement especially in milking, but also processing milk into cheese and other products, and local marketing. Animal care is also important, especially when men are in seasonal or long-term migration. Women especially value dairy cows as they can help ensure family's nutrition and food security.

7. The average number of cattle per household is 1.54 (Geostat, Agricultural Census, 2014). 94 percent of households have less than 10 cattle, and only 103 holdings have more than 100 heads. Many smallholder farmers are older with little understanding of, or interest in, livestock as an attractive business opportunity. Instead, livestock keeping is seen to be a coping strategy for a semi-subsistence lifestyle supplemented by other agricultural and non-agricultural activities. Some of the more enterprising households use livestock as a "cash cow" and diversity into other activities.

Agriculture

8. Since 2010 Georgian agriculture has been reversing its long-term decline, with output increasing by 19 percent from 2010 to 2016. The state budget for agriculture also increased from 1.3 percent to 3.8 percent from 2010 to 2018, suggesting a growing commitment by the GoG to the economic and social importance of the agricultural sector. Today, agriculture in Georgia accounts for 45 percent of rural household income, a further 28 percent coming from social payments and pensions and only 27 percent from salaried work. The structure of the rural economy and demographics suggest that farming is likely to remain the dominant source of employment and income for the majority of rural citizens in the medium term.

9. There are approximately 1 million head of cattle in Georgia, about 50 percent of which are producing dairy cows. Average milk yield per cow is low at 1,400 kg per year (6,900 kg per cow per year in the EU 28). Cattle numbers and dairy cow population have been decreasing in recent years (15 percent and 25 percent respectively, from 2004 to 2014). However, milk productivity per cow has increased by 40 percent, with overall milk production increasing by 11 percent from 2006 to 2015. Total demand for dairy products in Georgia is estimated at 680 million liquid milk equivalent (LME)[1], while local milk production is estimated at 530 million LME and valued at around USD 140 million. The deficit is met by imports of dairy products valued at around USD 50 million in 2016. The biggest share of these imports is represented by skimmed milk powder used in the industrial and medium scale dairy industry.

10. Pastures can be divided into summer pastures and communal (lowland) pastures. Summer pastures are used 4 to 5 months a year in high mountainous areas and are of high nutritional value. Summer pastures, under the ownership of the Ministry of Economy, are entirely self-regulated, with informal grazing rights held by villages. They are served by roads/ tracks in disrepair and many are only accessible by foot or horse back. Cattle pens are absent or basic and it is not possible to collect raw milk regularly from most summer pastures. Thus, milking is done in inadequate hygienic conditions, the milk is processed into cheese using inadequate hygienic facilities and stored without refrigeration equipment, which can lead to microbial contamination. Cheese is carried on horseback to the nearest village or road, usually every 10 days. Most of the lowland communal pastures belong de jure to the Ministry of Economy. They are usually overgrazed, resulting in heavy degradation of quality and significant loss of productivity. Lowland communal pastures remain very important for the poorer and subsistence-oriented smallholder farmers, but the cows from more commercially minded farmers use a combination of public and privately-owned pastures, forage crops grown on arable land, and purchased feed.

11. Pastures in Georgia are included under agricultural lands. According to the Strategy for Agricultural Development (SAD) in Georgia for 2015-2020, agricultural lands accounts for over 3 million ha and constitute 43.4 percent of the whole territory of Georgia, and includes in addition to arable lands, pastures and meadows. It is estimated that 25 percent of Georgia's total land area is classified as permanent pastureland which represents about 1.7 million ha of Georgia total land area of 6.9 million ha. This confirms the importance of pastures, as they constitute over 50 percent of the total agricultural lands in Georgia. Following Georgia's independence, an important part of the agricultural land was privatized although the official status of agricultural land registration remains unclear. To date, there are

[1] Liquid milk equivalent is a measure of the quantity of fluid milk used in a processed dairy product measured on a milkfat basis.

no clear delineation of state-owned, municipal and privately-owned land for agricultural land and only 20-30 percent of the agricultural lands are officially registered by the National Agency of Public Registry (NAPR). In 2010, with the issuance of the Law of State Property, privatization of pasture was de facto stopped; however, some of pasture lands were already acquired by private owners between the independence and the issuance of the Law. The current ownership of pastures is estimated as follows:

- Private owners: 15 - 25 percent
- Municipalities: 2-5 percent
- APA: 2 percent (out of the 7 percent of the total Protect Areas territory at national level)
- Public Property: 70 - 80 percent

12. Currently, conflicting policies are driving the pastures registration process. On one hand, the Agency of State Property (ASP) is conducting a national inventory of all state land, including pastures, in view of strengthening the administration of state property. An inventory was completed and the ASP is coordinating with municipalities and concerned ministries for the registration process of state property. On the other hand, the Ministry of Regional Development and Infrastructure (MRDI) is supporting municipalities to register state property, including pastures in view of strengthening the decentralization process in Georgia. This process is aiming at improving revenues of municipalities and is linked to various on-going legal, institutional and financial support to local development.

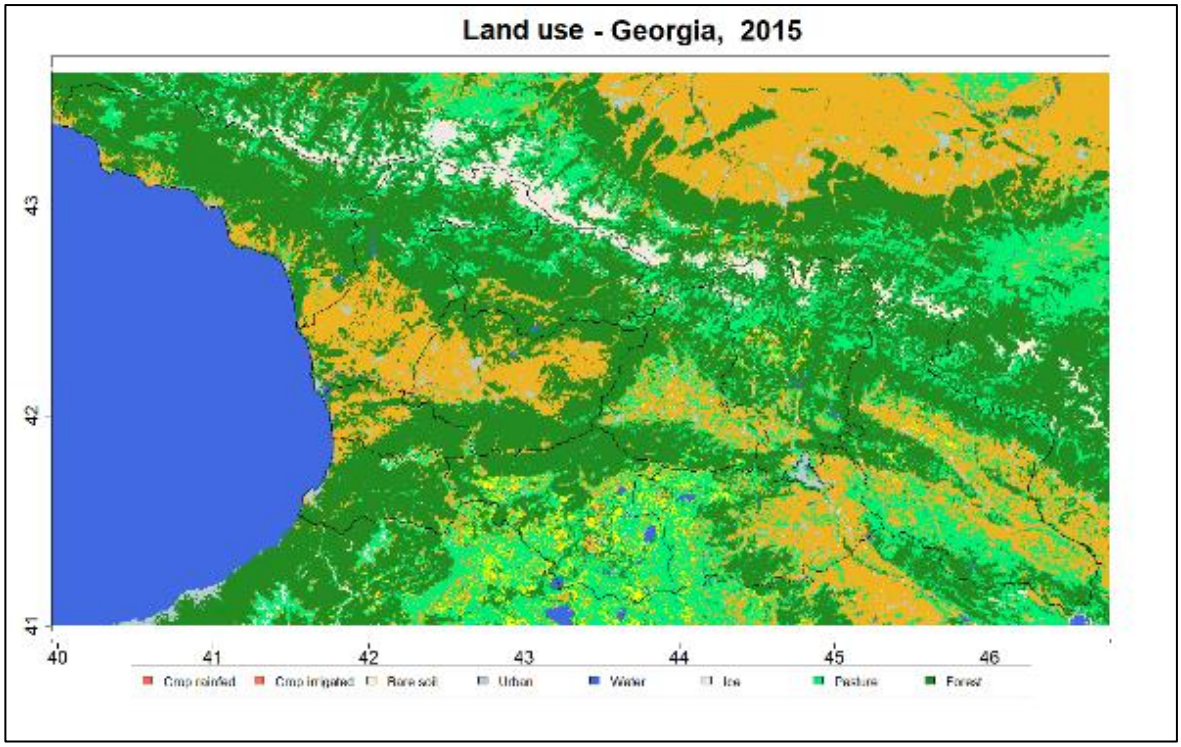

Figure 2 Land use in Georgia in 2015.[2]

13. Georgia has a very old and strong food culture, with cheese being a central feature. The demand for authentic, natural and organic cheese in Georgia is growing, with many of its unique cheese specialities now being re-discovered. Around 85 percent of local milk production is transformed by the producers into homemade cheese such as imeruli (cheese base), sulguni (soft cooked cheese), and naduri (a type of ricotta). The remaining 15 percent (approx. 75 million LME) is supplied to formal processing units for cheese and other dairy products. About 25 percent of homemade cheese is consumed in the household while the remaining 75 percent (330 million LME) is sold by producers to cheese traders at the farm level, who sell it on rural markets. Medium scale processors are used to produce cheese sold in shops and supermarkets within the region and occasionally in Tbilisi. Industrial processors mainly use milk powder and other imported ingredients for producing liquid milk, fermented milk, liquid ultra-high temperature processing (UHT) milk, yogurt, cheese, and other western-style products.

[2] Data Source: Sentinel 2 European Spatial Agency

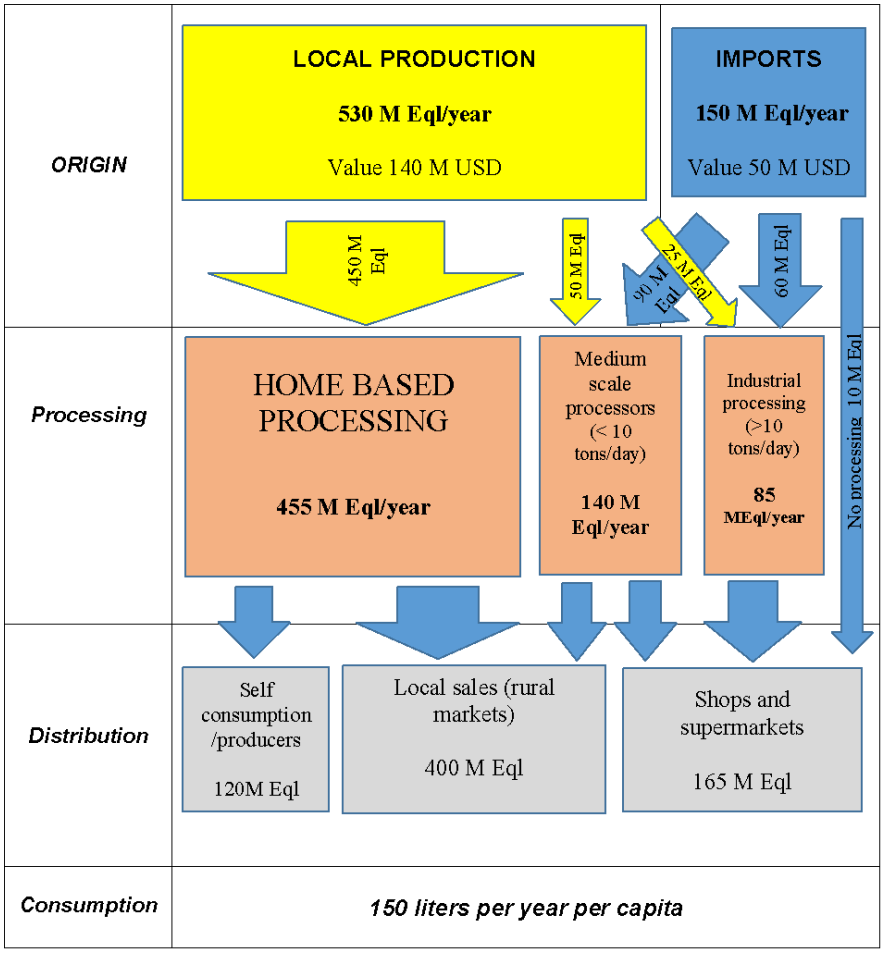

Figure 3 Quantitative chart of the Georgian value chain (quantities in Eql)

14. The dairy value chain (VC) in Georgia is transforming rapidly, due to changes in consumer habits and expectations, and progressive enforcement of new food safety regulations. Georgia and the EU signed an Association Agreement in 2014 (entered into force 2016), which introduces the Deep and Comprehensive Free Trade Area (DCFTA). By 2029, all Georgian SPS (sanitary and phytosanitary) regulations will have to be aligned to those of the EU. At National level, Dairy Georgia has recently been revived but currently mainly represents industrial processors. The National Milk Producers Association representing dairy farmers is not very active. The Ministry of Environmental Protection and Agriculture (MEPA) actively promotes cooperatives through the Agricultural Cooperative Development Association (ACDA), which has special programs targeted at dairy processing and pasture management. ACDA provides capital investment and technical assistance to agricultural cooperatives for equipping them with modern milk collection and processing infrastructure; for purchasing laboratory equipment to control raw milk and necessary equipment for artificial insemination (AI) to improve breeds. At local level, there are no established community development participatory mechanisms that could incorporate the dairy VCs. Much of dairy policy formulation and legislative reform are driven by DCFTA and EU approximation. The government is receptive to the establishment or strengthening of dairy platforms as a means of communicating with all actors in the dairy VC, from smallholders to industrial processors.

5.1.1.7 Policy, Governance and Institutional Issues

15. **The Constitution of Georgia** (1995, last amended in 2013) lays down the legal framework that guarantees environmental and social protection, and public access to information with regard to environmental conditions. Along with the national regulations, Georgia is signatory to a number of international conventions related to environmental and social protection.

16. **The Ministry of Economy and Sustainable Development of Georgia (MoESD)** is the competent authority for implementing and enforcing environmental legislation and policy, including the requirements relating to environmental impact assessments (EIAs) since the recent merging of the Ministry of Environmental and Natural Resources Protection (MoENRP), the previous Ministry in charge

of environmental aspects, within the MoESD and the Ministry of Environmental Protection and Agriculture (MEPA). In addition to the MoESD and MEPA, a number of other ministries, departments and agencies are responsible either directly or indirectly for the implementation of environmental and social related legislation and policy, including:

- Ministry of Health, Labour, and Social Affairs of Georgia.
- Ministry of Regional Development and Infrastructure of Georgia.
- Ministry of Environmental Protection and Agriculture of Georgia.
- Ministry of Culture and Monument Protection of Georgia.

17. MoESD has an important role in the supporting agricultural and pastoral development as well as pastures through its role in overseeing land management policies in general and the process of privatization of state owned lands as well as their registration in specific. One of the most important goals of the Ministry is to support sustainable development of the country in the field of environment, to elaborate and implement state policy and international commitments within its competence.

18. **Ministry of Energy (MoE)** of Georgia implements State Energy Policy for Georgia, participates in the development of strategies and programs that address the priorities in the energy sector, monitors their implementation, and works out appropriate recommendations. The Ministry structure includes the Department for Energy Efficiency and Renewable Energy.

19. **The Ministry of Environmental Protection and Agriculture's (MEPA)** core function is to develop and implement a unified government policy on the development of agricultural sector of Georgia. Along with other issues, the Ministry is in charge of agro-production, agro-processing, land conservation and productivity improvement, crops, livestock, fisheries, agro-engineering and veterinary, as well as promotion of upgrade and accessibility of agricultural technology. Since the merging of the MoENRP with the MEPA, it can play a key role in supervising environmental projects funded by international funds, providing implementation support to enhance impact.

20. Given its expertise and legal mandate, **the National Agency of Sustainable Land Management and Land Use Monitoring (LA)** is well-positioned to serve as the main coordinating agency within MEPA for the identification, surveying, and registration of pastures in selected areas under the DiMMAdapt project. Established in 2020 within the Ministry of Environmental Protection and Agriculture (MEPA), the agency's involvement in this project will not only facilitate the pasture-related activities but also contribute to enhancing its capacity—critical for the Government of Georgia in effectively implementing pasture reforms across the country.

21. In the current absence of specific pasture management legislation in Georgia, there is no legally designated authority for the identification, categorization, and mapping of pasture lands. However, based on existing national land legislation, the LA already holds a mandate that aligns closely with these responsibilities. This agency is tasked with the national-level inventory of land resources, including pasture territories, the creation of national land-cover and land-use maps, the development and operation of the Land Information System (LIS), and the publication of an annual national land balance report.

22. Given that a significant portion of lands in Georgia are used as pasturelands without registration or categorization, the land-use maps currently being developed by LA are the most reliable tools for identifying actual pasturelands for future registration and categorization. Consequently, the draft pasture law designates LA as the responsible entity for these functions, recognizing its authority to conduct nation-wide identification/categorization of pastures.

23. **The Ministry of Regional Development and Infrastructure (MRDI)** is in charge of regional development policies in addition to overseeing the development of the infrastructure, including water, roads and others. In terms of agricultural development and pastures management, MRDI provides needed infrastructure to farmers. To date, the municipalities are in charge of issuing pastures lease contracts to shepherds on their pastures; municipalities are also aiming at acquiring state land in order to further improve their revenues. The leasing is made mostly according to cadastral zoning, but occasionally, it can follow local customary grazing habits; this could include managing pastures outside the cadastral areas of the municipality.

24. **The National Adaptation Plan for Agriculture (NAPA)** published in 2017 by the MoENRP intends to reduce the knowledge gap on climate related impacts on agriculture. However, even though the document gives us a broad idea on main crops in Georgia, the document is not complete yet and the recommendations for adaptation measures should be strengthened. However, there is an existing knowledge gap for data gathering, which makes challenging to improve the adaptation analysis. As an

example, erosion risk is well known in Georgia but no recent study on this issue was conducted so far to identify the location and the related adaptation activities. In addition, there is a need to enable systematic quality control of the data used in the analysis. Technical training to share experience and best practice with the deployment of these adaptation practices in similar regions. Also, according to the National Adaptation Plan for Agriculture, relevant government institutions have limited systems, capacity and expertise to address challenges related to climate change efficiently as this is quite a new challenge in the country.

5.1.1.8 Development Context

25. Georgia is classified as a lower middle-income country by the World Bank with GNI per capita of USD 3,810 (2017). There are around 550,000 rural households with an average of 3.3 people per household (GeoStat, 2014). Agriculture accounts for 45 percent of rural household income, a further 28 percent coming from social payments and pensions and only 27 percent from salaried work. Land privatization that followed the fall of the Soviet Union has resulted in fragmented holdings (75 percent households with less than 1 ha of land) and neglect of the agricultural sector until recently, has contributed to the dominance of subsistence farming.

26. **Poverty** was estimated at 32 percent in 2016, decreasing from a peak of 46.7 percent in 2010. Poverty is more spread in rural areas, where every second household can be considered poor along the USD2.50/day international poverty line. Although poverty level varies by regions, a more profound difference is within the regions themselves, between urban and rural, mountainous, remote and near towns, industrial and service oriented and more agrarian settlements.

27. Years of economic crisis and large-scale forced migration of populations from the territories of Abkhazia and former Soviet Ossetia due to military conflicts caused the impoverishment of a large section of the Georgian population. Poverty reduction does not automatically follow economic growth. Since 2010, greater social and political stability, along with the resumption of economic growth, have brought about a significant reduction in poverty. However, not nearly enough. In the Georgia context, poverty is mostly linked to employment status, ownership of productive assets and labour markets. Those who are unable to work (the inactive, elderly or disabled) or do not have work (the unemployed) are much more likely to be chronically poor. Inequality, however, has slightly declined; the estimated Gini coefficient dropped from 41.3 in 2010 to 38.5 in 2016 (World Bank).

28. Social transfers were major drivers of poverty reduction until 2013, with growing significance of agricultural products sale and labour wages. The Targeted Social Assistance (TSA) programme was a key vehicle for poverty reduction till 2013, accounting for 50 percent of the decline in the income-based poverty observed between 2006 and 2012, and 80 percent of the decline observed between 2010 and 2012 (World Bank). Rural poverty is only associated with the rural growth and growth in agricultural sector, and was not influenced the urban growth. In addition to social benefits, 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 are becoming the major drivers of poverty reduction.

Table 1 Distribution of Average Monthly Incomes per Household (GEL)[3]

Sources of income	2011	2012	2013	2014	2015	2016
Income, total	**605.4**	**673.8**	**774.1**	**861.6**	**899.8**	**924.9**
Wages	214.3	247.3	297.0	325.5	382.9	391.3
From self-employment	54.7	66.7	72.7	75.8	81.2	80.6
From selling agricultural production	47.1	48.0	50.2	70.5	79.7	75.0
Property income (leasing, interest on deposit etc.)	5.5	4.3	7.5	9.1	9.0	10.0
Pensions, scholarships, assistances	87.0	96.2	124.5	151.1	149.5	158.7
Remittances from abroad	29.0	28.7	34.8	36.0	28.6	29.6
Money received as gift	74.3	91.9	102.7	103.7	85.3	95.8
Non-cash income	93.4	90.8	84.6	89.9	83.6	84.0
Other cash inflows	100.6	114.6	113.2	122.3	122.5	117.3
Property disposal	16.0	21.0	7.9	9.1	8.0	8.0
Borrowing and saving	84.5	93.6	105.2	113.2	114.5	109.3
Cash and non-cash inflows, total	**705.9**	**788.4**	**887.2**	**983.9**	**1022.3**	**1042.2**

29. **Food security and nutrition** is an issue mainly due to food affordability. Poor households spend more than 56 percent of income on purchasing food. Yet hunger is not a significant problem in Georgia according to WHO, with prevalence of stunting of 11.3 percent[4], wasting at 1.6 percent and underweight at 1.2 percent for children less than five years. Overall, food consumption is sufficient in calories with average dietary supply adequacy at 116 percent (2014-2016), and an average protein intake of 75 g/day. However, food consumption is characterized by low to medium nutritional diversity causing worrisome levels of the obesity among non-pregnant women (42 percent) and children (20 percent).

30. **Infrastructure.** The inadequacy or lack of basic and productive infrastructure, particularly irrigation, limited off-farm opportunities, critical gaps in VCs, availability of inputs and services, reduced human and social capital, and rural-urban migration especially of youth, has hindered the development of the agricultural sector. The land privatization has resulted in smallholdings (approximately 75 percent of households ended up with less than 1ha of land). Land fragmentation, and neglect of the agricultural sector by the GoG until recently, has led to the development of subsistence farming and overall decline in agriculture as a profitable business.

5.1.1.9 Environmental and Natural Resource Management

31. Georgia is a mountainous country with rich biodiversity and varying climate and precipitation. Almost the entire infrastructure, industrial and agricultural lands are located in the lowlands. About half of the area is farmland, constituted mostly of hay land and pastures due to the mountainous structure. Arable land often requires land reclamation measures. The key environmental problems (not in order of priority and described further below) in Georgia include pollution to air and water, land degradation, forest degradation and loss of biodiversity, affecting the provision of ecosystem services negatively.

32. **Pollution.** The country can be divided into two main river basin groups: The Black Sea Basin, in the west of the country. The internal renewable surface water resources (IRSWR) generated in this basin are estimated at 42.5 km^3/year. Although water is abundant in Georgia, it is unevenly distributed geographically. Almost 80 percent of the fresh water is found in the western part of the country, while a majority of industrial facilities, irrigated land, and population is situated in the eastern part. This can cause diluting problems, which - in combination with failing infrastructure for water supply, sewage, and wastewater treatment – can pollute watercourses and affect human health. Many of the rivers, especially Mtkvari and Rioni, are heavily polluted, affecting water quality nationally as well as in downstream countries. Coliform bacteria levels in reservoirs and water supply systems have reached dangerous levels in many areas. The quality of drinking water often does not comply with human health and safety standards. The major sources of water pollution are domestic, industrial and agricultural activity, including inadequate waste management practices. Compounding this, the Black Sea is heavily

[3] Source: Geostat, 2017. Change rate: 3.12 GEL/EUR on the 01.01.2018
[4] Global 22.2% according to WHO, 2017

polluted by uncontrolled sewage, agricultural runoff, oil spills and dumping of wastes. The entire ecosystem of the Black Sea has begun to collapse, and the wetlands (including Ramsar sites) are heavily affected.

33. Georgia is among the countries having very diverse soil types within a small area, stipulated by vertical zonality consisting of five climatic zones. Soil erosion, desertification (mainly in east Georgia) and salinization (most common in east Georgia) are growing problems. Water and wind erosion, environmentally degrading agricultural practices and other anthropogenic (e.g. uncontrolled logging growing lately according to Geostat, 2016) and natural processes has led to an almost 35 percent degradation of farmland. Given the scarcity of arable land, soil erosion remains one of the greatest problems, unfortunately no study has been led on the subject yet. There is no systematic monitoring of industrial pollution of soils. There is however, an increase in the use of chemical substances (fertilizers, pesticides, herbicides, etc.) which may affect soil quality. Bad waste management practices, including insanitary landfills (official and illegal dumping sites) cause constant pollution of soil, water and air.

34. **Forests,** which cover almost 40 percent of the country, are mainly located in mountainous areas and large parts are severely degraded, currently the average density of the forest has reached a critical threshold in 52 percent of the forest area. The intensive deforestation since the late 1990s is unprecedented in the history of Georgia. Unsustainable forestry practices are affecting the diversity, quality and productivity of the forests. Deforestation is mainly due to an almost complete halt to timber import from Russia. Besides, a sharp reduction of fuel import has been compensated by illegal logging by the population. Degraded forests have drastically decreased protective functions (protection of soils, storage of waters, regulation of waters, sanitary-hygienic functions, etc.) and self-recovery ability. Landslides and avalanches are becoming more frequent. Deforestation exerts a negative influence on the entire ecological state in Georgia.

35. **Biodiversity.** Because of its high landscape diversity and low latitude, Georgia is home to about 5,601 species of animals, including 648 species of vertebrates (more than 1 percent of the species found worldwide) and many of these species are endemics. The Caucasus is one of the most biologically rich areas on earth and is ranked among the planet's 25 most diverse and endangered hotspots by Conservation International. The bulk of biodiversity is found in the forests, freshwater habitats, marine and coastal ecosystems and high mountain habitats; these are also where the threats are the greatest.

36. **The mountain ranges** with the predominant grasslands are very rich in species with many endemic to the region. Overgrazing is the primary cause of degradation followed by Climate Change, unfortunately the legal and institutional framework on pasture management is weak in the country. The pastoral lands are regulated informally by groups of farmers with an implicit and cultural understanding of the resources. Projects already worked on pasture management in Georgia but were only limited to protected areas for example the United Nations Development Programme (UNDP) in cooperation with the Ministry of Environment and Natural Resources Protection). Examples in the region can be found in Kyrgyzstan and Tajikistan were IFAD is leading projects on pastoral lands. Knowledge and learnings from those projects will be valuable to develop DiMMA pasture management activities at implementation for Pasture user associations and pasture management plans, hereby reducing the vulnerability of pastures and the related dairy production systems to the effects of climate change.

37. Even with farm modernisation, the current dependence of the smallholders on mountainous summer pastures and communal (lowland) pastures for animal nutrition is likely to continue to be driven by the cost and niche quality advantages associated with pasture-based production systems. Current pasture usage and management practices have a negative impact on animal productivity, and exposes some of the pastures to overgrazing, land degradation hereby increasing their vulnerability to the effects of climate change.

5.1.1.10 Climate change

38. The Intergovernmental Panel on Climate Change (IPCC) reports that at regional level in West Asia, upward temperature trends have been notable and robust in recent decades. Also, a weak but non-significant downward trend in mean precipitation was observed in recent decades, although with an increase in intense weather events. A recent study from the National Adaptation Plan for Agriculture (NAPA) in Georgia observed changes in climate and therefore in agro-climatic zones. The change of agro-climatic zones against the background of the temperature increases and changes in precipitation patterns is one of the highest risks caused by climate change for the agriculture sector. Following the report, the total overall temperatures have increased in most part of the country. According to the 1991-2015 data, precipitation in the vegetation period decreased only slightly.

39. The analysis of the last decade's climatic patterns (1960-2016) completed by IFAD in 2017 in support of the design missions, confirms that the climate in Georgia has already changed and that the main trends foreseen by the IPCC and the NAPA are becoming evident. Trends in extremes in maximum and minimum temperatures for most of the regions in the country, have been increasing since 1960, resulting in warmer maximum temperatures in summer and colder minimum temperatures in winter.

40. A significant decrease in annual rainfall since 1981 is observed for several of the municipalities in Georgia but not at regional level with the exception of the Shida Kartli region. Georgia has several micro climates and the trends for annual precipitation can vary from one municipality to another within the same region (i.e. a significant increase in Martvili and a significant decrease in Tskhakaia within the Samagrelo and Zemo Svaneti regions). Significant decreases in annual rainfall have been noted at local levels in most of the municipalities, and in Imereti particularly during the summer and in the north of the Kakheti region throughout the whole year. Those municipalities have experienced the smallest amount of annual rainfall since 1981 three years in a row (2014 - 2016).

41. A shift in intra-annual monthly rainfall is observed in 3 regions of the programme except in Samtskhe-Javakheti with an increase in concentration of monthly rainfall in early autumn and late winter and a decrease in summer (a negative trend of around 1mm/year for August). Rainfall events are not equally distributed during the summer season and assessments show trends of longer dry periods and bigger rainfall events hereby increasing erosion and provoking mudflows and landslides.

42. Climate change forecasts for Georgia are derived from 35 available global circulation models (GCMs) used by the IPCC 5th Assessment Report. The Climate Change Knowledge Portal (CCKP) of the World Bank presents the IPCC data Coupled Model Intercomparison Project Phase 5 (CMIP5) multi-model in the figure below.

43. Future climatic ensemble models under the scenario RCP8.5 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 third communication to the United Nations Framework Convention on Climate Change (UNFCCC) (2014) similarly predicts higher temperatures by 2070-2100 for the whole territory. The study also predicts an increasing trend for annual rainfall in the mountainous area until 2050, followed by a decrease except for some areas (Batumi, Pskhu and Mta – Sabueti). Significant decrease of precipitation is expected by 2100 on whole territory of Georgia, mostly in Samegrelo, Kvemo Kartli and Kakheti (22 percent).

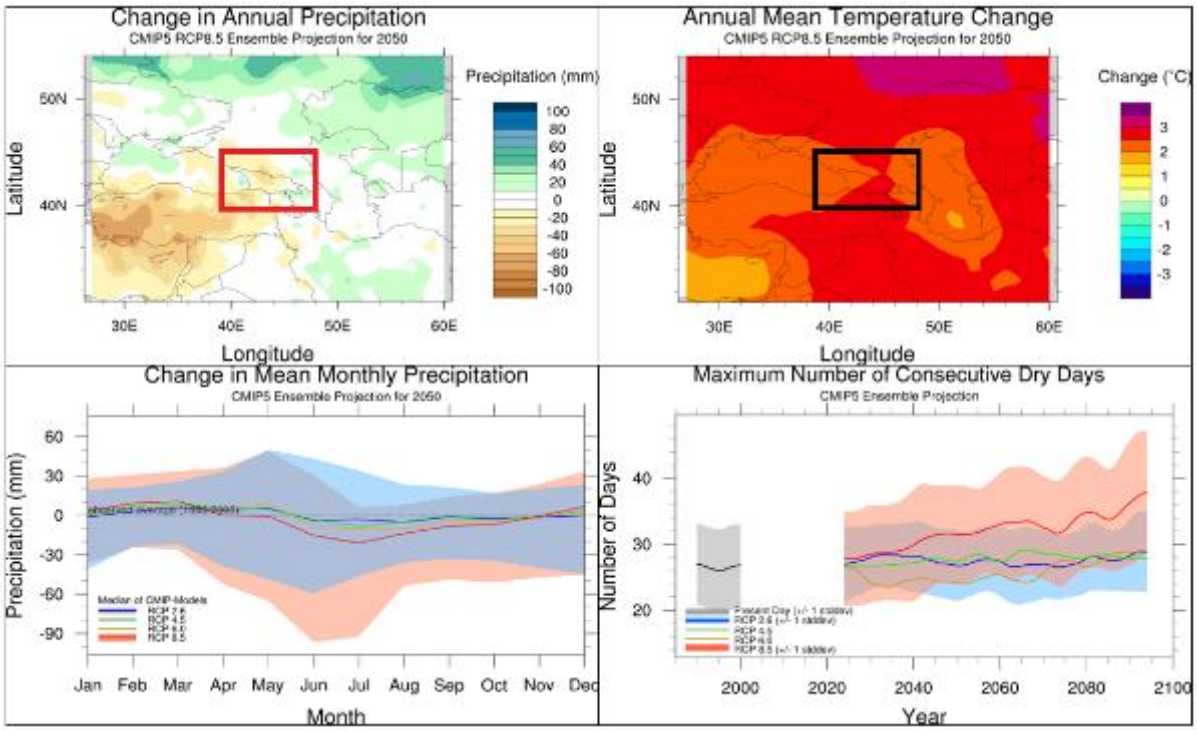

Figure 4 IPCC data CMIP5 multi-model[5]

[5] Change in annual precipitation (upper left), annual mean Temperature (upper right) and in Mean Monthly Precipitation (lower

IFAD Study on Climate Change Impact on Agriculture.

44. IFAD led a study that focused on the possible impacts of climate variability and change over the past years on agriculture in Georgia. An analysis of the daily rainfall events shows a significant increase in heavy rainfall days (>50mm/day) during summer season for the period 1981-2016 in the 3 regions of the project (see figure 1). The West part of the country, closer to the Black Sea, is more often affected by those events and this difference is getting even more marked geographically with time. Racha-Lechkhumi and Kvemo (lower) Svaneti region situated next to the project area shows the same trends and was part of the study for verification purposes.

45. The study of trends in snow cover for the period 2000-2016 was also conducted by IFAD based on satellite imagery from Landsat, NASA (see figure 6). Results show as expected that the percentage of the territory covered by snow is higher during December-January-February-March. In the region situated in the north of the country (Samergelo and Zemo (upper) Svaneti) the study shows a negative trend for January to March since 1981 meaning a decrease in snow cover area over time during the snowy months of the year. Over time, more and more hectares of so called “summer pastures” are no longer snow covered.

46. Also, the significant variability in total annual rainfall since 1981 has been coupled with pasture land use areas to identify the most vulnerable pastoral lands in Georgia. Three of the regions within the programme area are negatively affected by significant decreases in total annual rainfall and the situation may worsen if the trend is maintained over the coming decades.

47. From the data presented in figures 4 to 7 a number of conclusions can be drawn: (i) That despite the uncertainty of annual rainfall patterns at regional level, significant trends can be observed at local level. Rains are more concentrated and heavier during the summer, increasing the torrential regime and therefore the risk of flooding, soil erosion, and reduced infiltration of water in the soils as well as an overall decreased availability of water in during the warm season; (ii) The precipitation decrease in summer months for 3 regions in the programme area and increased evaporation caused by higher temperatures could have negative impact on water availability leading to longer drought events in the future; (iii) The reduction of snow cover during winter, over time may not only affect soil protection and decrease the water uptake by soil, it may also disturb the equilibrium in pasture plant species, having a negative impact on plant appetence and nutrition value for cattle. A changing climate however also presents opportunities, and earlier access to summer pastures could help shepherds improve resource management by reducing grazing pressures on lowland pastoral areas and also reduce local overuse of pasture by the communities.

left) for 2050 compared to 1996-2005 baseline; Maximum Number of Consecutive Dry days (lower right) in Georgia (IPCC-CCKP).

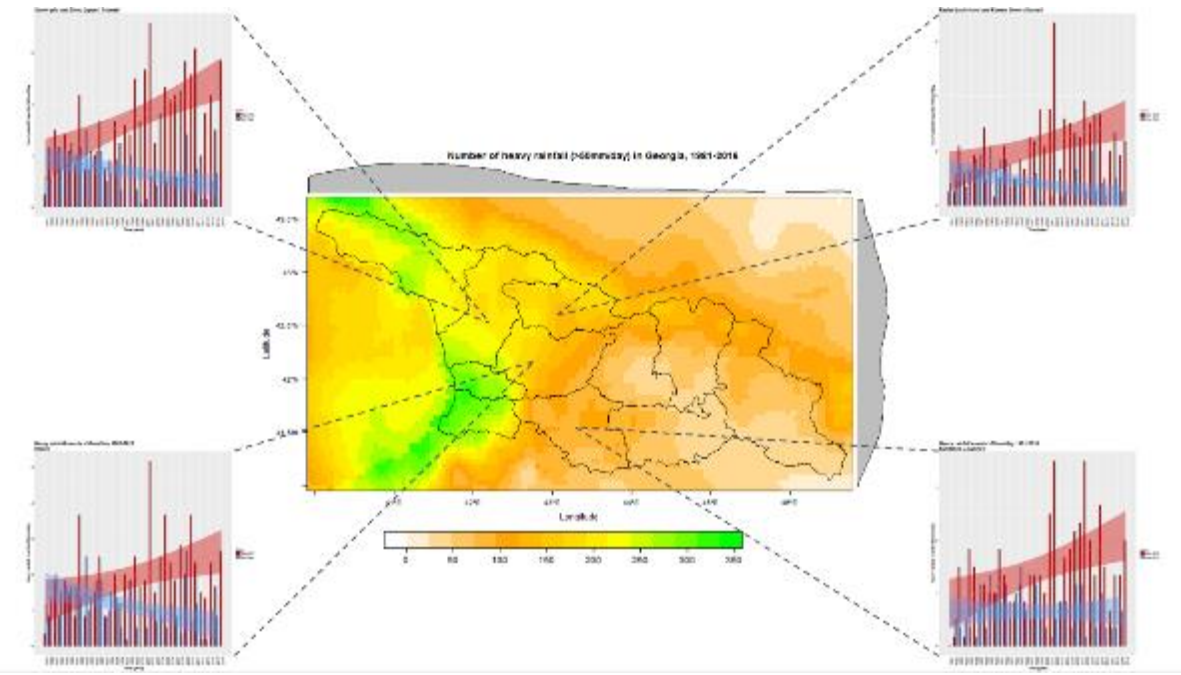

Figure 5 Number of heavy rainfall events (>50mm/day) in Georgia 1981-2016.[6]

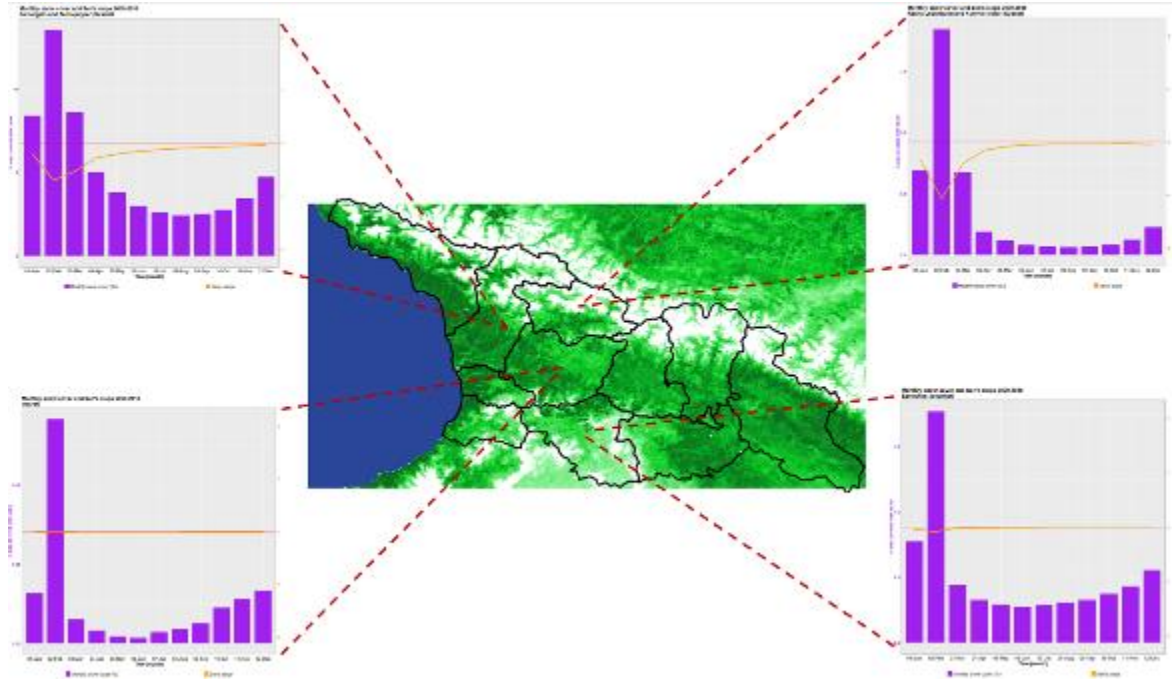

Figure 6 Snow cover in Georgia for the period 2000-2016.[7]

[6] Analysis completed by IFAD. Data source: CHIRPS/Climate Hazards Group-USGS
[7] Analysis completed by IFAD. Data source: Landsat, NASA.

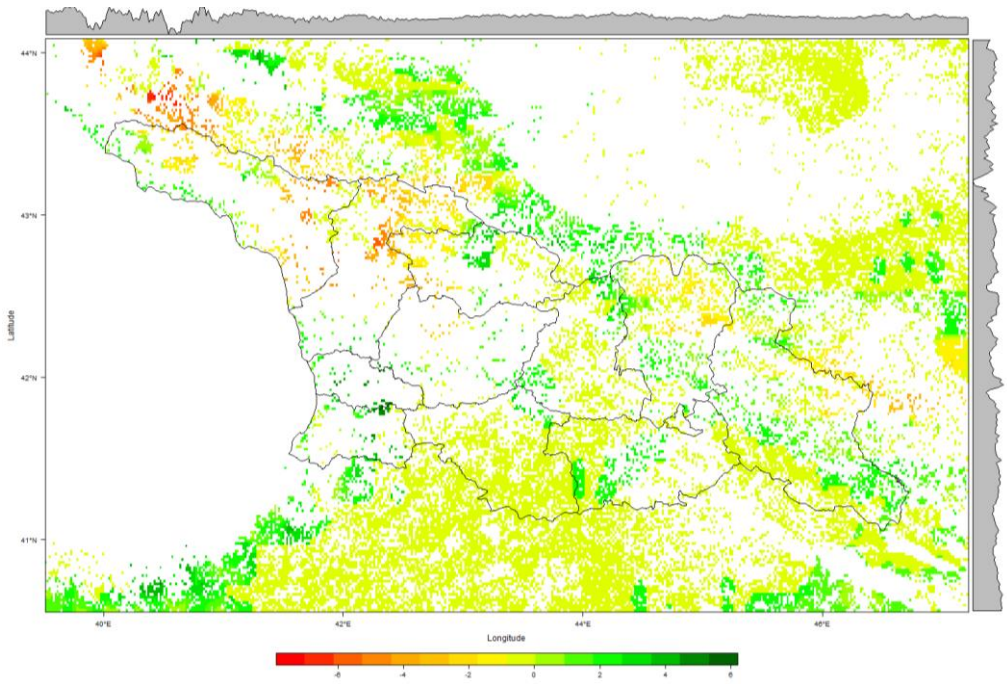

Figure 7 Significant change in annual rainfall 1981-2017 in pastoral areas.[8]

48. According to the Initial National Communication Report to the UNFCCC published in 2014 and the NAPA published in 2017, the climate of Georgia is affected by global climate changes and variability. The clearest indicators include:

Table 2 Climate Change impacts in Georgia

Resource	Impact
Water resources	As a result of observations on cattle watering in hot days of summer in Kakheti and Kvemo Kartli it was found that with the increase of temperature (30–38C) water supply for animals in June- September decreases every day. In ponds originated from rainwater (which is often a single source of watering) water is gradually decreasing or is generally dried out. The remaining ponds are often subject to pollution due to animal high pressure.
Agriculture and Livestock	Current climate change has already influenced cattle breeding. Torrential rain has also intensified causing increased soil erosion from the slopes, which against the background of intense grazing, is accompanied by harsh reduction of productivity of mowing and grazing lands. Heat waves, which are projected to increase in frequency and severity, could directly threaten livestock, reducing weight gain and sometimes causing fatal stress. Heat stress affects animals both directly and indirectly; it can increase an animal's vulnerability to disease, reduce fertility, and reduce milk production in dairy animals. Drought in 2014 has significantly damaged grain crops in some municipalities of Kakheti (East Georgia) and has serious negative impact on agricultural production in general. According to the data of Dedoplistskaro meteorological station, aggregate precipitation in the wheat vegetation period was the lowest value in 1961-2015 period. The drought was further aggravated by increased temperatures.
Vegetation and Biodiversity	Change in temperature creates the displacement of natural boundaries at sensitive areas of eastern Georgia (forest ecosystems), the loss of resilience of flora and fauna to invasive species, the loss of natural ecosystems "corridors" for migration of rare and endemic species, the increased cases of forest fires (Summer 2017), the degradation of landscape diversity, and the loss of biodiversity in general. Those effects have a direct negative impact on livelihood.

[8] Study performed by IFAD. Data source: CHIRPS/Climate Hazards Group-USGS - Sentinel 2 European Spatial Agency

49. According to the National Adaptation Plan for Agriculture, relevant government institutions have limited systems, capacity and expertise to address challenges related to climate change efficiently as this is a relatively new challenge for the country. Capacity development, institutional strengthening and investment are the pillars of the projects led by IFAD and the Adaptation Fund and will ensure the building of capacity of both institutions and beneficiaries. The GoG has already identified priority measures to reduce the climate change adaptation deficit in rural areas by ensuring capacity building in the following domains: i) of technical offices of rural municipalities and villages to ensure climate resilience of infrastructures and services; and ii) of smallholders, associations and institutions in the field of natural resource management, sustainable livestock management systems including pasture management and other key topics.

5.1.1.11 Project Area and Targeting Strategy

Programme area

The programme will start to be implemented in the three contiguous regions of Imereti, Samegrelo-Zemo Svaneti and Samtskhe-Javakheti. There are 1,315 rural settlements in these regions with almost 600 thousand people, and 116 thousand holdings with livestock. Thus, the Programme will cover 36 percent of all rural settlements and more than half of a country's total rural population. While these regions are not the poorest in country, poverty levels are still high, especially in remote and mountainous communities where climate vulnerability is an issue. The 3 regions covered by the project are already, and will be even more severely subject to, climate change risks in the form of frequent seasonal and yearly droughts, heat waves, rainfall storms and associated land degradation (see Annex I[9]). During implementation and by the Mid Term Review stage it will be decided on whether to expand the Project Area to other regions.

50. **The region of Samtskhe-Javakheti** is the most developed of the three regions of the project. Situated in the south west of the country, the region is mainly constituted of high plateaus with most of the land (80 percent) considered as high mountain (above 1500m) and with an average altitude of 1865 meters above sea level. The dairy market in this region was particularly improved during the last decade, supported by the government and private investments and the unemployment rate is the lowest of the three regions (5.9 percent in 2017) even though there is a large variation of poverty level within the region. The region is divided in the following municipalities: Adigeni, Akhaltsikhe, Borjomi, Aspindza, Akhalkalaki, Ninotsminda.

51. **The Imereti region** is situated in the west part of the country, in the mountainous chain between the Greater and the Lesser Caucasus mountains. The region is composed of high mountains in the east and lower plains in the east. The Imereti region is the most populated of the three project regions, with 507 thousands of people but is also the region with the highest unemployment rate, around 14 percent in 2017. The potential of development is quite high with great demand in dairy products at national and international level and the highest number of cattle heads in the country with the Samegrelo Zveno-Svaneti region. The region is divided in the following municipalities: Khoni, Tskaltubo, Samtredia, Tkibuli, Kutaisi, Terjola, Chiatura, Sachkere, Zestafoni, Vani, Baghdati, Kharagauli.

52. **The Samegrelo Zveno-Svaneti region** has both high mountains in the Greater Caucasus and low plains facing the Black sea. With more than 50 percent of its territory with high slopes (above 10 degrees) and more heavy rainfall events in summer over the past 40 years, this region is subject to an increase in erosion. The high number of cattle heads could worsen the situation if adequate pasture management is not established rapidly. The region is divided into the following municipalities: Mestia, Tsalenjikha, Chkorotsku, Martvili, Zugdidi, Senaki, Khobi, Poti, Abasha.

Targeting Strategy

53. **Lessons learned.** In 2018 IFAD's Independent Office of Evaluation (IOE) conducted a Country Strategy and Programme Evaluation[10], wherein it concluded that in Georgia IFAD historically had a weak poverty and gender strategy. Its strategy to target the poorer segments of the rural population and in particular farming households headed by women was found to be not refined. Without a clear targeting strategy, trickle-down effects to poorer households and women were assumed rather than

[9] Of SECAP in Annex 6
[10] https://www.ifad.org/en/web/ioe/evaluation/asset/40823566

ensured, and there were no specific strategies to monitor whether, or ensure that, the enterprises receiving financial support would then generate significant employment benefits for poor women. The assessment concluded that the actual benefits accrued through indirect targeting were significantly below expectations as none of the closed projects the assessment had reviewed, used gender-specific targeting strategies. This trend however was reversed in 2014 with Agriculture Modernization, Market Access and Resilience (AMMAR) project. This project was the first of all the five IFAD-funded projects to proactively target women; a target of 30 per cent minimum representation of women across AMMAR activities was set and gender targeting has been mainstreamed throughout the project.

54. **Gender targeting lessons learned.** The project Gender Strategy will be developed based on lessons learned drawn from the almost completed AMMAR project and the Georgia Country Strategy and Programme Evaluation (CSPE), led by IFAD Independent Office of Evaluation in 2018. The most relevant learnings are listed below.

- The CSPE and supervision findings of AMMAR call for a deeper understanding of rural women's challenges and opportunities, digging deeper in issues of inequality, which is multifaceted, multidimensional and fine-grained beyond simple geographic or socio-economic characteristics. To that extent, a strong gender study and project baseline will inform DIMMA and DiMMAdapt strategy, digging into gender equality and women's empowerment issues of the dairy value chain.
- It is key to have a clear vision on what the project intends to deliver from a gender perspective. Specific targets and interventions should go beyond the simple participation of women to the project, but rather look into pathways of empowerment and how to untangle gender-based power dynamics. A lack of vision in this sense translated into the lack of dedicated actions in support to women's empowerment, beyond measuring women's access to project activities. It is recommended to develop an articulated gender action plan that touches upon all project components, includes dedicated targets and indicators of the M&E system.
- IFAD-funded projects in Georgia, including AMMAR, proved that self-targeting mechanisms are not sufficient to reach out to women. Projects should envisage direct selection mechanisms or tailored eligibility criteria to actually benefit poor rural women. As expressed in many documents - including the Country Partnership and Strategy Note (CPSN 2014), Rural Development Project (RDP) project performance evaluation and the CSPE- there has been the assumption in the country programme that women have held equal social and economic positions since socialist times and that hence no specific measures to enhance women's participation and role in IFAD supported projects would be needed. Projects' data clearly show that this is not the case and that once the focus of the programme has shifted away from the support of local institutions, or once those institutions ceased functioning, women's participation has faltered.
- Rural women in Georgia are actively involved in agricultural production and processing but mainly as workers, and they are less involved in the management of agribusiness companies. For example, the RDP agriculture company beneficiary "SKHALTA 2012" hires 15 workers each season, of whom 60 per cent are women. But women are not involved in the company management, except administrative positions. Following mid-term review recommendations, the AMMAR project greatly benefitted from conducting a gender-sensitive analysis of value chains to be included in its activities. By selecting value chains controlled by women, such as vegetables, the project managed to increase their participation as beneficiaries of matching grants for agricultural production. DIMMA and DIMMAdapt projects should conduct a gender analysis of the dairy value chain, so as to capture women's involvement at different value chain notes, decision making capacity and access and control of benefits generated by related economic activities.
- Key women challenges observed in the Ammar project seem to be: lack of voice in the family farming management, technical knowledge of specific value chains, ability to scale up businesses to become commercial, and barrier at the entrance to access financial services such as lack of collaterals. For the latter, female-owned businesses tend be of smaller size and operate in sectors that require less financing than those owned by men. Therefore, the AMMAR grant/contribution ratio becomes too onerous. There is limited use of venture and equity capital within women-owned enterprises.
- Women often engage in off farm types of businesses, which suggests the need to focus women's support in the DIMMA and DIMMAdapt projects on downstream segments of the dairy value chain, such as processing and marketing.

- Rural organizations can be beneficial for targeting and empowering women. In the AMMAR project, there were 43% women members in the 14 cooperative grantees – a much higher share as compared to individual women grantees (15.7%) and women led enterprises (23%); this suggests that reaching out to cooperatives can be a good strategy to include women farmers as grantees. The same observation was reported by the CSPE.
- The share of households headed by women in rural areas of Georgia is between 25-30%, often compounded with higher poverty levels. The AMMAR outcome survey noted that in the irrigation component only 10% of its sample beneficiary group is run by women, and there isn't one household run by women among grantees under the other project component. This suggests that reaching out to this more vulnerable group can be more challenging; DiMMA and DiMMAdapt needs to take into consideration such challenges and shape its targeting mechanisms accordingly, so as to ensure access of women headed households to project activities.
- Women decision making capacity has proven to be a challenge at several levels of IFAD-funded projects in Georgia: at the household-level; community-level; value-chains multi-stakeholder platform levels; an in management bodies for the implementation of activities. DiMMA and DiMMAdapt should pay attention to this dimension of empowerment and ensure a conducive environment to attract women and enable them to voice their needs and concerns.

55. **Target groups.** DiMMAdapt is fully integrated into DiMMA's targeting strategy which builds on the lessons learned of past IFAD projects. DiMMAdapt will promote the inclusion of target households, women and youth. The project will target i) smallholder livestock farmers with 1-25 herd of cattle, and will be the focus of most training and technical assistance activities for smallholder farmers +PUU[11]s; and ii) smallholder farmers that will not comply to EU regulation on dairy products and are willing to diversify their activities. Overall, the total number of the DiMMA direct beneficiaries will be at least 1,283 smallholder farmers (approximately 4,876 people).

56. **Geographic targeting:** The project will target the climate-vulnerable pastures as identified in the Georgia Climate Change Study and led by IFAD through the preceding AMMAR project. As pressures from overgrazing are considerable factors in pasture degradation, the project areas will comprise 50% of the national cattle population and where almost 99 percent of cattle owners are smallholders with less than 20 heads of cattle. The identified regions have relatively large climate vulnerable mountainous areas where the households are identified as being dependent on degraded pastures.

57. **Targeting of women:** The project will be promoting women into decision-making positions in the PUUs and also promoting their voice and representation in determining pasture user rights. Women's inclusion will be set at a quota of at least 30 percent of women headed households and women managed businesses which reflects the 30 percent of woman-headed family holdings (Agricultural Census, 2014). The project hereby aims to increase women's incomes and enhance their decision-making and empowerment. The quota will be mainstreamed throughout the activities for: (i) the adoption of alternative livelihood activities by youth; and (ii) PUU members in PUUs selected for grant financing for improving pastures.

58. **Targeting of youth:** Direct targeting for securing youth involvement will be set at 50% youth memberships of PUUs eligible for grant financing for pasture improvement, and 100% for Field-Level Service Providers (FLSP). In order to facilitate the entry of youth in the value chains, inclusion of youth in training and capacity building initiatives will be given priority. Youth engagement will be a major agenda at the stakeholder platform level where value chain actors will develop measures to increase youth participation. Such measures can include collaboration with technical educational institutions for exposure of students nearing graduation to the project supported enterprises and demonstrations and placement of young graduates in the different enterprises engaged with the project.

Project Objectives

59. **Goal:** The overall goal of the project is to reduce the vulnerability of the dairy value chain to the deleterious impacts of climate change.

60. **Objective:** The project objective is to enhance the resilience to climate change of vulnerable dairy producers.

[11] Since the Pasture Law has not yet been adopted in Georgia, Pasture User Unions (PUUs) are not legally recognized entities. Therefore, throughout the document, the project refers to PUUs as groups of de facto pasture users, who typically collaborate on managing communal pastures at the village level.

61. The project will achieve the stated goal and objective through three outcomes:

- **Outcome 1.1** An enabling environment developed through training and capacity building.
- **Outcome 1.2** Pasture Management Plans Implemented
- **Outcome 2.1** Climate-smart technology demonstrations and alternative livelihood diversification.

Project Components and Financing

Table 3 Project Components and Financing

Project/Programme Components	Expected Outcomes	Expected Outputs	Amount (USD)
1. Climate-proofing pastoral ecosystem services (water management, pasture regeneration, and disaster risk reduction).	**Outcome 1.1** An enabling environment developed through training and capacity building.	**Output 1.1.1:** Climate resilient and DRR solutions for pasture rehabilitation and increased productivity promoted.	489,519
		Output 1.1.2: Inventory and Registration of Pasturelands.	794,120
	Outcome 1.2. Pasture Management Plans Implemented	**Output 1.2.1:** Climate resilient and ecosystem-based adaptive pastoral investments implemented.	644,152
		Output 1.2.2: A management mechanism is in place to screen and offset any potential cattle number increases from DiMMA	40,000
2. Supporting the climate resilience of market vulnerable smallholders.	**Outcome 2.1** Climate-smart technology demonstrations and livelihood diversification.	**Output 2.1.1** Climate-smart technologies and alternative livelihood measures promoted. **Output 2.1.2** Alternative, complementary, non-competitive, non-extractive livelihood jobs created.	1,994,400
Total			**3,962,191**
Project/Programme Execution Cost (9.1%)			364,727
Total Project Cost			**4,326,918**
Project Cycle Management Fee Charged by the Implementing Entity (8.5%)			317,876
Amount of Financing Requested			**4,644,794**

Table 4 Dates of the following milestones for the proposed project

Milestones	Expected Dates
Start of Project/Programme Implementation	16 April 2021
Mid-term Review	16 October 2024
Project/Programme Closing	30 June 2026
Terminal Evaluation	30 March 2026

PART II PROJECT JUSTIFICATION

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- Project Components.

Describe the project components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

62. The project is structured around two components:

- Component 1: Climate-proofing pastoral ecosystem services (water management, regeneration, and disaster risk reduction).
- Component 2: Supporting the climate resilience of market vulnerable smallholders.

Each component is explained in more detail below:

Component 1: Climate-proofing pastoral ecosystem services (water management, pasture regeneration, and disaster risk reduction) USD 1,967,791

63. The historical climate trend has been one of longer dry periods and more intense rainfall leading to increased pasture vulnerability through increased flooding, soil erosion, mudslides and landslides that have adversely impacted the pastoral ecosystem services which the rural poor, including women, youth and the landless poor depend on for their livelihoods. In the future, the agriculture sector is expected to have to further adapt to increasing temperatures and changing rainfall patterns that will increase the prevalence of periods of drought and intense rainfall. This component aims to upscale in part the successful IFAD AMMAR project with GEF co-financing[12] that successfully planted 40,000 trees for a length of 26 km x 20 meters wide. This project has protected around 1330 ha of land from erosion. DiMMAdapt will build on this success to support the design and development of climate resilient pastoral ecosystem services to reduce the negative impacts from climate change and climate variability on agricultural and rural livelihood development. In order to support the shift towards a climate resilient economy in agriculture in the targeted areas, the project will focus on the following outputs and activities:

Outcome 1.1: An enabling environment developed through training and capacity building.

Output 1.1.1: Climate resilient and DRR solutions for pasture rehabilitation and increased productivity promoted.

64. This output aims to build capacity and increase the level of awareness about climate change. Existing groups of pasture users will be identified and the mobilization of PUUs will be promoted through the DiMMA project. The Adaptation Fund will support the climate proofing of the DiMMA investments through demonstrations targeted at the Pasture User Associations (PUUs) but also smallholder and progressive farmers on collective pasture management approaches and methodologies for improving grassland productivity and on introducing modern, innovative, climate resilient and cost-effective milk production technologies. Through contracting Service Providers (SP), the project will train the informally mobilized PUUs (de facto pasture users) to design, develop and implement community-based Pasture Management Plans (PMP's) that will integrate Climate Change adaptation resilience and disaster risk-reduction (DRR) measures into the broader DiMMA project.

65. The activities under this output are:

i. **Pasture management and adaptation demonstrations.** Climate resilient and DRR technologies and knowledge dissemination through exchange visits and demonstrations in 15 sites covering 3,800 hectares. Particularly, it is expected that pasture management capacities of 590 farmers in 15 villages will be improved through field mobilization and training of de facto pasture users on rotational grazing techniques. Additionally, 280 additional farmers will be trained in silage and fodder conservation and production through demonstrations. Technological areas may also include improved fodder varieties, improved fodder production and conservation techniques for

[12] a summary of which is presented in Annex 4

year-round production (silage making, for higher nutritional content, better nutrient preservation, more palatability to livestock); manure composting; and climate resilient collective pasture management techniques including but not limited to the planting of trees as windbreaks against wind erosion; the restoration of degraded pastures; water management measures; measures to mitigate against the increased prevalence of torrential rain; and the restoration of riverine vegetation. As part of the demonstrations and under the supervision of the DiMMA M&E Officer responsible for implementation of the Knowledge Management Strategy (KMS), the project will oversee the production of awareness raising leaflets and visual learning material. These will be widely disseminated during the demonstration sessions as well as at DiMMA stakeholder platforms.

ii. **Design Pasture Management Plans (PMPs).** Train and provide technical backstopping to the 15 PUUs as well as smallholder and progressive farmers in the designing of the climate resilient PMPs. Areas will include: the designing of community-based pasture assessment maps, including GIS mapping; vulnerability assessments; annual pasture usage plans; pasture improvement plans; forage production and conservation as a means to build climate resilience; water management measures for pasture resilience; the restoration of degraded pastures; and restoration of riverine vegetation. The PMP's will include, but not be limited to: generating threat analyses, designing an adaptation strategy with related adaptation activities, a management plan, fees and revenue generation. Youth and other vulnerable groups have representation or voice in decision making on allocation of pasture use rights.

iii. **Support a member-elected volunteer.**[13] Each PUU will appoint one member-elected volunteer who will coordinate with the DiMMA service provider and support the implementation of the PMPs. The volunteers will receive a small cash incentive to cover transport and communications expenses. The project will promote the idea of women representing the PUU in at least 30% of the PUUs.

Output 1.1.2: Inventory and Registration of Pasturelands.

66. This output will be coordinated by the Land Agency under MEPA and aims to pilot a nationwide inventory of pasture lands, setting the foundation for effective pasture management reform and supporting the successful implementation of future pasture legislation. This output will include several phases, beginning with preparatory works such as the development of a pasture identification and registration methodology and the criteria for categorizing pastures. A stakeholder workshop will be organized to ensure alignment among key actors, and a comprehensive action plan will be developed to guide the project's execution.

67. The next phase involves conducting a situation analysis in the target municipalities to identify potential pasture lands. This will include the collection and analysis of old Soviet-era land-use plans, current orthophotos, and cadastral data. Registered and unregistered pasture lands will be mapped, and field verification of the data will be performed. The result will be a draft pasture map, identifying registered and unregistered land plots with the potential to be designated as pastures, based on current land use.

68. The final phases focus on verifying identified pastures through stakeholder consultation and field assessments, followed by the surveying of unregistered lands. This will lead to the preparation of documentation necessary for official registration, including categorization of uncategorized agricultural lands. The project's results, including the finalized pasture maps and documentation, will be presented, with all necessary paperwork submitted to the relevant authorities for formal registration. This process ensures that all identified pasture lands are accurately mapped, surveyed, and ready for registration in the National Agency of Public Registry (NAPR). As a results 106,163 ha will be targetter and by the end of the project at least 15% of this area or 15,900 ha will be registered.

69. The activities eligible under this output are:

- **Identification, Categorization, and Surveying of Pasturelands and Hayfields in Target Areas:** Conduct the identification and categorization of pasturelands and hayfields, followed by surveying the identified areas to prepare accurate documentation for future registration.
- **Assessment of Pasture Vegetation Types and Their Condition:** Evaluate the types and health conditions of the vegetation on identified pasturelands to inform sustainable land management and categorize areas for use.

[13] Volunteers are also referred to as facilitators.

- **Mobilization of Communities for Identification and Mapping of Users:** Engage local communities to actively participate in identifying and mapping current pasture users, ensuring transparency and alignment with local needs and land use practices.
- **Submission for Registration:** Prepare and submit the necessary documentation to the National Agency of Public Registry (NAPR) for the formal registration of pasturelands, ensuring compliance with legal and administrative requirements.
- **Purchase of Required Equipment**[14]: Procure necessary equipment and tools to support the fieldwork for pastureland identification, surveying, and mapping activities in the target areas.
- **Purchase of 2 Field Vehicles**: Acquire two vehicles to facilitate the transportation of field teams for on-site pasture identification, field verification, and surveying in remote or difficult-to-access areas.
- **Operating Expenses**[15]: Cover the operational costs associated with fieldwork, including fuel, maintenance of vehicles, and logistical support for field teams.

Outcome 1.2: Pasture Management Plans Implemented

Output 1.2.1: Climate resilient and ecosystem-based adaptive pastoral investments implemented.

70. This output focuses on the implementation of the PMPs that will have been designed by the PUUs with technical support from the SPs. The implementation of 4 out of 15 developed PMPs covering the area of 1,000 hectares will be done by the PMU through the selected SP(-s) in line with the design of the PMPs to showcase pasture improvement with physical investments. Four villages (Tkemlana, Mugareti, Khaki and Andriatsminda) were selected, with detailed PMPs, registered pastures, clearly defined pasture-user groups, source of water, etc.

71. The exact amount of each grant will be linked to the number of communal pasture users, pasture area, level of poverty, livestock number, and institutional capacity of PUU and evaluated against agreed upon indicators. The climate-smart investments will inter alia create considerable carbon sinks as demonstrated in the ExAct carbon balance analysis presented in annex 5.

72. The activities eligible under this output are:

i. **Planting of windbreaks** to prevent wind erosion. The project will upscale an IFAD/GEF pilot summarised in Annex 4 that has successfully planted more than 40,000 tall, indigenous tree-specie seedlings for a length of 26 km x 20 meters wide of windbreaks providing protecting 1330 ha of land from wind erosion.

ii. **The restoration** of degraded pastures including forests through: rotation / fencing; improved vegetative cover and fodder yield through the interspersing of fodder with highly diverse native plant species such as grasses, leguminous plants and small bushes that are highly tolerant to extended summer droughts.

iii. **Water conservation** measures such as measures to retain water in soil; drainage; water spring restoration; and protection and shade through reforestation in water points. These activities will favour pasture resilience through increased water retention and regulation, improving water availability and decreasing evapotranspiration, thereby mitigating the threat of drought.

iv. **Torrential rain management.** Measures to mitigate against the increased prevalence of torrential rain leading to soil erosion, mudslides and floods. These activities will include the plantation of bushes and trees, that will protect against soil erosion and function as barriers against storms and high winds, while also serving as a possible source of by-products such as fruit, berries, fodder and wood.

v. **Restoration of riverine vegetation** for better regulation of water; barriers against floods; improving water quality, and functioning as a source of fodder.

vi. **Fodder production:** fodder varieties for improved, year-round, quality fodder availability.

[14] 5 Field tablet; 5 GPS Equipment; 2 Drones; 5 Laptops and accessories; 4 Printers and cartridges; Miscellaneous; 12 Workshops, Orthophotos

[15] Vehicles maintenance and fuel cost

vii. **Silage production:** fodder conservation techniques for higher nutritional content, better nutrient preservation, greater palatability to livestock.

Output 1.2.2 Offsetting DiMMA GHGs from risk of cattle number increases.

73. In order to mitigate the minor risk that as an indirect result of improved pastoral resources, access to Artificial Insemination and improved access to processing and market infrastructure, cattle numbers may inadvertently increase and contribute to GHG increases. This output (and explained in more detail in ESP 11 in the ESMP annex 3) details the management measures that have been integrated both in DiMMAdapt as well as DiMMA to directly mitigate this risk and guarantee that the project will constitute a carbon sink and will not result in GHG increases.

74. **Cattle registry.** DiMMA and DiMMAdapt have integrated a project-level cattle registry system into the activities related to cattle replacement through Artificial Insemination (AI) and pasture improvements grants. Grants under DiMMA will be administered by the Agriculture Projects Management Agency (APMA). The APMA is an arm of the Ministry of Environmental Protection and Agriculture (MEPA) that supports investments in agricultural projects with cheap credit programmes for agricultural loans in partnership with 13 commercial banks. Under DiMMA agricultural sector projects approved by these banks at the nominal interest rate of 13-15% are eligible for 11% government subsidy through APMA, thus reducing the net interest rate for the borrower to 2-3%. The APMA will monitor cattle numbers through the pasture improvement grants; it will also manage the Dairy Value Chain Development Facility (DVCF) of the programme that will meet 60 to 80 percent of the investment costs for a number of dairy activities under DiMMA, including AI. Smallholders who want to apply for the AI programme will therefore benefit from 2-3 percent interest rates and in return they will need to declare the number of cows they own. The APMA will monitor pasture herd numbers and will record any eventual increases and report to the PMU on a quarterly basis. PUUs found to have increased cattle numbers will be required to demonstrate offsetting has taken place through the PMP equivalent to the level of GHG emitted. The continuation of the grant cycle will be dependent on this evidence.

75. DiMMA is further supported by the Food and Safety Agency (FSA) which is also under MEPA and is responsible for registering and labelling of livestock. It will be the role of the FSA to register as well as carry out verifications of the declared cattle numbers. The FSA will also report to the PMU on a quarterly basis. The PMU will be able to ensure both the numbers reported by the APMA as well as the FSA correlate. It will be the responsibility of the DiMMAdapt Climate Change Specialist to report any cattle increases both in the biannual progress reports as well as in the annual Project Performance and Reporting (PPR) to the Adaptation Fund together with the proposed management response.

76. **GHG offsetting.** DiMMAdapt will develop GIS pasture mapping as detailed under output 1.1.1 and this will be enhanced with the acquisition of satellite images of the project areas, once defined through community-based consultation processes. DiMMAdapt will contract the Colorado State University, or a similarly experienced organisation who will once a year report the level of GHG sequestration as a result of the pasture rehabilitation programme but also the net GHG emissions as a result of any cattle increases (if any). Until the PMPs have been developed, it is not yet known precisely how many ha of grasslands will be rehabilitated or how many trees planted as windbreaks or as measures against erosion in highly degraded pasture lands, neither will it be known how many other leguminous plants will be planted to stabilise erosion gullies etc.

77. **Monitoring and reporting.** The climate change focal point will work in close collaboration with the DiMMA M&E officer to ensure that the M&E framework correctly records the data received both from the cattle numbers but also the net GHG emission calculations conducted by the specialist institution. The regular reporting both biannually for the progress reports, as well as annually in the PPR to the AF will report on the net GHG levels and in the unlikely event that cattle numbers and their respective net GHG emissions may increase, the planned course of action to be taken as part of the PMP designed by the PUU to offset them.

78. **<u>Component 2:</u> Supporting the climate resilience of market vulnerable smallholders USD 1,994,400.**

79. The project applies a resilience model that aims to build the capacity of households to face climate related shocks and stressors as well as promote technology transfers for climate change adaptation. In addition to helping restore, climate-proof and improve the productivity of the pastures, this component will target women and youth-headed households and the landless poor to reduce pressures on the

ecological services and thereby improve agricultural productivity. This will be achieved through pilots promoting complementary, non-competitive and non-extractive forms of livelihoods that are not directly dependent on these eco-services. This component will also promote energy-saving and climate-smart pilots that will build climate change adaptation into the DiMMA project through mechanisation hereby improving the quality of the dairy produce.

Outcome 2.1: Climate smart technology demonstrations and livelihood diversification.

Output 2.1.1 Climate-smart technologies and alternative livelihood measures promoted.

80. Climate-smart infrastructure is an essential innovation that will introduce new energy and money saving technologies that will contribute to building climate adaptation into the dairy value chain. The project will target 1,283 vulnerable market dairy producers with on-farm demonstrations, including 151 grant beneficiaries and 280 trained persons. Precooling of fresh warm milk saves considerably on energy usage particularly when this is achieved through water at least 15^{o}C lower than that of the milk. Pre-cooling milk requires additional equipment inter alia pumps, tanks, pipes and fittings, but also crucially heat exchangers. For the best results in milk precooling, milk can be instantly cooled to 4^{o}C with ice and this energy demand will be met with renewable solar energy.

81. The activities eligible under this output are:

    i. **Energy-saving, climate-smart pilots.** Demand-driven, on-farm demonstrations will be held on topics such as climate-smart energy-saving milk pre-cooling heat exchanger technology, and solar power for reducing energy consumption in processing units.

Output 2.1.2 Alternative, complementary, non-competitive, non-extractive livelihood jobs created.

82. As part of the climate resilience model adopted by the project, demand driven, complementary, non-competitive and non-extractive forms of income will be promoted as a pillar in the strategy to reduce stressors on pasture eco-services, they also provide safety net diversification in case of a climate event. Each project region faces different challenges from an increasingly variable climate, the activities will therefore be assessed for their suitability given the climate modelling predictions for each region. The promotion of beekeeping, mushroom cultivation, greenhouses and orchards will increase the food security of these most vulnerable communities and build the economic-base of the target groups as a means of building climate resilience into the dairy value chain.

83. The activities eligible under this output are:

    i. **Beekeeping.** Market vulnerable farmers will be trained and supported with grants for beekeeping equipment. Promoting beekeeping as a means of climate change adaptation will have multiple benefits as it improves income through added value processing as beeswax to make candles, soap etc.; it also provides improved pollination and traditional medicinal benefits.[16]

    ii. **Mushroom cultivation** will be promoted as part of the package of complementary, non-competitive climate change adaptation income diversification jobs. Mushroom cultivation can directly improve livelihoods through the generation of fast yielding economic, nutritional and medicinal contributions.[17]

    iii. **Greenhouses and orchards.** Closed water system greenhouses and orchards promoted in regions will provide for improved food security, sustainable water usage, job creation and function as a climate change safety net. As a result, an estimated 262 jobs will be created under this output.

Project Benefits

Describe how the project provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project avoids or mitigates negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

Social Benefits

[16] FAO, 2011. Diversification booklet 1: Beekeeping and sustainable livelihoods (second edition). ISSN 1810-0775
[17] FAO, 2009. Diversification booklet 7: Making money by growing mushrooms.

84. The Adaptation Fund project will generate social benefits by building resilience to climate vulnerability into the promotion of investments and activities aimed at enhancing and/or creating linkages between targeted vulnerable households, SPs and dairy aggregators along the dairy value chain. Georgia is a lower middle-income country suffering from persistently high poverty, high levels of rural poverty, and youth- and gender-disaggregated unemployment with a significant proportion of youth working in agriculture. The added impact of climate change on the sector means that smallholders and many youths are being pushed out of the dairy value chain. Within this context the project will target 1,864 market-vulnerable dairy producers, or 4,876 people (average household is 3.3 GEOSTAT), including 590 farmers through mobilization and training of 15 de facto PUUs for the rehabilitation and climate resilience of the pastures. To ensure youth inclusion the project will set targets of 50 percent participation as PUU members, and 100 percent as SPs, in providing climate-smart mechanisation. The added value of youth inclusion beyond economic empowerment is the increased ease with which younger people adopt new technologies.

85. **The project will further target the landless rural poor.** 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 living below the poverty line own cattle, with no more than three heads. The project will support 620 non-commercial rural households with 250 pilot complementary, non-competitive, non-extractive livelihood projects to relieve pasture overgrazing. In doing so, it will prioritise women and youth to encourage and nurture new micro-enterprises to develop new additional sources of income and become producers of alternative commodities with growth potential or SPs for the wider community.

86. **The gender-sensitive approach** adopted by the project in targeting 30 percent women that is reflective of the 30 percent of woman-headed family holdings (Agricultural Census, 2014). Women are a vulnerable group that crosscut all types of beneficiaries. They play an important role in livestock rearing at the household or farm level, although mostly as labour; women are present among commercially-oriented farms in Georgia, as well as among SPs and as small-scale producers, especially in supporting premium quality cheese production. As with youth, women experience difficulties due to patriarchal attitudes, with limited access to decision-making at the family- and community-level, and limited resources and assets to increase and improve production.

Economic Benefits

87. The project targets the vulnerable youth and women as well as the landless rural poor with enterprising activities aimed at climate-resilient economic regeneration and sustainable environmental management. 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, and by creating economic opportunities through resilient eco-businesses. In doing so the project will target 1,283 market-vulnerable dairy producers; it will create 30 percent of jobs for youth and 30 percent for women, create 262 youth jobs in alternative livelihood activities, and 590 households will benefit from the improved pasture productivity and management.

Environmental Benefits

88. IFAD is committed to enhancing environmental sustainability and climate resilience in small-scale agriculture, promoting the sustainable natural resource and economic base for rural people that makes them more resilient to climate change and environmental degradation. Climate adaptive and environmental benefits are built into the DiMMA project through Adaptation Fund support mitigating the identified adverse environmental and climate risks and helping beneficiaries adapt to the adverse impacts of a changing climate. The activities of the DiMMAdapt project are a product of the screening by IFAD of DiMMA through its Social Environmental and Climate Assessment Procedures (SECAP).

89. The SECAP assessment was carried out during the IFAD design missions by the Adaptation Fund team, that analysed and identified the environmental problems and risks posed by climate change. Based on the SECAP and other assessments undertaken during the preparation of the concept note and design of DiMMA the programme's climate risk was rated as moderate due to the exposure of Georgia's agricultural sector to historical and predicted variabilities in temperature and rainfall. It identified the risks and challenges from changing rainfall patterns causing historical trends such as the increased prevalence of droughts and flooding, landslides, reduced soil permeability and resulting topsoil erosion.

90. The objective of DiMMAdapt is to ensure that the challenges identified in the SECAP are fully addressed and integrated into the IFAD DiMMA project. This will be achieved through interventions that both improve the environmental and climate resilience and resulting productivity of the pastures. It will also support the economic base of the rural poor and vulnerable target groups, helping them find alternative sources of income that reduce the pressures on the ecosystem services provided by the pastures,

making them more resilient to the climate shocks. Through promoting the rehabilitation of 1,000ha and improved management of 3,800 ha of degraded pastures, the project will also contribute significantly to the sequestration of carbon. As shown in annex 5, it is estimated that the DiMMAdapt project will offset 152,729 (conservatively rounded to 150,000 in the LogFrame) tCO_2eq throughout the project cycle. As a measure of comparison, a hypothetical worst-case scenario increase of 1,000 cows would contribute 3,230 tCO_2eq/year during the project cycle.[18]

91. Sustainable community-based environmental natural resource management (ENRM) measures to reduce risks related to climate change, will be one of the main benefits of the project. It will achieve this through raising the environmental awareness of the communities directly dependent on the pasture eco-services through field demonstrations and capacity building by SPs. The long-term environmental benefits will be ensured by demonstrating the importance of sustainable ENRM, but also the training of the PUU's to design PMPs. The environmental benefits of the sustainably managed pasture land will be ensured through the resulting pasture assessment maps; vulnerability assessments; annual pasture use plans; and pasture improvement plans. They will result in the improved management of 3,800 ha and restoration of 1,000ha of degraded pastures through fencing, improved vegetative cover, improved fodder management and introduction of resilient plant species, including highly resilient and diverse native plant species tolerant to drought; water management measures for both water conservation and restoration of water points, but also the DRR of flooding events through increased vegetative cover and better river management against flooding.

92. The second main environmental benefit will be two-fold. The project will focus both on strengthening the economic base of the rural poor to build resilience against climate shocks by reducing their dependency on the pasture eco-services through alternative incomes; and promote energy efficient mechanisation of the dairy value chain through milk pre-cooler heat exchangers and solar power technologies.

Cost Effectiveness

Describe or provide an analysis of the cost-effectiveness of the proposed project.

93. The Adaptation Fund project will be a blended project, fully integrated into the IFAD supported "Dairy Modernisation and Market Access Programme (DiMMA)" it will benefit from sharing resources and structures. This partnership will boost the cost-effectiveness of both interventions, particularly as there will be a common management structure and a linked M&E framework. Other benefits expected are improved coordination and communication, the application of common procurement and supervision procedures (reducing costs); also, the implementation of complementary project interventions in the project districts. In financial terms the IFAD loan for DiMMA will cover a total of around USD 1,160,000 in management costs as shown in the table below. These management actions will serve both DiMMA and DiMMAdapt.

Table 5 Table showing cost savings for fixed costs

Costs	Unit	Quantity	Cost per unit USD	Standalone fixed costs USD
PMU salaries				
Project manager	Person / month	12 x 4 years	2,950	141,600
Finance manager	Person / month	12 x 4 years	2,832	135,936
Accountant	Person / month	12 x 4 years	2,124	101,952
Procurement specialist	Person / month	12 x 4 years	2,006	96,288
M&E specialist	Person / month	12 x 4 years	2,006	96,288
KM and gender specialist	Person / month	12 x 4 years	2,006	96,288
Infrastructure engineer	Person / month	12 x 4 years	2,006	96,288

[18] For a more in-depth analysis please refer to principle 11 under ESMP, annex 3

Costs	Unit	Quantity	Cost per unit USD	Standalone fixed costs USD
Sub-Total				**764,640**
Operating costs – Office				
PMU office rent and annual utilities	Month	12 x 4 years	5,900	283,200
Regional office rent and annual utilities	Month	12 x 4 years	767	36,816
LCOs rent and annual utilities	Month	12 x 4 years	590	28,320
Sub-Total				**348,336**
Operating costs – Transport				
Transportation costs for coordinators & facilitators	Vehicle / yr	5 x 4 years	1,000	20,000
Fuel allowances PMU	Litres	7,000 x 4 years	1	28,000
Sub-Total				**48,000**
Total				**1,160,976**

94. The DiMMA project uses blended finance allowing it access different sources of funding in the form of private investments, concessional loans to the GoG, GoG co-financing and the Adaptation Fund grant. The private investments will focus on areas including equipment and productive commercial facilities and animal health; and the loans and co-financing will support value chain organisation, facilitating and incentivising private investment, supporting extension services and infrastructure. The cost-effectiveness of the partnership with DiMMA means that the Adaptation Fund will benefit from the blended finance and that the grants can be targeted where it is needed, namely in facilitating adaptive innovation, targeting activities that countries would be reluctant to take out loans for such as support the collective management of pastures.

95. As shown in table 6 below, the cost-effectiveness of the Adaptation Fund project is present throughout all the project's components and activities. It aims to create an enabling environment for a long-term sustainable approach to climate change adaptation for the pasture resources in the Imereti, Samegrelo-Zemo Svaneti and Samtskhe-Javakheti regions upon which the dairy value chain depends. It will achieve this in component one through outreach activities, demonstrations and by providing the beneficiaries with the required tools through capacity building and making use of the network of 15 de-facto PUUs mobilized and trained by the IFAD DiMMA project, it will also cost-effectively make use of community volunteers for coordination with the SPs, adding to the sense of beneficiary ownership. The beneficiaries will learn how to map and monitor the pastures as well as design and implement PMPs.

96. The project will build on this cost-effective approach to implement sustainable low-cost no-regret measures to manage the natural resources and build climate resilience into the dairy value chain, hereby increasing productivity for long-lasting results. In component one the project will also upscale and develop further the previous AMMAR project that has planted 40,000 trees for 26 km x 20 meter of windbreaks to prevent soil erosion.[19] DiMMAdapt will adopt the most efficient and cost-effective, nature-based approach through the planting of trees, fodder and general vegetative cover for pasture restoration and water management improvement, thereby increasing water retention and decreasing evaporation. The project will increase yields through the planting of climate tolerant and highly diverse plant species; manage floods with riverine vegetation to strengthen flood defences; and plant trees as windbreaks to prevent soil erosion, but also to prevent mudslides and floods. Further cost-effective

[19] Refer to Annex 4 for a summary of AMMAR achievements

measures to adapt are livestock shelters for the increased frequency and intensity of heatwaves; and fences for shade and wind breaks.

97. Ensuring local ownership is a sustainable and cost-effective approach. The project will achieve this by developing an economic-based model to conservation and climate change adaptation in component two. By empowering the target groups through economic incentives for conservation and by educating them on the positive role that a sustainable natural resource management approach can have on improving resilience and long-term productivity, the project will ensure that those who depend on the pasture ecosystem services will, out of necessity, also become its stewards. This approach is cost-effective due to the high potential for a return on investment through job creation and it will be further strengthened as the pressures on the eco-services and its climate resilience capacity are relieved as beneficiaries diversify into alternative forms of income such as beekeeping, mushroom production, greenhouses and orchards. The project will also be piloting the introduction of climate-smart technologies. The introduction of milk pre-cooling heat exchangers and solar energy will improve the quality of the dairy products while reducing production costs but also the carbon footprint of producers. The potential for replication among the community is high which helps make this a cost-effective activity.

Table 6 Table measuring cost-effectiveness through business as usual vs AF additionality

Business as Usual	Adaptation fund Additionality
Component 1: Climate-proofing pastoral ecosystem services (water management, pasture regeneration, and disaster risk reduction).	
Vulnerability of pastures: The historical climate trend has been one of longer dry periods and more intense rainfall leading to increased pasture vulnerability through increased flooding, soil erosion, mudslides and landslides that have adversely impacted the pastoral ecosystem services which the rural poor, including women, youth and the landless poor depend on for their livelihoods. Current pasture usage and management practices have a negative impact on animal productivity. It also exposes the pastures to overgrazing, land degradation and increases their vulnerability to effects of climate change. **Low productivity of dairy animals.** Under a business as usual scenario, in the absence of AF additionality funding dairy cows would continue to remain of low productivity. This is caused by factors such as inadequate feeding of dairy animals which it is shown in paragraph 33, increases their GHG emissions; reduces the fertility of dairy cows; and reduces the genetic potential of animals. This is compounded by bad management of reproduction and short lactation period. **GHG increases.** Possible increases in cattle numbers from DiMMA project.	- Awareness will be raised for 870 farmers in technological areas including improved fodder varieties, improved fodder production and conservation techniques for year-round production (silage making, for higher nutritional content, better nutrient preservation, more palatability to livestock); manure composting; the restoration of degraded pastures; water management measures; measures to mitigate against the increased prevalence of torrential rain; and the restoration of riverine vegetation. - The project will train and provide technical backstopping to the 15 PUUs as well as smallholder and progressive farmers in the designing of the climate resilient PMPs. Areas will include: • Designing of community-based pasture assessment maps; • Vulnerability assessments; annual pasture usage plans; pasture improvement plans; forage production and conservation as a means to build climate resilience; • Water management measures for pasture resilience; • Restoration of degraded pastures; • Restoration of riverine vegetation. - A baseline study will be carried out in the first year of project implementation to establish future monitoring and impact assessment benchmarks. - 1,000 ha of pastoral land will be rehabilitated, 3,800 ha managed benefitting 590 households and sequestering 152,729tonnes of CO_2 equivalent GHGs (tCO_2eq)[20]. The Adaptation Fund will support the restoration of degraded pastures; the

[20] Please refer to principle 11, section K and annex 5 for more detailed analysis.

Business as Usual	Adaptation fund Additionality
	management of torrential rain; restoration of riverine vegetation; fodder and silage production. - DiMMA cattle numbers will be monitored and management plan offsetting any inadvertent increases that would contribute to the GHG increases.
Component 2: Supporting the climate resilience of market vulnerable smallholders.	
Milk Processing. Most of the local milk (around 600M litres) is currently transformed by the farmers themselves. A very limited percentage of the locally produced milk (75 M ltrs) is processed in formal processing units with industrial processors mostly using milk powder while medium scale processors focus on cheese production that requires local milk. Without Adaptation Fund support DiMMA will promote the development of processing units without the additionality of reducing GHG through the promotion of innovative renewable energy solutions. **Income diversification.** Several macro trends, of which the most important are climate change and EU approximation, will inevitably push a number of smallholders out of - and may prevent youth from choosing or finding employment in - the dairy value chain. Adaptation Fund additionality provides for alternatives to the dairy sector for the climate vulnerable and addresses the need for a more diversified and resilient rural economy, reducing the risk of income loss at household and community levels, while also encouraging climate vulnerable smallholders to opt out of the dairy sector.	- Adaptation Fund will support awareness raising pilots for 1,283 vulnerable market dairy producers for innovative energy and money saving technologies that will reduce the GHG impact of the dairy value chain. The energy demand from instantly cooling fresh milk to 4^{o}C will be met from renewable energy sources. - 262 market vulnerable farmers will be trained and supported with grants for beekeeping equipment. - The Adaptation fund will support job creation and diversification away from the dairy sector for the smallholders through promoting mushroom cultivation and Greenhouses and orchards. The exact number will be determined on an on-demand basis and budget restrictions.

Strategic Alignment

Describe how the project is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist. [SEP]

98. Georgia is a signatory to several international conventions, including the UNFCCC, the Kyoto Protocol, and the United Nations Convention on Biological Diversity (UNCBD). These conventions have been ratified into national policies and action plans to which the project is aligned in order to build climate change adaptation and resilience into the dairy value chain and natural resources management, as described here below.

- **UNFCCC.** In alignment with the recommendations made in Georgia's Third National Communication (TNC) to the UNFCCC, the project will:
  - Reduce the risk caused by climate change such as mudflows by engaging the local population in the implementation of preventative measures to reduce the risk of mudflows.
  - Raise the awareness of the local population and local government on their role in effective implementation of measures against mudflows.
  - Support DRR through developing the monitoring capacity of local populations.
  - Promote the development of farmer's associations.
  - Facilitate of all kinds of windbreaks.
  - Introduce measures to assess and combat drought and reduced precipitation.

- Provide riverbank protection measures for reducing flood and flash flood risks;
- Promote the vegetative reclamation of abandoned and eroded lands;
- Develop a portfolio of activities to reduce risks for the development of animal husbandry in conditions of global warming (pasture management, improved animal feed).

- **National Biodiversity Strategy and Action Plan II (NBSAP II) 2014-2020.** The NBSAP II follows on from the original that was a product of the 10th Meeting of the Parties to the Biodiversity Convention. The NBSAP II defines a six-year action plan in the sphere of biodiversity protection and reasonable use of biological resources. The project is aligned through promoting stabilised ecological systems, natural habitats, species, endemic/native varieties and breeds, through the implementation of in-situ and ex-situ conservation activities; raising public awareness on the value of the country's natural heritage and the importance of its preservation for future generations; promote sustainable practices applied in agriculture, that minimise the impact on biodiversity, maintaining the wildlife of farmlands and the rich agrobiodiversity of the country, whilst contributing to the welfare of local communities.
- **National Gender Action Plan (NGAP) 2018-2020.** The NGAP follows on from the 2016-2017 action plan and the relevant goal to the project is to increase participation of women at decision making level. The project will be aligned through the promotion of at least 30 percent women participation throughout all activities and in decision making processes. Young women will be further encouraged together with their male counterparts by setting the youth gender ceiling at 40 compared to their male counterparts. This has been done to ensure a greater level field as women are faced with more family responsibilities that keep them out of the labour market. The patriarchal biased system also discriminates against women whereby they are paid less on average.
- **Climate resilient poverty alleviation.** The project is aligned with the GoG programme operated by the ACDA, and the APMA, to alleviate poverty and boost production. The ACDA and APMA collectively operate grants aimed at inter alia beekeeping and dairy production through Agricultural Cooperatives, offering matching grants for purchasing dairy production equipment with special programs targeted at dairy processing and pasture management. Also, Enterprise Georgia facilitates private sector development, offering financial and technical assistance to SMEs. It facilitates access to finance by bank loan interest rate subsidies and partial collateral guarantee of new investments. The Adaptation Fund will support the promotion of climate change adaptation and reduce stressors on pasture eco-services in line with national programmes for poverty alleviation and productivity improvement ensuring long-term sustainability.
- **Agricultural Development Strategy (ADS) 2017-2020.** The Ministry of Environmental Protection and Agriculture (MEPA) through the ADS aims to improve food security by monitoring the food security situation in-country and providing support to subsistence farmers to reduce their risk; by supporting further commercialization of the agriculture sector and facilitating increase of income from farm wages; by raising the level of food self-sufficiency in Georgia. DiMMAdapt is in alignment with the 20 basic recommendations developed by MEPA on food security and nutrition, and the Food Security Bill, submitted to Parliament in July 2017 and that further reinforces the Government's commitment towards these issues.

Standards

Describe how the project meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

99. As an integral part of the IFAD DiMMA project, the Adaptation Fund financed component is the result of IFAD's Social and Environmental and Climate Assessment Procedures (SECAP) screening process. Moreover, all IFAD supported projects are appraised before approval. During appraisal, appropriate experts and stakeholders ensure that the project has been designed with a clear focus on agreed results. The appraisal is conducted through the formal meeting of the Quality Evaluation Committee established by IFAD. The committee members are independent in that they should not have participated in the formulation of the project and should have no vested interest in the approval 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. The project also adheres to the Social and Environmental Policy of the Adaptation Fund.

100. The project will not need to comply with any national technical standards such as for environmental assessment, building codes, etc. It will furthermore respect and adhere to the national laws and codes of the GoG, in particular the project will comply with the following GoG 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.
- **Gender Law** (No. 2394 2 May 2014). This Law ensures that there is no discrimination in any aspect of life, creating the proper conditions for the realisation of equal rights, freedoms and opportunities for men and women and prevent and eliminate any discrimination. The project will be aligned with this law through its gender targeting strategy that will set a minimum 30 percent target of women participation. The definition of youth will also be set at 40 for women and 35 for men so as to create a more level field for women who often have to opt out of economic activities due to their responsibilities for childcare.
- **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, DiMMAdapt 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 the endangered plant species; regulating harmonized interrelations between these components. The project will ensure adherence to the forest code through the design and development of the PMP's that will promote the conservation and regeneration of natural landscapes used as pastures, including forests.
- **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 DiMMAdapt project, this will be achieved in multiple approaches including through awareness raising demonstrations, training, the development of PMPs to ensure pasture and fodder conservation, increased productivity but also DRR with reduced flooding, mudslides and general land degradation.

Duplication

Describe if there is duplication of the project with other funding sources, if any.

101. Following in-country consultations the project design missions verified that there is no risk of duplication with other projects or programmes. The AF project is a result of a thorough national assessment of the climate change adaptation needs and recommended course of action, that have been presented in the

Climate Change National Adaptation Plan (CCNAP). The CCNAP was a product of the IFAD / GEF project Enhancing Resilience of Agriculture Sector in Georgia (ERASIG) that built climate change resilience into IFAD's preceding project: the Agriculture Modernisation, Market Access and Resilience Project (AMMAR). The needs assessment process from these IFAD and GEF projects and the detailed analysis of the synergies and potential overlaps with other projects, as displayed in the table below, shows that the majority of the projects and initiatives have either already been completed or do not overlap geographically with the project area of intervention. Drawing lessons learned from thematically relevant projects in different regions to the DiMMA / DiMMAdapt, is challenging as the climate modelling predicts that each region in Georgia will be impacted differently by climate change.

Table 7 Comparative and synergies table with other projects and partners.

Other Projects / Partners	Summary	Geographic overlap with proposed project area of intervention	Synergies with the proposed project.
IFAD / GEF-SCCF (USD 5.3m) "Enhance Resilience of Agriculture Sector in Georgia (ERASIG)". 2015 – 2018	The project aims to enhance the adaptive capacity of farmers to climate risks through resilient agricultural systems.	National project with regional overlap in all regions: Imereti, Samegrelo-Zemo Svaneti and Samtskhe-Javakheti	Improving water availability and smallholders' income through investments in climate-resilient systems and technologies. Although no overlap in the type of technologies.
IFAD / GEF / MoA / Ministry of Environment and Natural Resources Protection. Climate Change National Adaptation Plan (CCNAP) for Georgia's Agricultural sector. 2017	A knowledge product of the IFAD/GEF ERASIG project providing climate change impact analysis and recommendations for the Pasture ecosystem services, the livestock farming sector and other agricultural products.	Positive overlap with all regions: Imereti, Samegrelo-Zemo Svaneti and Samtskhe-Javakheti	The activities of DiMMAdapt are based on the recommendations by the CCNAP on building climate resilience into Georgia's pastoral ecosystems and livestock farming sectors.
EU-funded and implemented by UNDP (USD 1.4m) "Sustainable management of pastures in Georgia programme" 2013 – 2016	Restoration of 4000ha of degraded pastures. Pilot farms established to demonstrate sustainable pasture management. Establishment of veterinary service for 30,000 sheep.	No regional overlap	
SDC funded (CHF 5m) programme "Market Opportunities for Livestock Innovators (MOLI) 2011-2018	Reduction of rural poverty by using a Making Markets Work for the Poor (M4P) approach in livestock, milk and meat sectors.	No regional overlap	The programme worked with veterinarians, artificial insemination providers, feedstuffs, fodder, seeds, fertilizer and other supporting functions in the market system, and milk processors.
EU-funded and implemented by World Vision (USD 0.8m) "Economic development for IDPs in Georgia" 2010-2012	10 demonstration plots established for beekeeping, soil farming and animal husbandry. 10 demonstration plots for food processing facilities.	No regional overlap	The use of demonstration activities to promote beekeeping and food processing facilities.

Other Projects / Partners	Summary	Geographic overlap with proposed project area of intervention	Synergies with the proposed project.
DANIDA-SDC (CHF 11m) "Rural Economic Development in southern Caucasus" (RED) 2012-2017	Strengthen the Potato and Dairy Value chains through the introduction of modern technologies, business practices, marketing tools, public awareness/promotion and internationally-recognized quality standards in order to enhance the financial viability of the potato and dairy/livestock sectors, increase incomes	Samtskhe-Javakheti	The project introduced modern dairy technologies to contribute to economic development.
EU (EUR 102 million) "European Neighborhood Programme for Agriculture and Rural Development" (ENPARD) 2013-2020	Main goal is to reduce rural poverty. Programme assistance is provided to the government and also to NGOs working directly with communities on the ground.	Country-wide programme	Poverty reduction.
EBRD Implemented by UN Food and Agriculture Organisation - FAO (USD 5m) "Improving food safety in Georgia's dairy sector" 2016-2017.	The central component of the programme is training and knowledge transfer to farmers in the dairy sector including encouragement of investments to the sector.	No regional overlap	Training and knowledge transfer to farmers in the dairy sector and encouraging investment.
GoG Agricultural Cooperatives Development Agency (ACDA)	Supports cooperatives through inter alia grants and subsidies for improving and increasing milk and dairy production, streamlining milk collection and processing, upgrade quality of milk and dairy products, cattle breed improvement. Provides capital investment and technical assistance to agricultural cooperatives for equipping them with modern milk collection and processing infrastructure; for purchasing laboratory equipment to control raw milk and necessary equipment for artificial insemination to improve breeds.	Country-wide	Supporting farmers with technological upgrades for improved milk collection, processing, technical assistance and artificial insemination for improved breeds.

Learning and Knowledge Management

If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

102. Learning and knowledge management are integrated throughout the project from its inception. The project is based on a knowledge product of the IFAD/GEF ERASIG project: The Climate Change National Adaptation Plan. The CCNAP analysed and produced recommendations on the impact of climate change inter alia on both pastures and on livestock farming. The sustainability of AF investment rests on capacity building provided by the SPs in training de-facto PUUs in pasture assessment and mapping and management, forage production and conservation. As a result of this learning, the project will generate knowledge through the designing of community-based pasture assessment maps, vulnerability assessments, annual pasture use plans, pasture improvement plans and ultimately the Pasture Management Plans. The project will also actively engage in outreach activities through

demonstrations that will increase awareness, these will be in: (i) fodder production; (ii) fodder conservation techniques; (iii) manure management; (iv) energy-saving, climate-smart pilots; and (v) collective pasture management. The outreach staff will comprise 30 percent women to ensure that the women's perspective is adequately upheld and promoted and that women beneficiaries do not feel excluded

103. DiMMAdapt will benefit from the cost-effectiveness of being fully integrated with DiMMA and the knowledge management component thereof, that will be managed by the M&E officer as part of the DiMMA KMS. The KMS for DiMMA will be further defined in IFAD's Project Implementation Manual (PIM), but will include the knowledge material generated from DiMMAdapt. These will include the CCA and gender awareness raising leaflets and visual learning material that will be produced as part of the demonstrations under component 1. They will be distributed widely among the participants as well as at DiMMA stakeholder platforms comprising representatives of all types of cluster stakeholders including beneficiary farmers, processors and service providers who meet the eligibility criteria of the DiMMA programme, in particular young people and women. Additionally, the M&E officer will also oversee the completion of the impact assessment at the end of the project cycle that inter alia will also collect stories, lessons learned and best practices for future upscaling.

104. The results, lessons learned and best practices generated from DiMMAdapt will have an enhanced impact as they will contribute directly to the DiMMA national dairy policy dialogue forum through the Ministry of Agriculture (MoA). This will bring together representatives of Government, producers, Georgian Farmers' Association; national level service providers; processors, research institutions; NGOs and donors - and the costs of which will be supported by DiMMA. The forum will promote an innovative nationwide dialogue for better regulation of pastures and rangeland ecosystems but also crucially, for the development of a Climate Change Adaptation strategy for the livestock sector – if accepted by the government, policy topics will include climate change adaptation/mitigation, gender awareness raising, disaster risk reduction and environmental sustainability.

Consultative Process

Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

105. The design of the DiMMAdapt and DiMMA projects happened over the course of two design missions, the first one in October 2017[21] and the second in March 2018. The eleven-strong team of IFAD specialists and consultants met with stakeholders at national, international and beneficiary levels. These included representatives from the Department of External Relations, Ministry of Environmental Protection and Agriculture (MEPA), Ministry of Finance (MoF), and Ministry of Regional Development, municipalities and local government.

106. The project design team had a gender specialist that implemented a gender and youth sensitive consultative approach and the design team's schedule (including a gender specialist) was arranged around communities' needs at times of day they suggested. The project proposal was developed through a gender and youth sensitive participatory approach and the field survey focus groups assisted the development of interventions and the activities were designed based on local community concerns.

107. The team met and discussed with inter alia a broad selection of women groups (presented in Annex 2), international donors and development partners: the European Bank for Reconstruction and Development (EBRD), the Swiss Agency for Development and Cooperation (SDC), the Swedish International Development Cooperation Agency (SIDA), the French Embassy, the Food and Agriculture Organization (FAO), the United Nations Development Programme (UNDP), Mercy Corps, the Cooperative for Assistance and Relief Everywhere (CARE), the EKS-HEPER and Oxfam. While in field in rural Georgia, the team visited and met with large and medium/small-scale dairy processors, commercial banks and microfinance institutions, service providers, farmer cooperatives/producer associations and smallholder farmers (see figure 8 below for the locations visited in the 3 regions of the project).

108. During the course of the field visits' interviews, many smallholder farmers mentioned that they face difficulties in accessing credits resources either because they consider them to be very expensive (28 percent interest rate for micro finance loan), they lack appropriate collateral, or they have difficulty with submitting all required documentation. Women and young people face specific challenge accessing loans, since banks' collateral requirements are high and due to the patriarchal traditions, especially in

[21] List of persons met available in Annex 2

rural areas, mostly male heads of households are holders of property, and permission would be required to pledge these assets as collateral, which is often not possible to obtain. These concerns have been integrated into the DiMMA design of which the AF funded pasture grants will be part of.

109. **Free, Prior and Informed Consent (FPIC) [22] and do no harm principles.** The consultative process during design and implementation has and will follow the FPIC and do no harm principles. Adherence to the FPIC principle needs to be assured before supporting any development intervention that might affect the land access and use rights of communities, IFAD will ensure that their free, prior and informed consent has been solicited through inclusive consultations based on full disclosure of the intent and scope of the activities planned and their implications.

110. The project will also adhere to the “do-no-harm principle” at all times. A broad range of development interventions, particularly those concerned with agricultural intensification, such as irrigation or technology-based agricultural production, and those focused on afforestation or rangeland management, effectively add value to land. Under such circumstances, there may be the risk that the rural poor, especially women, may lose out to more powerful groups. The project must be designed and implemented in such a way that it ‘does no harm’ to the land tenure interests of the rural poor, especially those of women, other vulnerable groups. Careful measures will always be considered to avoid elite capture or forced displacement of people, and to address conflicting claims.

Figure 8 Diagram of locations visited by IFAD and AF design team.

Justification for Funding

Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

111. This project functions as additional climate adaptation financing to build resilience to climate change variability into the IFAD baseline dairy value chain investment. It aims to promote a shift away from the baseline scenario characterised by an over-dependency of the dairy value chain on pasture eco-services that are in turn being degraded both by direct anthropogenic pressures as well as those from an increasingly variable climate. The table below outlines the baseline and the alternative adaptation scenario, the Adaptation Fund will help materialise.

[22] Adapted from UN Permanent Forum on Indigenous Issues (UNPFII), 2005, Report on the International Workshop on Methodologies Regarding Free, Prior and Informed Consent and Indigenous People

Table 8: Table showing the baseline and alternative project benefits.

Baseline scenario	Alternative Adaptation Benefits of Adaptation Fund Project.
Increased periods of drought. Significant decreases of overall annual rainfall have already been observed at local level in most of the municipalities. 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. 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 due to a high concentration of animals. In conditions of water scarcity, milking productivity decreases by 22.5 percent. Under normal conditions milking produces 3.2 litre per day, while in periods of reduced water this is reduced to 2.5 litre/day. A general decrease in rainfall also causes the drying out of grassed and resulting pasture degradation.	The project will equip the PUUs with the knowledge and technical capacity to sustainably assess, monitor and manage the pastures through the designing and implementation of the Pasture Management Plans. Through the PMPs the project intends to adapt to the changing climate and mitigate against any adverse impact of reduced precipitation and increased temperatures. These will include the construction of shade points to provide relief for the livestock as well as the improved drainage for soil water retention. The project will also pilot new resilient fodder plant species, including highly resilient and diverse native plant species tolerant to drought, fodder conservation, and silage techniques that will increase the productivity of the pastures. The project will also address the threat that climate change poses to milk production, through the promotion of climate-smart technology pilots. The milk pre-cooling heat exchanger pilots will increase the quality of the milk produce offsetting reductions in production, but also come with environmental cost-effective and sustainable benefits. The energy requirements will be met through renewable solar power which will reduce the carbon footprint.
Increase of torrential rain and flooding. Research shows a significant increase in heavy rainfall events (>50mm/day) during summer season for the period 1981-2016 in the 4 regions of the programme. The impact on the steep slopes of the Alpine pastures, means that the area is affected significantly by topsoil erosion and denudation causing decreased meadow/pasture productivity.	Through the design and implementation of the PMPs, the project will promote a DRR approach to reduce soil erosion, the risk of flooding and mudslides. This will be achieved through cost-effective and no regret nature based measures. The PUUs will be equipped with the tools to assess, monitor and implement PMPs that will include the planting of bushes and trees to protect against soil erosion and function as barriers against storms and high winds, they also serve as a possible source of by-products such as fruit, berries, fodder and wood. River flood waters will be managed through the restoration of riverine vegetation as barriers against floods, to reinforce river banks and function as sources of fodder.
Climate change impact on livestock. Changing climatic conditions will affect the high-productive breed of livestock, rather than indigenous species. The high productive species will be more susceptible to permanent nonspecific factors of resistance such as: the protective ability of the skin mucous membranes; the protective ability of normal microflora; phagocytosis and barrier function of a lymphatic system; humoral factors (lysozyme, complement, normal antibodies and others); Physiological factors (temperature, changing processes, and metabolism).	The DiMMA project will strengthen the adaptive capacity of the livestock to the increasingly variable climate. This will happen by supporting a programme of AI and crossbreeding of rustic breeds of cows resilient to climate shocks. The breeds being introduced are better suited to the local climate and suffer fewer complications from increasingly hotter climate and will increase the productivity of the pastures. The implementation of the DiMMAdapt ESMP will ensure that awareness is raised about the impact additional livestock have on GHG emissions and climate change.

Baseline scenario	Alternative Adaptation Benefits of Adaptation Fund Project.
Pressures on pastures. Sub-Alpine fields have been subject to increased grazing due to increases in population, putting added pressure on soils already degraded because of overgrazing and increased topsoil erosion. The high mountain pastures are also under significant overgrazing stress. They are overloaded with cattle and goats causing added erosion and degradation of grass cover. Elementary plot-substitutive grazing regimes are not being followed and there are no pasture assessment and management mechanisms in place.	The project will address the overgrazing pressures by supporting the training of PUU's in pasture assessment and management. These will contribute to the comprehensive PMPs being implemented by the DiMMA project and will include areas such as vulnerability assessment, livestock inventory, pasture assessment map, annual pasture use plan and map, pasture improvement plan and infrastructure improvement plan. The project will promote initiatives to manage the pressure stressors weighing on the pastures. It will achieve this through dual approach of piloting economic incentives to encourage the market-vulnerable smallholders not to depend on the pasture eco-services. The pilots will include beekeeping, mushroom growing, greenhouses, and orchards. By introducing fodder conservation and diversification pilots, the project will also improve the productivity of the pastures, thereby reducing the overgrazing pressures. A significant by-product of the expected outcomes of the project in the rehabilitation of 1,000ha and improved management of 3,800 ha of degraded pastures is the sequestration of carbon. As detailed in principle 11 of section K and in annex 5, the AF funds will contribute to the sequestration of 152,729 tonnes of CO_2 equivalent GHGs (tCO_2eq) during the project cycle. As a measure of impact, even a worst-case scenario increase of 1,000 cattle would only contribute 3,230 tCO_2eq/year. While increases in cattle is not the objective, the pasture rehabilitation provides robust mitigation against any unintended increases in cattle numbers as a result of DiMMA.

Project Sustainability

Describe how the sustainability of the project outcomes has been taken into account when designing the project.

112. The project is based on, and is driven by, sustainability principles that are promoted throughout the project activities. The project's sustainability rests on beneficiary empowerment through: awareness raising; capacity building; economic incentives and job creation; cost-effective and environmentally friendly and long-lasting solutions to help restore, improve and/or protect the pasture eco-services; pilot projects for climate-smart technologies; and promote alternative forms of non-extractive income generating activities to build climate resilience to a climate event. The project long-term sustainability is ensured through the alignment of its activities to national programmes offering grants, subsidies, facilitated bank loan interest rates, collateral guarantees aimed at the activities promoted in the DiMMAdapt project.

113. Component one is rooted in the community through supporting the SPs to train beneficiaries and provide technical backup on how to design and implement the community-based Pasture Management Plans, including on how to develop pasture assessment maps; vulnerability assessments; annual pasture use plans; pasture improvement plans; forage production and conservation plans. The 15 PUU's will be given the tools and increased awareness on the importance of sustainable pasture ENRM towards building resilience to an increasingly variable climate and that this will provide a sustainable productivity improvement. The activities to be implemented by the PUUs will be based on cost-effective and sustainable no-regret nature based solutions through the planting of trees, bushes, fodder diversification and conservation, fences and general vegetative cover. These will provide sustainable solutions towards pasture restoration, water and fluvial management, to mitigate against increases in

the number and temperature of hot days, increase in periods of drought, flooding, soil erosion and mudslides.

114. Component two focuses on developing a sustainable economic-based model to conservation and climate change adaptation. This will be achieved through creating jobs for the market-vulnerable smallholders that that don't depend on the pasture eco-services thereby relieving pressure on the pasture eco-services such as beekeeping, mushroom farming, and greenhouses and orchards. The project will also pilot climate-smart milk precooling heat exchangers, that will improve milk production and quality and is more environmentally-friendly than traditional methods. Solar power will also be introduced, all of which is both environmentally sustainable but also sustainable in the long-run as the likelihood of future adoption by producers is high.

115. The project exit strategy will be ensured through the sustainability of the project as farmers learn of the benefits of sustainable pasture management by seeing the impact in improved productivity through pasture rehabilitation and sustainable management. Equally as the market driven approach allows farmers to function independently, they will out of self-interest, provide essential self-reinforcing and lasting results. Policy actions emerging of the policy dialogue taking place through the DiMMA project will further strengthen sustainability.

Environmental and Social Impact Risks

Provide an overview of the environmental and social impacts and risks identified as being relevant to the project. [T SEP]

116. Much of the DiMMAdapt project has been based on the thorough national climate change adaptation assessment that resulted from the previous IFAD Agriculture Modernisation, Market Access and Resilience Project (AMMAR). As such, the project is fully aligned with the climate change needs and priorities of Georgia. Furthermore, the project has also benefitted from two environmental and social screening reviews. Firstly, the IFAD Social Environment and Climate Assessment Procedures (SECAP) ensured that the DiMMA project meets IFAD's environmental and social considerations by building environmental and social safeguards into the larger project through DiMMAdapt. Secondly, the DiMMAdapt project has also been screened against the fifteen Adaptation Fund Environmental and Social Principles (ESP) as well as an Environmental and Social Management Plan (ESMP) having been designed and fully integrated into the project.

117. The environmental and social screening overview presented in the table below shows that there are low to negligible risks related to the DiMMAdapt project. It recognises that there could be some risks related to increases in cattle numbers, but these have been addressed and integrated into the IFAD DiMMA project activities ensuring DiMMA and DiMMAdapt will not cause increases in GHG emissions. The risk assessment and management plan are detailed in section III - ESP 11 and section IV of the ESMP in annex 3. The project has been categorised as a category B project as some minor risks have been identified and mitigation measures proposed. The assessment was also not able to determine the risks for ESPs 9,10 and 14 as the project sites have as yet not been defined. Section III and IV of the ESMP outline the management plan in place to ensure the risks are correctly identified and appropriate mitigation measures put in place.

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
ESP 1	**Compliance with the law positive impact:** The project complies with all national relevant laws, regulations and technical standards. In the absence of national standards, the project will apply internationally recognized standards.		Not needed
ESP 2	**Access and equity positive impact:** The project design supports equal access to training and services, taking especially into account marginalised and	- Project planning and designing is done in consultation and agreement with vulnerable groups.	Not needed

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
	vulnerable groups, namely women and youth.	- The project will ensure the selection process will be conducted without discrimination nor favouritism. It will focus on targeting the most vulnerable categories in society with quotas ensuring women participation across all activities as well as youth participation. The project will also directly target those climate vulnerable regions that are identified as being inhabited only by rural poor smallholder farmers.	
ESP 3	**Marginalised and vulnerable groups positive impact:** The project specifically targets marginalised and vulnerable groups with an integrated gender and youth approach, who will benefit from climate-resilient investments.	- The project will set quotas of 30 percent for women participation as well as define young women as being up to 40 years old compared to 35 for men. This is designed to enhance female participation by creating a more level field as women are burdened with family responsibilities and consequently miss out from valuable years of work experience. - Youth participation will be ensured through 50 percent participation in the PUUs and 100 percent in FLSPs. - DiMMAdapt will ensure that it includes marginalised groups, such as IDPs and ethnic minorities addressing their specific needs and using appropriate outreach approaches, such as elaboration of programme materials in other languages, organizing information delivery to these groups. There will be specific efforts made in undertaking effective outreach efforts to increase awareness and disseminate information among these groups on Programme's benefits and opportunities. - The policy and legislation development supported by DiMMA will ensure that all have fair and equitable access, as well as protected rights to these natural resources; that IDPs, ethnic minorities, women, youth and other vulnerable groups have	Not needed

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
		representation or voice in decision making on allocation of pasture use rights.	
ESP 4	**Human rights positive impact:** The project is designed to respect and adhere to the requirements of all relevant conventions on human rights. IFAD is committed to support borrowers in achieving good international practices by supporting the realization of United Nations principles expressed in the Universal Declaration of Human Rights and the toolkits for mainstreaming employment and decent work.	- The project is designed to respect and adhere to the requirements of all relevant conventions on human rights. - Any human rights violations will be reported by AF staff.	Not needed
ESP 5	**Gender equality and women's empowerment positive impact:** The project will have specific gender targets and budget allocations, service providers with 30 percent women staff to ensure outreach to women and integrate gender aspects in all reports. The project will have an approach to encourage the inclusion of women and specific targets have been identified for them. The identification of assets, skills training and enterprise development would be designed to address opportunities of relevance for women.	- At least 30 percent of beneficiaries will be women. Women will also be considered young until 40 years of age (35 for men) to create a more level field in the labour market and compensate for family responsibilities and discrimination. - The social inclusion strategy of DiMMAdapt aims to empower vulnerable women, youth and men smallholder farmers by expanding their economic opportunities, access to climate resilient technologies and technical knowledge in agriculture to better adapt to the challenges of climate change, and through the IFAD project, also to access youth and gender targeted credit. - Implementers will be sensitised to the strategic interests and needs of smallholder farmers, women and youth; direct targeting through quotas to ensure participation in project–related activities for women, youth and smallholders; appropriate mobilization and operational measures to address specific constraints faced by women, youth and poorer smallholder farmers; geographical targeting through selection criteria which prioritize youth, women and small-holder farmers and entrepreneurs from climate vulnerable and poorer areas of Moldova.	Not needed

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
ESP 6	**Core labour rights positive impact:** Relevant national labour laws guided by the ILO labour standards will be followed throughout project implementation. Employment creation enabling marginalized and vulnerable groups including unemployed youth and women to raise their income.	- Activities under project will create employment enabling marginalized and vulnerable groups including unemployed youth and women to raise their income. - The relevant national labour laws guided by the ILO labour standards will be followed throughout project implementation. - Positive discrimination in favour of women will be used to provide fair and equal opportunity to women who seek employment as labour and gain from wages earned. - The project will not engage child labour in any of its activities. The prohibition of child labour will be part of the agreement with the beneficiaries and will be a non-negotiable provision of the agreement.	Not needed
ESP 7	**Indigenous peoples: Not applicable**		
ESP 8	**Involuntary resettlement: Not applicable** The project does not involve any involuntary resettlement.		
ESP 9	**Protection of natural habitats positive impact:** At project design the project is not able to determine the project areas and conduct a full risk assessment.	- Project activities are designed to not negatively affect any natural habitats. For each affected critical natural habitat in the project areas (if any), the PMU will provide an analysis on the nature and the extent of the impact including direct, indirect, cumulative, or secondary impacts; the severity or significance of the impact; and a demonstration that the impact is consistent with management plans.	Through the ESMP the project will identify if any protected natural habitat areas will be included in the project zones. In the unlikely event that this may be the case, the project will describe the location of the critical habitat in relation to the project and if absolutely necessary explain why it cannot be avoided, as well as its characteristics and critical value.
ESP 10	**Conservation of biodiversity positive impact:** At project design the project is not able to determine the project areas and conduct a full risk assessment.	- The PMU will identify and exclude protected areas as detailed in Principle 9 and will furthermore only utilise ingenious species, hereby mitigating any risk of species invasion.	Through the ESMP the project will identify if any protected natural habitat areas will be included in the project zones. In the unlikely event that this may be the case, the project will describe the location of the critical habitat in relation to the project and if absolutely necessary explain why it

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
			cannot be avoided, as well as its characteristics and critical value.
ESP 11	**Climate change positive impact.** DiMMAdapt will not have any negative impact on climate change. There may however be a risk associated with DiMMA that cattle numbers could inadvertently increase as a result of the AI programme and improved access to marketing facilities and improved pastures. These could contribute to increases in GHG emissions. However, monitoring and response measures are in place should this be observed, and the sink effect of pasture restoration largely offsets this risk.	- While DiMMAdapt will not contribute to the activity related to artificial insemination, there is a small risk of inadvertent increases in cattle numbers by DiMMA. DiMMAdapt has developed a EMSP (in output 1.2.2 and ESP11 in annex 3) to monitor and report on any changes in GHG emissions and take corrective action should they be seen to increase.	The APMA will monitor pasture herd numbers and will record any eventual increases and report to the PMU on a quarterly basis. The FSA will verify and report to the PMU on a quarterly basis The climate change focal point will work in close collaboration with the DiMMA M&E officer to ensure that the M&E framework correctly records the data received both from the cattle numbers and liaises with GHG research institute GHG balances will be calculated . The project will report both biannually for the progress reports, as well as annually in the PPR to the AF. It will report on: overall cattle numbers and annual increase; and the net GHG levels and in the unlikely event that cattle numbers and their respective net GHG emissions may increase; the planned course of action to be taken as part of the PMP designed by the PUU to offset GHG increases.
ESP 12	**Pollution prevention and resource efficiency positive impact:** The project will not add to pollution problems. It inter alia promotes the minimisation of fertiliser use and also manure composting to minimise waste.	The project will act as a considerable carbon sink and it will furthermore promote improved pastures as a source of further reducing GHG emissions per cow.	
ESP 13	**Public heath positive impact:** DiMMAdapt will have a positive contribution to public health as healthier, more resilient pasture ecosystems have positive impacts on health, by supporting livelihoods and local economies, improved diets, food security and reduced vulnerability to climate shocks.	No risk to public health resulted from the screening for determinants of public health in the EMSP in annex 4. It covered: income and social status; education; physical environment; social support networks; health services; land use; unsustainable farming; and water.	Not needed
ESP 14	**Physical and cultural heritage positive impact:**	The project will ensure whether there will be any national cultural	Through the ESMP the project will identify if any

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
	- At project design the project is not able to determine the project areas and conduct a full risk assessment.	heritage sites in the project areas and propose measures to avoid any alteration, damage, or removal of physical cultural resources, cultural sites, and sites with unique natural values.	national or cultural heritage will be included in the project zones. In the unlikely event that this may be the case, the project will describe the location of the of the heritage in relation to the project and if absolutely necessary explain why it cannot be avoided and what measures are being taken to minimize negative impact.
ESP 15	**Lands and soil conservation positive impact:** The project will promote soil conservation and the avoidance of degradation of pasture lands.	No negative impacts on lands and soil conservation have been associated with the project.	

Grievance and Redress Mechanism

119. The proposed project will utilize the existing IFAD's grievance mechanism to allow those affected to raise concerns that the proposed project is not complying with its social and environmental policies or commitments. The consultative process with the community and beneficiaries aims to ensure prevention of grievances that might arise from the project activities. However, if there are any grievances, the below redressal mechanism is proposed:

    i. Grievance redressal mechanism would be shared with the community during the project inception workshop and subsequent meetings with the beneficiaries

    ii. As part of the grievance redressal mechanism, the contact details of the project partners - Cluster Coordinator/ Project Manager would be made available to stakeholders including project beneficiaries and the community. Contact numbers would be displayed at common or predominant places along–with the project details. This is expected to promote social auditing of project implementation. The grievance mechanism will be available to the entire project intervention areas. However, the functionality of the mechanism rests with the beneficiaries considering that the project including the grievance mechanism is envisaged to be a bottom up approach.

120. Eligibility criteria to file a complaint for alleged non-compliance with IFAD's Social and Environmental Policies and mandatory aspects of its SECAP IFAD will consider only complaints meeting the following criteria:

    i. The complainants claim that IFAD has failed to apply its social and environmental policies and/or the mandatory provisions set out in SECAP.

    ii. The complainants claim that they have been or will be adversely affected by IFAD's failure to apply these policies.

    iii. 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.

    iv. Complaints from foreign locations or anonymous complaints will not be taken into account.

    v. Complaints must concern projects/programmes currently under design or implementation. Complaints concerning closed projects, or those that are more than 95 per cent disbursed, will not be considered.

121. Grievances are aimed to be addressed at the field level by the project team which will be the first level of redressal mechanism. If the grievance is not resolved at the field level, it will be escalated to the PMU and then to IFAD who will be responsible for addressing grievances related to violation of any of the provisions of Environmental and Social Policy of the Adaptation Fund. All grievances received and action taken on them will be put up before the PMU and Steering Committee meetings and will also be included in the progress reports to the NIE for reporting and monitoring purposes.

122. In all cases, if the complainants disagree with IFAD's response, they may submit a request to SECAPcomplaints@ifad.org and request that an impartial review be carried out by the Office of the Vice-President. The Office of the Vice-President will decide on the steps to be taken to examine such complaints, including, if necessary, contracting external experts to review the matter. The complainants will be informed of the results of the review. IFAD will include in its Annual Report a list of received complaints and a summary of actions taken to address them.

PART III IMPLEMENTATION ARRANGEMENTS

- Implementation Arrangements

Describe the arrangements for project implementation.

123. **The implementation** of the project will build on IFAD's existing project coordination and management structure that is currently implementing five projects for a total value of USD 119.1 million. The Adaptation Fund project aims to build climate resilience into the IFAD's USD 59 million Dairy Modernisation and Market Access Programme and is fully integrated into the DiMMA project management structure. The MEPA will be the lead executing agency through the Programme Management Unit (PMU) established in the MEPA Department of External Relations which manages IFAD and World Bank funded projects. The Ministry of Finance (MoF) will act as the official Representative of Georgia as the Borrower/Recipient in this capacity the MoF will be responsible for: (i) providing inter-agency coordination when required; (ii) fulfilling the government fiduciary oversight and management responsibilities; and (iii) providing sufficient counterpart contribution in a timely manner to finance the Programme activities (where agreed).

124. **The programme structure.** The project will commence implementation in the second year vis-à-vis DiMMA's schedule. It will comprise the PMU in Tbilisi that will be responsible for day-to-day management and implementation of programme activities, covering overall management / supervision, fiduciary aspects, procurement, monitoring and evaluation. The Regional Office (RO) located in Kutasi will operate from rented premises and be responsible for technical backstopping, implementation support and supervision of the activities of the Local Coordination Offices (LCOs) in each region. It will also supervise the activities of the SPs and ensure the technical adequacy of the inputs provided by the Service Providers. LCOs will be based in each of the three regions and will support the implementation of DiMMA / Adaptation Fund project activities at the local level. The LCOs will work closely with municipal staff, both administrative and technical, in step with Georgia's unfolding decentralisation process – it will especially emphasise the downward accountability of public service providers, and of private service providers contracted by the programme. Wherever possible, the LCO will be housed in the municipality or other government premises. Where required they will operate from rented premises and will be resourced by DiMMA.

125. The SPs hired by the project will be vetted as competent individuals, consultancy firms, NGOs, government organisations and commercial Dairy enterprises. They will provide technical services such as training capacity building and implementation support such as conducting Training of Trainers (ToTs) for field facilitators and train PUUs in developing and implementing PMPs. The volunteers / field facilitators will be a pool of young graduates hired in each of the regions to facilitate programme implementation and they will be capacitated through training by the SPs. While the CBSPs will mainly concentrate their inputs on the processors and service providers the field facilitators will concentrate on the training capacity building and implementation support to the market vulnerable dairy producers. As and when required, the programme will hire the field facilitators from the pool of professionals trained for this purpose based on their past performance and availability.The National Agency of Sustainable Land Management and Land Use Monitoring (LA) within the Ministry of Environmental Protection and Agricultural (MEPA), which is the executing entity of the project, will be coordinating the activities under Output 1.1.2 on identification, surveying, and registration of pastures in selected areas. It will be capacitated with the required equipment and field vehicles and will have its own budget for operating expenses to carry out the project activities.

126. The Land Agency (LA) will be instrumental in supporting the project by utilizing its institutional structure, technical expertise, and resources. As a state institution responsible for land resource management and monitoring, LA's administrative, financial, procurement, and legal departments will contribute to the project's success. LA's extensive experience in land inventory, gained through its work on windbreaks, will be directly applicable to pasture identification and inventory, including the preparation of methodology, setting categorization criteria, and creating an action plan. The agency's ongoing work on national land-use and land-cover maps will aid in identifying pasture areas, and its existing equipment, procured under a World Bank-funded project, will provide the necessary tools for mapping and surveying, helping to reduce costs. Additionally, LA will support fieldwork by coordinating transportation, offering to manage additional vehicles if two cars are purchased by the project are not

sufficient, and will also provide office space for project consultants, fostering close collaboration within the institution.

127. IFAD will supervise the project directly and the IFAD PMU will provide continuous back support and guidance. A baseline study will be carried out in the first year of project implementation to establish future monitoring and impact assessment benchmarks. A Mid-Term review will be carried out jointly with the government to evaluate project progress, identify areas for further improvement and revise project approach, activities and budgets on the basis of MTR findings.

128. **Gender.** DiMMAdapt will be overseen by the Project Management Unit (PMU) gender focal point. The Ministry of Environmental Protection and Agriculture (MEPA) is the lead executing agency through the PMU. The gender focal point at the PMU will ensure that gender aspects are reflected in monitoring and evaluation principles that will ensure gender disaggregated data and knowledge will be produced. It expected that the PMU focal point would dedicate approximately 50 percent of her/his workload to tackle gender-related management aspects in programme implementation. Moreover, a gender perspective will be systematically mainstreamed at individual and organisational levels into PMU management from the start via quantitative and qualitative participatory monitoring and evaluation, ad hoc studies, and workshops. The project will also request and ensure that executing partners namely the Service Providers (SP), LCOs and at the PUUs identify a gender focal point that will liaise directly with the project gender focal point. As per AF gender policy, during implementation the gender focal point will ensure project compliance with the gender policy guidelines. The assessment will include but not be limited to the questions under Implementation, Performance Monitoring and Evaluation.[23]

Financial Risk Management

Describe the measures for financial and project risk management.

129. Good governance is one of Georgia's strongest points, since the country has taken a number of critical steps toward improving its anti-corruption policies in recent years. On the Transparency International 2016 Corruption Perception Index Georgia ranks as number 44 out of 176 countries, which is considered to be among the best in post-Soviet countries (Baltic States excluded). IFAD's experience and the assessment made during formulation is that in general management terms, the satisfactory performance of the existing Programme Management Unit (that will implement the Adaptation Fund project and DiMMA) in managing ongoing IFAD projects provides a solid foundation for overall programme management that will help mitigate various risks. Notwithstanding, during the course of programme implementation several risk factors are anticipated. The main potential risks to programme success and mitigation strategies are summarized in the table below.

Table 9 Main potential risks to programme success and mitigation strategies

Risk	Initial risk assessment (H = high, M = moderate, L = low)	Proposed mitigation measure	Final risk assessment
Low interest and capacity of smallholder dairy producers to adopt new climate smart approaches and technologies.	M	The programme will pay attention to technical and environmental capacity building and training as a key factor in the upgrading process. It will carry out demonstrations and raise general environmental and climate change awareness and train farmers on the economic and environmental benefits for the adoption of systems and new technologies.	L
The current policy and regulatory environment for pasture does not encourage the sustainable management of collective pasture,	M	The programme will pilot small community–driven pasture management initiatives at local or municipality level, as a	L

[23] https://www.adaptation-fund.org/wp-content/uploads/2017/03/GenderGuidance-Document.pdf

leading to degradation of this resource.		practical contribution to the policy discussion on pasture management. The national dairy platform in the DiMMA project will address national policy issues including those related to pasture and will advance the national agenda on pasture policy.	
Climatic shock: the main effect of climate change on weather patterns is the increased occurrence of extreme weather events: droughts and flooding in particular. These weather shock can have a direct impact on animals but also contribute to the emergence of diseases	M	The programme will introduce climate smart infrastructure and will ensure that climate adaptation measures are implemented. It will in particular ensure that breeds used in crossbreeding strategies are resilient to climate shocks (utilization of rustic breeds); Promotion of fodder conservation and of use of concentrate feeds will contribute to improving resilience; to drought; Surveillance of emerging diseases will be addressed as mentioned above.	M
Insufficient capacities to appropriately manage the day-to-day implementation of the project	M	The PMU has administrative and financial management autonomy and will assumes the fiduciary management functions of the project. IFAD will participate as an observer in all stages of the recruitment process. The staff of the PMU will be linked to the project by renewable annual contracts based on a performance evaluation.	L

Environmental and Social Risk Management

Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

130. IFAD-funded projects and programmes are designed in a participatory manner, taking into account the concerns of all stakeholders. IFAD requires that projects are carried out in compliance with its policies, standards and safeguards. Moreover, IFAD's Strategic Framework calls for ensuring that projects and programmes promote the sustainable use of natural resources, build resilience to climate change and are based upon ownership by rural women and men themselves in order to achieve sustainability. The project design was assessed through the social, environmental and climate assessment procedures (SECAP) of IFAD, which are fully aligned with the AF Environmental and Social as well a Gender Policies, as shown in the ESMP section II-ii. Following the IFAD SECAP screening and the ESP screening in annex 3 (ESMP), the project has been categorised as a category B (also refer to section II – K).

131. The risk screening conducted in the ESMP in annex 3 identifies that DiMMAdapt will not have any adverse environmental and social impacts, although some screening will need to be carried out by the PMU on ESP 9,10 and 14. The expected impact of the project on the environment will be positive given its promotion of sustainable community-based environmental natural resource management (ENRM) measures to reduce risks related to climate change. It will achieve this through raising the environmental

awareness of the communities directly dependent on the pasture eco-services through field demonstrations and capacity building by SPs; it will demonstrate the importance of sustainable ENRM, but also the training of the PUU's to design PMPs to sustainably manage pasture land will through pasture assessment maps, vulnerability assessments, annual pasture use plans and pasture improvement plans. The project will improve the management of 3,800 ha and restore 1,000ha of degraded pastures through fencing, improved vegetative cover, improved fodder management and introduction of resilient plant species, including highly resilient and diverse native plant species tolerant to drought; water management measures for both water conservation and restoration of water points, but also the DRR of flooding events through increased vegetative cover and better river management against flooding.

132. As a result of the increased pastures and the Artificial Insemination programme in DiMMA, a risk to potential GHG increases has been identified. The ESP 11 in the ESMP in annex 3 as well as section III of the ESMP, section II – K and output 1.2.2, detail the management plan in place to ensure the project will not result in a net increase in GHG emissions. It is estimated in the EMSP and annex 5, that degraded pasture rehabilitation will contribute to the sequestration of 152,729 tonnes of CO_2 equivalent GHGs (tCO_2eq) during the project cycle. Through the FAO ExAct too in annex 5 two scenarios are presented where the worst-case scenario that DiMMA might inadvertently increase cattle numbers by 1000 and contribute 3,230 tCO_2eq/year in GHGs, would be mitigated 88 times over.

Monitoring and Evaluation

Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan, in compliance with the ESP and the Gender Policy of the Adaptation Fund.

133. **Project Monitoring and Evaluation (M&E)** will be under the oversight of the PMU, and led by the M&E officer who will work closely with the implementing partners. The M&E system should: (i) produce, organize and disseminate the information needed for the strategic management of the Project, (ii) document the results and lessons learned for internal use and for public dissemination on the achievements and (iii) respond to the information needs of Adaptation Fund, IFAD and the Government on the activities, immediate outcomes and impact of the Project. A monitoring and evaluation manual that will describe a simple and effective system for collecting, processing, analysing and disseminating data will be prepared in the first year of the Project.

134. A computerized database will be developed that will enable the generation of dashboards used in IFAD projects. The system will be regularly fed from data collected in the field by the implementing partners and the various studies carried out as part of the projects' implementation. The monitoring and evaluation system will be coupled with a geo-localized information system (GIS) that will allow mapping and spatio-temporal analyses. Trainings will be organized to strengthen the capacities of the various stakeholders involved in the monitoring and evaluation system.

135. 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 (below).

136. **Project Inception Workshop.** A DiMMA/Adaptation Fund inception workshop will be conducted within two months of project start up with the full project team, relevant government counterparts and IFAD. The inception workshop is crucial to building ownership for the project results and to plan the first-year annual work plan. A fundamental objective of the Inception Workshop will be to 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.

137. **A Project Inception Report** will be prepared immediately following the Inception Workshop. It will include: (i) a detailed First Year/Annual Work Plan divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the project; (ii) the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan; (iii) a detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners; (iv) 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.

138. **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 study will include the target group and a control group which will be essential to determine the attribution of results to programme activities.

139. **Quarterly Progress Reports** will also be prepared by project implementing partners in the field, and submitted to the PMU to ensure continuous monitoring of project activities and identify challenges to adopt necessary corrective measures in due time.

140. **Technical reports** – such as a best practices and lessons learned report - will also be completed, as determined during the project inception report.

141. **Annual Project Report (APR).** The project team will prepare an APR to reflect progress achieved in meeting the project's Annual Work Plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work. The format of the APR will be flexible but should include the following issues: (i) an analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome; (ii) the constraints experienced in the progress towards results and the reasons for these; (iii) the three (at most) major constraints to achievement of results; (iv) AWP and other expenditure reports; (v) lessons learned; (vi) clear recommendations for future orientation in addressing key problems in lack of progress. The project will also submit a PPR each year to chart progress, using the Adaptation Fund template. The PPR includes among others, information related to financial data, procurement, risk assessment, rating, project indicators, lessons learned. In addition, it includes the results tracker that needs to be filled. This will be done i) at inception where baseline-related information will be submitted, as well as planned targets at project/programme completion; ii) At mid-term; and iii) project/programme completion when the final PPR will serve as a project completion report; but also include the final evaluation report and final audited financial statements.

142. **Annual Stakeholder Evaluation Workshops.** As part of DiMMA annual stakeholder evaluation workshops will be held that also will benefit the AF project. This will start from year 2 of the programme and will be convened by the LCOs. The achievements and the challenges facing programme implementation will be discussed and corrective steps and responsibilities suggested.

143. **Supervision** will be by IFAD (under its direct Supervision framework and guidelines), with a Supervision mission mobilized at least once per year. Additional implementation support from IFAD on specific identified issues will be mobilized if considered necessary by GoG and IFAD or recommended by the Supervision mission. The composition of the Supervision missions would be based on an annual supervision plan. The supervision plan would 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.

144. **Mid-term Review (MTR).** The MTR will be carried out in year 3. It will assess operational aspects such as programme management and implementation of activities as well as the extent to which the objectives are being fulfilled and corrective actions needed for the programme to achieve impact. Depending on the achievements the programme and the resources available, the possibility of scaling up the activities to other regions will also be considered in consultation with the government.

145. **A Final Evaluation** will be conducted three months before project closure which will include the programme completion survey (below).

146. **Programme completion survey** (impact evaluation): Will include the same set of questionnaires included at baseline to allow for comparison against baseline results. In addition, a panel of households will be interviewed to provide a thorough analysis of programme impact. Moreover, analysis will be done by type of beneficiary, region and gender of household head. As part of the evaluation, stories, lessons learned and best practices will be collected for upscaling and dissemination. The impact survey will also review and report on the data from the LIST programme to report on final cow numbers.

Table 10 Breakdown of M&E fee utilisation.

IE Fees Breakdown of M&E Supervision	Responsibility	Timeframe	Budget (USD)
Inception Workshop Report	PMU	After Workshop	Budgeted by DiMMA
Baseline Study	PMU	First Year	Budgeted by DiMMA
Supervision Visits	IFAD, PMU, Government	Biannual	Budgeted by DiMMA
Annual Work Plans and Budget	PMU	Annual	0 (as completed by PMU)

Semi-Annual Progress Report	PMU	Semi-annual	0 (as completed by PMU)
Mid-Term review	IFAD, External consultants	2024	23,000
Annual Project Report	PMU	Annual	0 (as completed by PMU)
Final Evaluation	IFAD, External consultants	2026	23,000
Total			**46,000**

Results Framework

Include a results framework for the project proposal, including milestones, targets and indicators, including one or more core outcome indicators of the Adaptation Fund Results Framework, and in compliance with the Gender Policy of the Adaptation Fund.

Table 11 Results Framework

Project Objective(s)	Project Objective Indicators	Baseline	Target	Means of Verification	Assumptions
Overall objective: Enhancing the resilience to Climate Change of vulnerable dairy producers.	Number of hectares of pasture rehabilitated, restored or protected.		1,000 (out of 3,800 ha) ha of pastures rehabilitated, restored or protected.	• Project M & E reports • Progress reports • Mid-term and final project evaluations	• Good participation and involvement of local communities. • Good survival rate of planted vegetation. • The interest of young people remains high throughout project implementation.
	Number of hectares of pasture brought under improved management		3,800 hectares pastures under improved management (through PMPs preparation and Field mobilization and training of de-facto pasture users on rotational grazing)		
	Area of pastures registered		At least 15,900 ha (15% of 106,163 ha) pastures are registered		
	Number of households benefitting from climate resilient improvements.		1,283 households (4,876 people) will benefit from climate resilient improvements.		
Component 1: Climate-proofing pastoral ecosystem services (water management, pasture regeneration, and disaster risk reduction)					
Outcome 1.1 An enabling environment developed through training and capacity building.					
Output 1.1.1: Climate resilient and DRR solutions for	Number of farmers receiving silage and fodder conservation demonstration and		870 farmers (261 women, 609 men and 435 youth) are to	• Project M & E reports • Progress reports	• Good participation and involvement of local communities.

Project Objective(s)	Project Objective Indicators	Baseline	Target	Means of Verification	Assumptions
pasture rehabilitation and increased productivity promoted.	improved pasture management approaches.		receive awareness raising demonstrations.	• Mid-term and final project evaluations	
	Area of pasture inventoried		106,163 ha of pastures in Ninotsminda municipality is fully inventoried		
	National level document produced		1 national level document produced (Concept document for identification, surveying and registration of pastures developed)		
	Number of PUU's receiving training		15 PUU's (informally mobilized de facto pasture users) to receive capacity building in pasture management.		
Outcome 1.2. Pasture Management Plans Implemented.					
Output 1.2.1: Climate resilient and ecosystem-based adaptive pastoral investments implemented.	Number of hectares of pasture land rehabilitated, improved or protected.		1,000ha of pasture land will be rehabilitated, improved or protected.	• Project M & E reports • Progress reports • Mid-term and final project evaluations.	• Good participation and involvement of local communities. • Good survival rate of planted vegetation.
	Number of hectares of pasture under improved management		3,800 hectares pastures under improved management (through PMPs preparation and Field mobilization and training of defacto pasture users on rotational grazing)		

Project Objective(s)	Project Objective Indicators	Baseline	Target	Means of Verification	Assumptions
	Number of households benefitting from pasture rehabilitation.		590 households will benefit from Climate resilient and ecosystem-based adaptive pastoral investments		
Output 1.2.2 GHG from DiMMA cattle increases offset	tCO2eq emissions offset of DiMMA cattle numbers		Offsetting of 150,000 tCO2eq from DiMMA	• Project M & E reports • GHG calculation reports • Progress reports • Mid-term and final project evaluations.	
Component 2: Supporting the climate resilience of market vulnerable smallholders					
Outcome 2.1 Climate smart technology demonstrations and livelihood diversification.					
Output 2.1.1 Climate-smart technologies and alternative livelihood measures promoted.	Number of farmers exposed to climate smart technology demonstrations		151 market vulnerable farmers to receive climate-smart demonstrations.	• Project M & E reports • Progress reports • Mid-term and final project evaluations	• The interest of young people remains high throughout project implementation • Good participation and involvement of local communities.
Output 2.1.2 Alternative, complementary, non-competitive, non-extractive livelihood jobs created.	Number of households benefitting from alternative non-extractive industry activities.		262 jobs (69 women, 161 men and 115 youth) will be created for the market vulnerable beneficiaries.		

Alignment with Adaptation Fund Results Framework

Demonstrate how the project aligns with the Results Framework of the Adaptation Fund

147. The table below demonstrates how the project aligns with the Results Framework of the Adaptation Fund.

Table 12 Project alignment with Adaptation Fund results framework.

Project Outcomes	Project Outcome Indicators	Adaptation Fund Outcomes	Fund Outcome Indicators	Grant Amount (USD)
Outcome 1.1 An enabling environment developed through training and capacity building.	Number of field days when farmers from the community will gather on the demonstrate site.	**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. **3.2.** Modification in behaviour of targeted population.	
Outcome 1.2 Pasture Management Plans Implemented	Percentage of farmers with increased productivity from improved pastures.	**Outcome 2:** Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	**2.2.** Number of people with reduced risk to extreme weather events	3,962,191
		Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress.	**5.** Ecosystem services and natural assets maintained or improved under climate change and variability-induced stress.	
Outcome 2.1 Climate smart technology demonstrations and livelihood diversification.		**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 (increased) access to livelihood assets.	

Project Objective(s)	Project Output Indicators	Adaptation Fund Outputs	AF Output Indicators	Grant Amount (USD)
Component 1: Climate-proofing pastoral ecosystem services (water management, pasture regeneration, and disaster risk reduction)				
Output 1.1.1: Climate resilient and DRR solutions for pasture rehabilitation and increased productivity promoted. and **Output 1.1.2:** Inventory and Registration of Pasturelands	Number farmers receiving pasture management, silage and fodder conservation demonstrations. Number of PUU's receiving training. Number of service providers supported to provide training and technical backstopping to the PUU's.	**Output 3:** Targeted population groups participating in adaptation and risk reduction awareness activities.	**3.1.1** No. and type of risk reduction actions or strategies introduced at local level.	1,283,639
Output 1.2.1: Climate resilient and ecosystem-based adaptive pastoral investments implemented.	Number of hectares of pasture land rehabilitated, improved or protected.	**Output 2.2:** Targeted population groups covered by adequate risk reduction system.	**2.2.1.** Percentage of population covered by adequate risk-reduction systems. **2.2.2.** No. of people affected by climate variability	644,152
	Number of households benefitting from pasture rehabilitation.	**Output 5:** Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability.	**5.1.** No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets).	
Component 2: Supporting the climate resilience of market vulnerable smallholders				
Output 2.1.1 Climate-smart technologies and alternative livelihood measures promoted.	Number of farmers exposed to climate smart technology demonstrations in milk-precooling, AI and crossbreeding and solar power.	**Output 3:** Targeted population groups participating in adaptation and risk reduction awareness activities	**3.1.1** No. and type of risk reduction actions or strategies introduced at local level.	1,207,240

Project Objective(s)	Project Output Indicators	Adaptation Fund Outputs	AF Output Indicators	Grant Amount (USD)
Output 2.1.2 Alternative, complementary, non-competitive, non-extractive livelihood jobs created.	Number of households benefitting from alternative non-extractive industry activities.	**Output 6:** Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability.	**6.1.2.** Type of income sources for households generated under climate change scenario	787,160

Project Budget

Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

148. The table below presents the detailed budget of the project per activity.

Table 13 Detailed project budget per activity.

Item/activity	Amount (USD)
Component 1: Climate-proofing pastoral ecosystem services (water management, pasture regeneration, and disaster risk reduction)	
Outcome 1.1. An enabling environment developed through training and capacity building.	
Output 1.1.1: Climate resilient and DRR solutions for pasture rehabilitation and increased productivity promoted.	
Exchange visits for the development of Pasture Management Plans by the PUA's and smallholder and progressive farmers, herd and grazing management	51,135
Development of Pasture Management Plans	426,384
Silage production (fodder conservation) demonstrations (including the production and dissemination of awareness raising and visual learning materials).	12,000
Sub-total	**489,519**
Output 1.1.2: Inventory and Registration of Pasturelands.	
Identification, categorization and surveying of pasturelands and hayfields in target areas	316,568
Assessment of pasture vegetation types and their condition	59,480
Mobilization of communities for identification and mapping of users.	58,400
Submission for registration.	93,812
Purchase of Equipment and Goods	167,860
Purchase of 2 field vehicles	74,000
Operating expenses	24,000
Sub-total	**794,120**

Outcome 1.2. Pasture Management Plans Implemented.		
Output 1.2.1: Implementation of climate resilient and ecosystem-based adaptive pastoral grants.		
Restoration of degraded pastures	400,000	
Fodder production (seed capital financing).	195,322	
Silage production (fodder conservation).	48,830	
Sub-total	**644,152**	
Output 1.2.2: Consultancy services for GHG emission calculations.	40,000	
Sub-total	**40,000**	
Cost for Component 1	**1,967,791**	
Component 2: Supporting the climate resilience of market vulnerable smallholders.		
Outcome 2.1 Climate smart technology demonstrations and livelihood diversification.		
Output 2.1.1 Climate-smart technologies promoted though on-farm demonstrations.		
Energy efficient renewable energy support through matching grants.	1,207,240	
Output 2.2.1: Alternative non-extractive livelihoods.		
Non-extractable livelihood support through matching grants (Beekeeping, greenhouses)..	787,160	
Cost for Component 2	**1,994,400**	
Total Project		**3,962,191**
Project Execution Costs		
Recruitment of a Climate Change Specialist	75,009	
Facilitator Fees	197,089	
MTR and Final Evaluation	49,744	
Finance Manager salary	24,750	
M&E Specialist salary	18,135	
Total Project Execution Costs		**364,727**
Total Project Costs	**4,326,918**	
Project Cycle Management Implementing Entity Fee		
Operational and Financial Management	100,000	

Project Development and implementation support	117,876
Technical support and supervision	100,000
Total Project Cycle Management Implementing Entity Fee	**317,876**
Amount of Financing Requested	**4,644,794**

Disbursement Schedule

Include a disbursement schedule with time-bound milestones.

Table 14 Project disbursement in USD

	Year					
	2020	**2023**	**2024**	**2025***	**2026**	**Total**
Total Project Costs	910,162	1,429,343	1,225,301	762,112	0	**4,326,**
IE fee	63,575	63,575	63,575	127,151	0	317,8
Total	973,737	1,492,918	1,288,876	889,263	0	**4,644,**

PART IV: ENDORSEMENT

* In 2025, the tranches expected for 2025 and 2026 have been consolidated. This strategic reallocation is aimed at providing the project with ample time to effectively implement activities leading up to the revised closure date in 2026. This adjustment ensures optimal utilization of resources and aligns with the project's extended timeline.

A. Record of endorsement on behalf of the government[24]

Ms. Nino Tandilashvili *Deputy Minister of Environmental Protection and Agriculture of Georgia*	Date*: August 14 2019*

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.
Margarita Astrálaga, Director, Environment Climate Gender and Social Inclusion Division, IFAD Implementing Entity Coordinator

6. Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

Date: *(Month, Day, Year)*	Tel. and email: +39 06 54592151 m.astralaga@ifad.org
Project Contact Person: Nicolas Tremblay, Lead Regional Environment and Climate Specialist – Near East, North Africa, Europe and Central Asia, IFAD	
Tel. And Email: *+39 06 5459 2704; n.tremblay@ifad.org*	

- Annex 1 Letter of Endorsement by the Government

საქართველო
GEORGIA

გარემოს დაცვისა და
სოფლის მეურნეობის
სამინისტრო
MINISTRY OF ENVIRONMENTAL
PROTECTION AND AGRICULTURE
OF GEORGIA

N 8049/01
14/08/2019

8049-01-2-201908141631

Letter of Endorsement - Government of Georgia

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

Ref: Endorsement for the project Dairy Modernisation and Market Access Programme: Adaptation Component (DiMMAdapt)

In my capacity as Designated Authority for the Adaptation Fund in Georgia, I confirm that the above 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 Georgia.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented by IFAD and executed by the Ministry of Environmental Protection and Agriculture of Georgia.

Sincerely,

Ms. Nino Tandilashvili
Deputy Minister

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- Annex 2 List of Persons Met.

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Ekaterine	Grigalava	+995599130047	e.grigalava@moe.gov.ge	Ministry of Environment and Natural Resources Protection of Georgia - Deputy Minister	www.moe.gov.ge
George	Khanishvili	+995595555555	george.khanishvili@moa.gov.ge	Ministry of Agriculture of Georgia - Deputy Minister	www.moa.gov.ge

Name of Organization	Tel / contact details	Tel	Information	Website
NGO "Women Information Center"	Contact Person: Elene Rusetsakia **Address:** 0102, Tbilisi, Georgia, Tsinamdzgvrishvili str #40	+995 32 2 95 29 34	• Gender Equality and Women's Rights Issues Implementation; • Raising Awareness of the Society on Gender Issues • Provide Trainings in women's Socio-Economic development	http://www.wicge.org
NGO "Taso Foundation"	**Contact Person:** Marina Tabukashvili **Address:** Tabukashvili street 15, 0108 Tbilisi, Georgia	+995 32 292 05 95	• Making grants to support initiatives of women activists, women´s groups and organizations; • Implement operational programs; implement mixed (operational & grant-giving) projects; • Act as women´s memory research centre (resource centre with library and textual, photo and video archives); • Participate in policy making and act as an advocate for ensuring gender equality and women´s rights;	http://www.taso.org.ge/-about-us
NGO "Atinati"	**Address:** Rustaveli st 94. Zugdidi 2100, Georgia	+995 0415 25 00 56	Atinati's mission is to promote the establishment of an educated, tolerant and free society. To accomplish its mission, ATINATI raises information awareness of the citizens in Western Georgia and implements projects that aim to strengthen citizen rights and involvement. The organization pays special attention to the needs of most vulnerable groups among IDP's.	www.atinati.org
NGO "NEFA" (Community fund)	**Contact Person:** Nino Korshia **Address:** Samegrelo, Village Anaklia, Georgia		• Working on Women's Economic Empowerment Issues; • Gender Budgeting; • Women's Rights; • Promote Gender equality issues with trainings; • Working with migrant and IDP women.	https://nefaanaklia.wordpress.com
Women's Room In Georgia	**Address:** 6, G. Gegechkori Street 0186, Tbilisi, Georgia	(+995) 32 225 2471	Women's Rooms are part of the SDC-funded and Mercy Corps-implemented Alliances Lesser Caucasus Programme (ALCP) support to rural inhabitants, most of whom are dependent on livestock.	www.ALCP.ge
Fund of Women Entrepreneurs	**Address**: #6, Mgaloblishvili st, Kutaisi 4600, Georgia **Email:** womenfund37@mail.ru meri_gelashvili@yahoo.com	(+995 431) 27-29-02	• Supporting women's active involvement in decision-making processes and strengthening their civil capacities. • Supporting women's sustainable development for economic independence and poverty reduction. • Increasing integration opportunities for IDP women and national minorities in local communities. • Supporting women's involvement in peacebuilding processes.	www.fwe.ge

Name of Organization	Tel / contact details	Tel	Information	Website
Cooperative – Shuro Vumu	**Contact Person:** Nona Kadaria **Address:** Samegrelo Region, Village Teklati	+995 577 576655	• Cooperative with 11 members (women) • Produce milk and Cheese; • Sell on local market;	
Cooperative “Edelvice”	**Contact Person:** Natalia Udesiani **Address:** Samegrelo-Zemo Svaneti region, Tsalenjukha, Villige Pakhulani **Email** nataliaudesiani@gmail.com	+995 592 190149	• Cooperative with 24 members (12 women) • Livestock, Milk and Cheese production;	
Cooperative- “Mada”	**Contact:** Tsiala Absandze **Address:** Samegrelo-Zemo Svaneti region, Zugdidi, Villige Koki **Email:** kooperativi.mada@gmail.com	+995 577 628951	• Cooperative with 24 members (12 women) • Livestock, Milk and Cheese production;	

- Annex 3 Environmental and Social Management Plan.

Contents

I. Summary Description of the Project.

149. Georgia is classified as a lower middle-income country by the World Bank with GNI per capita of USD 3,810 (2017). There are around 550,000 rural households with an average of 3.3 people per household (GeoStat, 2014). Agriculture accounts for 45 percent of rural household income, a further 28 percent coming from social payments and pensions and only 27 percent from salaried work. Land privatization that followed the fall of the Soviet Union has resulted in fragmented holdings (75 percent households with less than 1 ha of land) and neglect of the agricultural sector until recently, has contributed to the dominance of subsistence farming.

150. **Poverty** was estimated at 32 percent in 2016, decreasing from a peak of 46.7 percent in 2010. Poverty is more spread in rural areas, where every second household can be considered poor along the USD2.50/day international poverty line. Although poverty level varies by regions, a more profound difference is within the regions themselves, between urban and rural, mountainous, remote and near towns, industrial and service oriented and more agrarian settlements. Years of economic crisis and large-scale forced migration of populations from the territories of Abkhazia and former Soviet Ossetia due to military conflicts caused the impoverishment of a large section of the Georgian population. Poverty reduction does not automatically follow economic growth as since 2010, greater social and political stability, along with the resumption of economic growth, have brought about a significant reduction in poverty, but not nearly enough. In the Georgia context, poverty is mostly linked to employment status, ownership of productive assets and labour markets. Inequality has slightly declined between 2010 and 2016, but those who are unable to work (the inactive, elderly or disabled) or do not have work (the unemployed) are much more likely to be chronically poor.

151. **Agriculture.** Since 2010 Georgian agriculture has been reversing its long-term decline, with output increasing by 19 percent from 2010 to 2016. The state budget for agriculture also increased from 1.3 percent to 3.8 percent from 2010 to 2018, suggesting a growing commitment by the GoG to the economic and social importance of the agricultural sector. Today, agriculture in Georgia accounts for 45 percent of rural household income, a further 28 percent coming from social payments and pensions and only 27 percent from salaried work. The structure of the rural economy and demographics suggest that farming is likely to remain the dominant source of employment and income for the majority of rural citizens in the medium term.

152. **Climate Change.** A recent study from the National Adaptation Plan for Agriculture (NAPA) in Georgia observed changes in climate and therefore in agro-climatic zones. The change of agro-climatic zones against the background of the temperature increases and changes in precipitation patterns is one of the highest risks caused by climate change for the agriculture sector. Following the report, the total overall temperatures have increased in most part of the country. According to the 1991-2015 data, precipitation in the vegetation period decreased only slightly. The analysis of the last decade's climatic patterns (1960-2016) completed by IFAD in 2017 confirms that the climate in Georgia has already changed and that the main trends foreseen by the IPCC and the NAPA are becoming evident. Trends in extremes in maximum and minimum temperatures for most of the regions in the country, have been increasing since 1960, resulting in warmer maximum temperatures in summer and colder minimum temperatures in winter.

153. The increase of temperature have resulted in decreases in water availability for animals in June-September. In ponds originated from rainwater (which is often a single source of watering) water is gradually decreasing or is generally dried out. The remaining ponds are often subject to pollution due to animal high pressure. Torrential rain has also intensified causing increased soil erosion from the

slopes, which against the background of intense grazing, is accompanied by harsh reduction of productivity of mowing and grazing lands. Heat waves, which are projected to increase in frequency and severity, could directly threaten livestock, reducing weight gain and sometimes causing fatal stress. Heat stress affects animals both directly and indirectly and it can increase an animal's vulnerability to disease, reduce fertility, and reduce milk production in dairy animals. Change in temperature also changes the natural boundaries at sensitive areas of eastern Georgia (forest ecosystems), the loss of resilience of flora and fauna to invasive species, the loss of natural ecosystems "corridors" for migration of rare and endemic species, the increased cases of forest fires (Summer 2017), the degradation of landscape diversity, and the loss of biodiversity in general. Those effects have a direct negative impact on livelihoods.

154. **Project Approach.** The project aims to support the design and development of climate resilient pastoral ecosystem services to reduce the negative impacts from climate change and climate variability on agricultural and rural livelihood development. To help the rural poor including women, youth and the landless poor to adapt to the trend of longer dry periods and more intense rainfall, formal Pasture User Associations will be developed through the DiMMA project. In component one of DiMMAdapt, the PUUs will receive demonstrations and be trained in pasture management techniques. The PUUs will subsequently develop the Pasture Management Plans (PMP) that will ensure the restoration of degraded pastures including forests; the introduction of water conservation measures; the introduction of measures to mitigate against the increased prevalence of torrential rain; the restoration of riverine vegetation; the production of fodder; and fodder conservation techniques for higher nutritional content, better nutrient preservation, greater palatability to livestock.

155. In component 2 the project applies a resilience model targeting women, youth-headed households and the landless poor to reduce pressures on the ecological services. It will promote pilots for complementary, non-competitive and non-extractive forms of livelihoods that are not directly dependent on the pasture eco-services. It will also promote energy-saving and climate-smart pilots that will build climate change adaptation into the DiMMA project through mechanisation hereby improving the quality of the dairy produce.

II. Screening and Categorisation.

i) ESP Screening and categorisation

156. DiMMAdapt project is an environmentally positive project with no potentially adverse impacts, it is a project that is the result of the Climate Change National Adaptation Plan sponsored by IFAD and the concerns raised in the IFAD SECAP assessment of the DiMMA project. Following the risk assessment detailed in section III below and the IFAD SECAP (see part II-ii hereunder) the project corresponds to a 'category B' due to some minor risks for which mitigation measures have been taken and integrated into the combined DiMMA and DiMMAdapt projects and described in the ESMP below. Overall, the potential environmental and social risks posed by the DiMMAdapt project are limited and the project will make a net-positive contribution to ENRM and climate change adaptation as it is estimated it will result in the sequestration of an estimated 152,729 tCO2eq and build natural resilience to the impacts of climate change.

157. The identified risks primarily relate to the possibility of cattle numbers and related GHGs to increase as result of the DiMMA project. These risks have been addressed under ESP 11 in section III, in the management plan in section IV below, as well as being integrated into output 1.2.2. Cattle numbers will be registered and verified through two government agencies APMA and FSA (Agriculture Projects Management Agency and the Food and Safety Agency) that are already in direct contact with beneficiaries in relation to the DiMMA Artificial Insemination (AI) programme. DiMMAdapt will also build on the experience of the IFAD/GEF Community-Based Integrated Natural Resources Management Project (CBINReMP) in Ethiopia and partner with an international institution specialised in measuring GHG emissions and offsetting. PUUs that are found to have increased cattle numbers will need to demonstrate that their PMPs are offsetting GHGs by an equivalent amount and the continuation of the grant cycle will be dependent on this evidence. Through these measures DiMMAdapt will result in a full registry of cattle that will be verified by the FSA, it will result in independently calculated GHG emissions, and have a management system in place that will offset any increases.

158. Beyond this, some further minor screening will need to take place for ESPs 9,10 and 14 as the project does not have defined project sites and it is therefore not possible to determine whether there are protected natural habitats, critical biodiversity or cultural heritage in the project areas.

Table 15 Adaptation Fund environmental and social checklist

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
ESP 1 Compliance with the Law	X	**No risk.**
ESP 2 Access and Equity	X	**No risk.**
ESP 3 Marginalized and Vulnerable Groups	X	**No risk.**
ESP 4 Human Rights	X	**No risk.**
ESP 5 Gender Equity and Women's Empowerment	X	**No risk.**
ESP 6 Core Labour Rights	X	**No Risk.**
ESP 7 Indigenous Peoples	X	**Not applicable** as there are no indigenous peoples in Georgia.
ESP 8 Involuntary Resettlement	X	**Not applicable** The project does not involve any involuntary resettlement.
ESP 9 Protection of Natural Habitats		**Low risk.** During the mapping of the project activities the PMU will identify and exclude protected natural habitats ensuring that they will not directly or indirectly impact protected areas or high value conservation areas.
ESP 10 Conservation of Biological Diversity		**Low risk.** During the mapping of the project activities the PMU will conduct a full analysis on the potential impact on critical biodiversity in the project areas and take corrective measures to ensure their protection
ESP 11 Climate Change		**Low risk.** DiMMAdapt will not introduce additional animals but, because of enhanced access to marketing facilities, the project could indirectly cause an increase in livestock numbers, which would cause additional GHG emissions. Even with an increase of 1,000 heads of cattle, the DiMMAdapt project constitutes a net carbon sink, because of the reafforestation and pasture rehabilitation components built into the PMPs. The ESMP and DiMMA M&E framework will ensure all herders taking part in the project will have their cattle registered and herd sizes will be monitored. Any potential increase in cattle numbers by DiMMA will be offset through the planting of trees as part of the PMPs in DiMMAdapt.
ESP 12 Pollution Prevention and Resource Efficiency	X	**No risk.**

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
ESP13 Human Health	X	**No risk.**
ESP 14 Physical and Cultural Heritage		**Low risk** All cultural heritage sites in the project areas will be mapped, avoided and reported on in the PPR as part of the ESMP. The project will ensure whether there are any national cultural heritage sites in the project areas and propose measures to avoid any alteration, damage, or removal of physical cultural resources, cultural sites, and sites with unique natural values.
ESP 15 Lands and Soil Conservation	X	**No risk.**

ii) Alignment between ESP/AF and SECAP/IFAD

159. IFAD's Social, Environmental and Climate Assessment Procedures (SECAP) were approved by the Executive Board became effective in 2015 and were updated in 2017. These procedures defined an improved course of action for assessing social, environmental and climate risks to enhance the sustainability of results based country strategic opportunities programmes (RB-COSOPs), country strategy notes (CSNs), programmes and projects. SECAP along with the guidance statements (GS) sets out the mandatory requirements and other elements that must be integrated throughout the project life cycle. The 2017 updated version: (i) draws on lessons learned in SECAP's implementation from 2015 to the present; (ii) clarifies the mandatory and non-mandatory requirements applicable to IFAD-supported investments; (iii) further aligns IFAD's environmental and social standards and practices with those of other multilateral financial institutions; (iv) reflects IFAD's complementary policies[25] and climate mainstreaming agenda; (v) enables IFAD's continued access to international environment and climate financing; and (vi) better aligns IFAD's programming with the General Conditions for Agricultural Development Financing[26]. All IFAD projects entering the pipeline are subject to an environmental, social and climate risk screening, and are assigned a risk category for environment and social standards (A, B, C), and for climate vulnerability (high, moderate, low). These findings, along with subsequent analysis and assessments, must be reflected in the project's SECAP review note. Projects with environment and social category "C" and climate risk "low" do not require any further analysis.

160. All category "B" projects must have a SECAP review note including a matrix of the environment and social management plan (ESMP) at design stage. The identified social and environmental risks, and opportunities-management measures must be reflected in the project design and the project design report (PDR). The ESMP matrix must be integrated into the project's implementation manual or developed as a stand-alone guidance document for the project management unit late in the design stage or early in implementation. All category "A" projects must have an ESIA at the design stage (or relevant stage of implementation). The draft and final ESIA reports, and other relevant documents[27] must be disclosed in a timely and accessible manner at the quality assurance stage (or other stages during project implementation).

161. For all projects with a "moderate" climate risk classification, a basic climate risk analysis must be conducted during the project design stage and included in the SECAP review note. Adaptation and mitigation measures must be mainstreamed into the project design and PDR. For all projects with "high"

[25] Including, but not restricted, to policies on targeting (2006), gender equality and women's empowerment (2012), indigenous peoples (2009). Available at: www.ifad.org/operations/policy/policydocs.htm.
[26] https://www.ifad.org/documents/10180/e72d1b36-58ed-4630-b683-7b22f4075e73 See section 7.01(a)(vi)
[27] Including environment and social management frameworks (ESMFs), draft resettlement action plans and frameworks (RAFs), draft mitigation plans and documentation of free, prior and informed consent (FPIC) and indigenous plan (IP) consultation processes.

climate risk classification, an in-depth climate risk analysis must be conducted during project design and adaptation and risk-mitigation measures must be mainstreamed into the project design and PDR.

162. IFAD SECAP includes 14 Guidance Statements (GS) with: (i) an introduction to each subject, (ii) how the subject has been addressed in IFAD projects, (iii) the environmental, climate change and social issues linked to the subject; (iv) Criteria for environmental screening and scoping of IFAD projects; (v) potential mitigation and adaptation plans and measures for controlling adverse impacts, (vi) the international legal context. The following table provides some information about the relation between AF ESP Principles and IFAD SECAP (for further information, please visit https://www.ifad.org/topic/gef/secap/overview).

AF ESP Guidance Principles	IFAD SECAP GS, Guiding Values and Principles
ESP1 Compliance with the Law	- SECAP requires that activities in the framework of the IFAD financed projects or programmes meet IFAD's safeguard policy guidance, comply with applicable national laws and regulations (labour, health, safety, etc.) and international laws and treaties, and the prohibited investment activities list produced by the International Finance Corporation is adhered to. - Project design should review: (i) current national policies, legislation and legislative instruments governing environmental management health, gender and social welfare, climate change (mitigation and adaptation) and governance with their implementation structures, identify challenges, and recommend appropriate changes for effective implementation; (ii) all relevant international treaties and conventions on the environment, climate change, health, gender, labour and human rights to which the country is a signatory.
Principle 2 Access and Equity	Access and Equity is a cross-cutting issue in all the 14 SECAP Guidance Statements.SECAP requires that projects and programmes ensure the participation of target groups and equitable distribution of benefits. When projects result in physical or economic displacement (affecting access and user rights to land and other resources), the borrower or grant recipient should obtain FPIC from the affected people, document stakeholder engagement and consultation process and prepare resettlement plans or frameworks. The documents must be disclosed in a timely and accessible manner at the QA or relevant implementation stage. **GS 7 -** Water.In the case of water-related projects like the water points in DiMMAdapt, project design should: (i) consult all local water users, and involve beneficiaries in all stages of infrastructure development, from design, through operation and management, to rehabilitation and reconstruction; (ii) ensure equitable, reliable and sustained access to, and use and control of, water; (iii) address the gender dimensions in all stages. **GS 11:** Development of value chains, micro- and small enterprises (MSEs) From a social perspective, additional good practices for IFAD's support to and promotion of value chain and MSE development might include among others: (vi) favourable working conditions within newly created green jobs throughout the value chain, including in local food systems; (vii) improving workplace safety and reducing community exposure to environmental hazards and public health risks; (viii) creation of specific employment and entrepreneurial opportunities for youth, for example in supply of information or support services to the value chain; (ix) harmonization with national and international labour standards; and (x) strengthened capacity for good practices, including employment opportunities for landless and other marginalized groups. Other IFAD policies that support and complement this principle are: Rural Enterprise Policy, Rural Finance Policy, Private Sector Strategy, Improving Access to Land Tenure Security Policy, Gender Equality and Women's Empowerment Policy, Engagement with Indigenous Peoples Policy, Targeting Policy, Youth Policy Brief, Climate Change Strategy. Moreover, IFAD has been supporting the Principle for Responsible Agricultural Investment (PRAI), the

	African Land Policy Framework and Guidelines, including the Guiding Principles on Large Scale Land-based Investments, along with other frameworks and guidelines aimed at the social and economic empowerment of poor rural women and men and social and economic equity more generally.
ESP 3 Marginalised and Vulnerable Groups.	Marginalized and Vulnerable Groups is a cross-cutting issue in all the 14 SECAP Guidance Statements. A robust SECAP process requires attention to social dimensions such as land tenure, community health, safety, labour, vulnerable and disadvantaged groups, and historical factors, particularly in relation to natural resource management. It not only looks at compliance (e.g. managing potential negative impacts), but expected positive impacts and ways to maximize opportunities. To assure a good contribution to the quality of SECAP, project design should assess the socio-economic and cultural profile, including key issues relating to disadvantaged or vulnerable groups, conflict, migration, employment and livelihoods. Consultation with communities and stakeholders must be maintained throughout the project lifecycle, especially in high-risk projects. For investment projects with a projected high sensitivity to climate hazards, IFAD requires a climate vulnerability analysis which can help to improve the targeting of investment actions to include the most vulnerable and least resilient target groups. **GS 13 – Physical and economic resettlement.** Specific attention should be given to maximizing opportunities, avoiding involuntary resettlement, enhancing gender equality and women's empowerment and reducing vulnerability to risks/effects of climate change and variability and other project impacts. In any case, emphasis should also be on involving key stakeholders especially vulnerable groups and marginalized poor communities – including female-headed households, the elderly, or persons with physical and mental disabilities – in project design and implementation, and addressing public health concerns (e.g. HIV/AIDS). Should resettlement or economic displacement be envisaged, the FPIC and the do-not-harm principles – which are two pillars of IFAD's Improving Access to Land Tenure Security Policy - – will be followed at all times and for all its beneficiaries for "any development intervention that might affect the land access and use rights of communities. **GS 11: Development of value chains, micro- and small enterprises (MSEs).** From a social perspective, additional good practices for IFAD's support to and promotion of value chain and MSE development might include among others: (vi) favourable working conditions within newly created green jobs throughout the value chain, including in local food systems; (vii) improving workplace safety and reducing community exposure to environmental hazards and public health risks; (viii) creation of specific employment and entrepreneurial opportunities for youth, for example in supply of information or support services to the value chain; (ix) harmonization with national and international labour standards; and (x) strengthened capacity for good practices, including employment opportunities for landless and other marginalized groups. Other IFAD policies that support and complement this principle are: Improving Access to Land Tenure Security Policy, Gender Equality and Women's Empowerment Policy, Engagement with Indigenous Peoples Policy, Targeting Policy, Youth Policy Brief, Climate Change Strategy, Rural Enterprise Policy, Rural Finance Policy, Private Sector Strategy.
ESP 4 Human Rights	Human Rights is a cross-cutting issue in all the 14 SECAP Guidance Statements. Among the Guiding Values and Principles for SECAP, there is the principle to "support borrowers in achieving good international practices by supporting the realization of United Nations principles expressed in the Universal Declaration of Human Rights and the toolkits for mainstreaming employment and decent work".
ESP 5 Gender Equality and Woman's Empowerment.	Gender Equality and Women's Empowerment is a cross-cutting issue in all the 14 SECAP Guidance Statements. GS 11 – Development of value chains, micro- and small enterprises (MSEs) Well-designed value chain projects can drive improved natural resource management, climate resilience, gender equality, decent labor and working conditions, community health and safety, and poverty

	alleviation. Two key issues to manage in all value chain projects are (i) gender and (ii) food security (IFAD 2014). Different stages and functions of any value chain will be associated with gender-specific knowledge, assets, decision-making powers and responsibilities. Household food security and nutrition may be at risk in value chain designs that emphasize mono-cropping and commercial sales at the cost of local food access or labour demands. Additional good practices for IFAD's support to and promotion of value chain and MSE development might include: (i) gender-sensitive approaches to vocational training, business skills development, small-scale processing infrastructure, contract development and other value chain innovations; (ii) corporate social responsibility strategies that improve women's economic and decision-making position within value chains. Inclusion of youth is also a growing issue in value chains (UNIDO 2011), being carefully addressed in IFAD projects. Other IFAD policies that support and complement this principle are: Gender Equality and Women's Empowerment Policy, Rural Enterprise Policy, Rural Finance Policy, Private Sector Strategy, Improving Access to Land Tenure Security Policy, Engagement with Indigenous Peoples Policy, Targeting Policy, Youth Policy Brief, Climate Change Strategy.
Principle 6 Core Labour Rights.	Core Labour Rights is a cross-cutting issue in all the 14 SECAP Guidance Statements.A robust SECAP process requires attention to social dimensions such as land tenure,community health, safety, labour, vulnerable and disadvantaged groups, and historical factors, particularly in relation to natural resource management. One of the guiding values and principles for SECAP is to minimize adverse social impacts and incorporate externalities. Avoid and mitigate any potential adverse impacts on health and safety, labour and working conditions and well-being of workers and local communities. GS 3 – Energy:Gender-related differences and inequalities influence the outcomes of energy planning:projects. Attention should be given to women's time and labour constraints; women should be provided with opportunities to participate in decision-making regarding the development and adaptation of fuel-efficient technologies, and with the necessary technical skills to compete with men in green job opportunities. Giving women and men access to project participation can change overall gender inequality. The harnessing of rural renewable energy sources to create a rural energy market offers many opportunities for improving gender balance: field experience shows that many activities– such as commercial distribution, rural credit, marketing, training and agricultural work for securing feedstock for bio-energies – would benefit from increased entrepreneurship and leadership of rural women in the energy value chain. GS 11 – Development of value chains, micro- and small enterprises (MSEs) With large private agribusinesses, IFAD project design teams and project implementers can refer to IFAD's principles under Private Sector Strategy (IFAD 2011a). These principles include ensuring that large and international companies that partner with IFAD comply with social and environmental standards, and are regularly assessed through due diligence during project preparation and implementation. Other IFAD policies that support and complement this principle are: Gender Equality and Women's Empowerment Policy, Rural Enterprise Policy, Rural Finance Policy, Private Sector Strategy, Engagement with Indigenous Peoples Policy, Targeting Policy, Youth Policy Brief, Climate Change Strategy.
ESP 7 Indigenous people	According to SECAP, when impacting indigenous peoples, the borrower or the grant recipient must seek FPIC from the concerned communities, document stakeholder engagement and consultation process and prepare an indigenous plan (IP). Whenever FPIC is not possible during project design, the FPIC implementation plan should specify how FPIC will be sought during early implementation. The FPIC plan and related documents must be disclosed in a timely and accessible manner at the QA or relevant stage during implementation.IFAD SECAP promotes the Indigenous Peoples Plan as a tool to ensure that the design and implementation of projects foster full respect for

	indigenous peoples' identity, dignity, human rights, livelihood systems and cultural uniqueness, as defined by the indigenous peoples themselves. It also ensures that the affected groups receive culturally appropriate social and economic benefits, are not harmed by the projects, and can participate actively in projects that affect them. Other IFAD policies that support and complement these principles: Indigenous People's Policy; Targeting Policy; Gender Policy; Climate Change Strategy
ESP 8 Involuntary Resettlement	Two Guidance Statements are related to Principle 8: GS 13 – Physical and economic resettlement; GS 8 – According to SECAP, when projects result in physical or economic displacement (affecting access and user rights to land and other resources), the borrower or grant recipient should obtain FPIC from the affected people, document stakeholder engagement and consultation process and prepare resettlement plans or frameworks. The documents must be disclosed in a timely and accessible manner at the QA or relevant implementation stage. Throughout the process of identification, planning, implementation and evaluation of the various elements of resettlement or economic displacement and their impacts, adequate attention will be paid to gender concerns: specific measures addressing the needs of female headed households, gender- inclusive consultation, information disclosure, and grievance mechanisms will be put in place in order to ensure that women and men will receive adequate and appropriate compensation for their losses and to restore and possibly improve their living standards. Other IFAD policies that support and complement this principle are: Gender Equality and Women's Empowerment Policy, Engagement with Indigenous Peoples Policy, Targeting Policy, Land Policy, ENRM Policy, Youth Policy Brief, Climate Change Strategy.
ESP 9 Protection of Natural Habitats	Six Guidance Statements are related to Principle 9: GS 6 – Rangeland-based livestock production; GS 7 – Water; GS 1 – Biodiversity; GS 3 – Energy; GS 5 – Forest Resources GS 7 – Water: According to SECAP, Water-related projects requires projects to: (i) assess watershed protection needs and measures to preserve surface and underground water hydrology, and ensure water quality and supply within and adjacent to the project area; (ii) avoid detrimental changes in downstream water flow; (iii) limit erosion in watershed areas, intakes, waterways and reservoirs, including by designing all infrastructure to minimise scouring, sedimentation and stagnant water and to facilitate cleaning; (iv) Explore options for rewarding communities for watershed or ecosystem services (financially and non- financially) or benefit-sharing mechanisms. Other IFAD policies that support and complement these principles are: Environment and Natural Resources Management (ENRM) Policy; Land Policy; Climate Change Strategy.
ESP 10 Conservation of Biodiversity	GS 1 – Biodiversity IFAD can protect biodiversity by designing its projects appropriately, ensuring that they are implemented sustainably with full community participation, and providing sound recommendations for improving borrowing countries' agricultural policies, many of which are currently top-down. The following are the issues to be considered in this identification process: (i) Adopt an ecosystem perspective and multi-sectoral approach to development cooperation programmes; (ii) Promote fair and equitable sharing of costs and benefits from biodiversity conservation and sustainable use at all levels: local, national, regional and international; (iii) Encourage full stakeholder participation, including partnerships between civil society, government and private sector; (iv) Ensure that IFAD projects and programmes are consistent with the wider policy framework, and/or changes are made for supportive policies and laws; (v) Ensure that institutional arrangements are effective, transparent, accountable, inclusive and responsive; (vi) Provide and use accurate, appropriate, multidisciplinary information, accessible to, and understood by, all stakeholders; (vii) IFAD's investments should be sensitive to, and complement, local and national structures, processes and capacities.

	Mitigation activities to eliminate or reduce the negative impacts of a project on biodiversity should follow the following order of preference: (1) Complete avoidance of adverse impact; (2) Reduction of impacts on biodiversity where unavoidable; (3) Restoration of habitats to their original state; (4) Relocation of affected species; (5) Compensation for any unavoidable damage. Other IFAD policies that support and complement these principles are: Environment and Natural Resources Management (ENRM) Policy; Land Policy; Climate Change Strategy.
ESP 11 Climate Change	Climate change is a cross-cutting issue in all the 14 SECAP Guidance Statements. SECAP asks to incorporate climate change risk analysis into projects, which are subject to an environmental, social and climate risk screening, and are assigned a risk category for climate vulnerability (high, moderate, low). GS 7 – Water: In the case of water irrigation projects, the potential impacts of climate change on water availability should be thoroughly examined when designing any type of intervention – climate moisture index, local climate variability data and projections can be very useful in this regard. Projects in areas prone to floods, drought and other natural disasters often require explicit incorporation of climate change effects into economic analysis, including assessment of the cost of adaptation and measures for reducing vulnerability at the river basin or watershed level (World Bank, 2009). Multiple-benefit approaches or technologies that have positive impacts on climate resilience, yields and soil moisture, such as rainwater harvesting and conservation agriculture, should be promoted. GS 11: Development of value chains, micro- and small enterprises (MSEs): From a climate perspective, additional good practices for IFAD's support to and promotion of value chain and MSE development might include: (i) development of early warning systems and contingency plans for climate shocks and extreme events across the full value chain including transport and storage; (ii) introduction of protective features and reinforcements into the design of critical infrastructure to handle higher maximum water run-off and higher temperatures; (iii) inclusion of climate criteria in corporate standards and protocols; (iv) financial channels to reduce risks associated with innovation (e.g. microfinance, small grants programs, index-based weather insurance); (v) renewable energy sources to cover changing requirements for grain processing, fish drying and other value-adding activities; (vi) use of hazard exposure and crop suitability maps to inform siting of processing facilities; (vii) harmonization with national climate change policies and international commitments; (viii) strengthened capacity for good practices, including building stronger knowledge systems and institutions for ongoing adaptation to progressive climate change; and (ix) incorporation of measurable climate change mitigation practices where relevant, that reduce greenhouse gas emissions, such as agroforestry, measures to increase soil carbon, and efficiency measures in the value chain that reduce output to input ratios for materials, energy and water (IFAD 2015). Reductions in greenhouse gas emissions should be measured where technically and financially feasible. The FAO EX-ACT tool is a good example already being used in some IFAD projects.
ESP 12 Pollution Prevention and Resource Efficiency.	Five Guidance Statements are related to Principle 8: GS 6 – Rangeland- based livestock production; GS 7 – Water; GS 1 – Biodiversity; GS 3 – Energy; GS 5 – Forest Resources; GS 2 - Agrochemical. **GS 2 –** Agrochemicals. DiMMAdapt will minimise agrochemical use, but whenever an IFAD project includes the purchase, promotion or use of agrochemicals, environmental analysis should seek to address the following issues: (i) Identification of specific crops and their existing or potential pests requiring pest management; (ii) Identification of nationally approved and available pesticides, and management and application techniques for their judicial and effective use to protect human and environment health; (iii) Assessment of local and national capacity for the safe handling, use, storage, disposal and monitoring of agrochemicals; (iv) Development of an IPM programme for minimizing /optimizing pesticide application, including – if possible – provisions for monitoring residues on crops and in the environment; (v) Reduction of environmental

	impact. **GS 7 –** Water (Agriculture and domestic use)Issues to be addressed in the design phase: **(a) Watershed protection:** Preserve surface water and underground water hydrology, and ensure water quality and supply within and adjacent to the project area. Avoid detrimental changes in downstream water flow. Limit erosion in watershed areas, intakes, waterways and reservoirs, including by designing all infrastructure to minimize scouring, sedimentation and stagnant water and to facilitate cleaning. Explore options for rewarding communities for watershed or ecosystem services (financially and non-financially) or benefit-sharing mechanisms. **(b) Participation of target groups and equitable distribution of benefits**: Consult all local water users, and involve beneficiaries in all stages of infrastructure development, from design through operation and management, to rehabilitation and reconstruction. Ensure equitable, reliable and sustained access to, and use and control of, water. Address the gender dimensions in all stages. **(c) Climate change:** Incorporate climate change risk analysis into projects; the potential impacts of climate change on water availability should be thoroughly examined when designing any type of intervention – climate moisture index, local climate variability data, and projections can be very useful in this regard. Projects in areas prone to floods, drought and other natural disasters often require explicit incorporation of climate change effects into economic analysis, including assessment of the cost of adaptation and measures for reducing vulnerability at the river basin or watershed level (World Bank, 2009). Promote multiple-benefit approaches or technologies that have positive impacts on climate resilience, yields and soil moisture, such as rainwater harvesting and conservation agriculture. Other IFAD policies that support and complement these principles are: Environment and Natural Resources Management (ENRM) Policy; Land Policy; Climate Change Strategy.
ESP 13 Human Health	GS 14: Human healthWhen community health is significantly affected, a health-impact assessment must be conducted and mitigation measures included in the project design.
ESP 14 Physical and Cultural Heritage.	GS 9 – Physical cultural resources (PCR)According to SECAP, the borrower will address PCR in programmes/projects financed by IFAD in the context of the environmental and social assessment (ESA) process established by IFAD's SECAP. The SECAP prescribes general steps for programmes/ projects that apply in cases involving PCR: screening; collecting data; assessing impacts; and formulating mitigating measures. Other IFAD policies that support and complement this principle are: Gender Equality and Women's Empowerment Policy, Engagement with Indigenous Peoples Policy, Targeting Policy, ENRM Policy, Climate Change Strategy.
ESP 15 Lands and Soil Conservation.	Three Guidance Statements are related to Principle 15: GS 5 – Forest Resources; GS 6 – Rangeland-based livestock production; GS 7 – Water (Agriculture and domestic use); IFAD has demonstrated a firm commitment towards land, soil and water conservation as detailed under ESP 15 in section III below. Other IFAD policies that support and complement these principles: Land Policy; Targeting Policy; ENRM Policy; Climate Change Strategy.

III. Environmental and Social Impact Assessment

Principle 1: Compliance with the Law.

163. No further assessment of potential impacts and risks is required for compliance with the law, since require prior permissions are required and the project complies with all relevant national legislation and policies on agriculture, water management, climate change adaptation, employment, women's rights, among others. As detailed in section 'II-E':

    i. The project will be in full compliance with the law on water (No. 494) that protects water bodies and ensures the rational use of water resources. The project will be in compliance through the promotion of nature conservation that will result in the retention of water in soil; improve drainage; promote spring restoration; and shade through reforestation in water points. The project will not be in violation of this law.

    ii. The project has consulted with national stakeholders and determined it is also compliant with the Law on Environmental Impact Permits that regulates any organised activity or action which poses a threat to human health or life as well as cultural and material values; the planned activities will not trigger requirements for Environmental Impact Permits.

    iii. Gender Law (No.2394) will be fully complied with as the project will not discriminate against women in any way. The project will promote gender awareness raising and target 30 percent of women that is reflective of the 30 percent of woman-headed family holdings. The project will engage in gender sensitisation and gender promotion, as well as to empower women by increasing their incomes and promote them into decision making positions.

    iv. The project will at all times comply with the Code of Good Agricultural Practice. It will promote good agricultural practices that adhere to the legal obligations, recommendations and practical advice for farmers involved in agricultural production and preservation of the rural environment. The project will achieve this through the promotion of community-based pasture management plans that aim to rehabilitate degraded pastures.

    v. DiMMAdapt will through the PMPs promote the conservation and regeneration of natural landscapes including forests and in doing so will ensure adherence to the Forest Code. The Forest Code 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 the endangered plant species; regulating harmonized interrelations between these components.

    vi. The project will also ensure compliance with the Law on Environmental Protection, as this is the main objective of the DiMMAdapt. The project aims to achieve this through multiple approaches including through awareness raising demonstrations, training, the development of PMPs to ensure pasture and fodder conservation, increased productivity but also DRR with reduced flooding, mudslides and general land degradation.

Principle 2: Access and Equity

164. No Further assessment of potential impacts and risks is required for compliance with the access and equity since the project will not reduce or prevent communities in the targeted areas from accessing basic services. The project will take a number of transparent steps that will help ensure that the benefits of the project are being distributed fairly with no discrimination nor favouritism. Primarily, project targeting has been agreed with the government and comprises targeting criteria based on gender and age quotas. The project will advertise broadly through the mass media (radio, social media, town hall and village meetings, workshops etc.) for the implementation of an outreach/mobilisation strategy. Beneficiaries will be explained as they have been throughout the participatory and gender-balanced consultations during the design, that this is a project with a strong focus on women and youth, but that also adult men will also be eligible.

165. The DiMMAdapt targeting strategy is fully integrated into that of DiMMA and was developed after a review by the Independent Office of Evaluation (IOE) in the Country Strategy and Programme Evaluation (CSPE) of key concerns related to ensuring inclusiveness and women's roles. This has led to the targeting of the most vulnerable categories in society with quotas of at least 30 percent of women participation across all activities as well as 50 percent youth participation. The project will also directly target those regions that are identified as being inhabited only by rural poor smallholder farmers. The areas have also been recognised to be climate vulnerable as a result of the detailed climate change study conducted by IFAD. The project hereby ensures that that the targeted beneficiaries will be rural poor and climate vulnerable smallholders as well as the vulnerable categories of women and youth.

Principle 3: Marginalised and Vulnerable Groups.

166. The project has been shown not to pose any risks to the marginalised and vulnerable communities. The design team had a Gender and Targeting Specialist who conducted a poverty, targeting and gender-sensitive assessment in the targeted governorates. The project targeting strategies have been designed based on these assessments and presented in section I-A. The specialist collected information and undertook consultations with local officials and a number of marginalized and vulnerable members of the local communities.

167. **IDPs.** Georgia has a high number of vulnerable groups, such as Internally Displaced Persons (IDPs). These are people that have escaped conflicts or have 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. 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.

168. DiMMAdapt (and DiMMA) will ensure that it includes marginalised groups, such as IDPs and ethnic minorities addressing their specific needs and using appropriate outreach approaches, such as elaboration of programme materials in other languages, organizing information delivery to these groups. The policy and legislation development supported by DiMMA would ensure that all have fair and equitable access, as well as protected rights to these natural resources; that IDPs, ethnic minorities, women, youth and other vulnerable groups have representation or voice in decision making on allocation of pasture use rights. There will be specific efforts made in undertaking effective outreach efforts to increase awareness and disseminate information among these groups on Programme's benefits and opportunities.

169. **Poverty** in Georgia was estimated at 32 percent in 2016, decreasing from a peak of 46.7 percent in 2010. Poverty is more widespread in rural areas, where every second household can be considered poor along the USD2.50/day international poverty line. Also, the youth and women experience difficulties in Georgia due to patriarchal attitudes, with limited access to decision-making at the family- and community-level, limited resources and assets to increase and improve production. The project will address these challenges by directly targeting vulnerable households and creating linkages between the latter, Service Providers (SPs) and dairy aggregators along the dairy value chain to improve livelihoods.

170. **Youth** (men up to 35 years and women up to 40 years old) will be a target beneficiary in all DiMMA and DiMMAdapt activities. The upper age limit for women youth is to create a more level field given the greater obstacles women face in the labour market, through discrimination and also because of family responsibilities. Quotas for young people participation in the PUUs will be set at 50 percent for and they will have preferential treatment in selection of all beneficiaries; and participation in the FLSP will be set at 100 percent. It is often difficult for young people to access various programs and interventions due to the patriarchal traditions, shortage of knowledge and experience, lack of capital and collateral, as well credit history and they face even more challenges in rural areas of Georgia. This vulnerable group will be engaged in all programme activities and the details of their inclusion will be spelled out in the detailed design document and the Project Implementation Manual (PIM).

171. **Women** engaged in livestock and women led households/farms comprise another vulnerable group, which is cross cutting in all types of beneficiaries and which requires special support to be included in and benefit from the Programme. Targets for women will be 30 percent of beneficiaries since they play an important role in livestock rearing at the household or farm level, though mostly as labour, the DiMMAdapt project is a great opportunity to increase their knowledge, raise incomes and improve their livelihoods. As with youth, women experience difficulties due to patriarchal attitudes with limited access to decision making at the family and community level, have limited resources and assets to increase and improve production. Georgia's women are legally entitled to own and inherit land and property,[28] but customary practices usually give privileges to men in property inheritance, ownership, and administration.[29]

[28] Article 21 of the Constitution guarantees equal property rights: "Abrogation of the universal right to ownership, acquisition, alienation or inheritance of property shall be inadmissible" (Chapter One, Article 21.1, Constitutional Law of Georgia. www.parliament.ge/uploads/other/28/28803.pdf).

[29] N. Dudwick. 2015. "Missing Women" in the South Caucasus: Local Perceptions and Proposed Solutions. *Report 94705*. Washington, DC: World Bank.

172. **Non-discrimination** of vulnerable people applies to all vulnerable categories as mentioned above but also extends to the elderly and persons with disabilities. IFAD will at all times in all consultations ensure that no vulnerable people will be discriminated in any. Should any of the beneficiaries fall into this category, efforts will be made to facilitate access to the project's services, events, and any other activities related to the project.

173. **Monitoring**. The DiMMAdapt M&E system will be fully integrated with that of the DiMMA that will have a dedicated M&E officer as well as a Gender Focal Point. This will ensure that the system will collect gender and age disaggregated data, produce gender knowledge and monitor investments in poor and climate vulnerable regions. The gender perspective will be systematically mainstreamed at individual and organisational levels into PMU management from the start via quantitative and qualitative participatory monitoring and evaluation, ad hoc studies, and workshops. As per AF gender policy, during implementation the gender focal point will ensure project compliance with the gender policy guidelines. The assessment will include but not be limited to the questions under Implementation, Performance Monitoring and Evaluation.

Principle 4: Human Rights.

174. No further assessment of potential impacts and risks is required for compliance with human rights since the project is designed to respect and adhere to the requirements of all relevant conventions on human rights in compliance with the ESP. Among the Guiding Values and Principles for IFAD's Social Environmental Climate Assessment Procedures (SECAP), is the principle to "support borrowers in achieving good international practices by supporting the realization of United Nations principles expressed in the Universal Declaration of Human Rights and the toolkits for mainstreaming employment and decent work".

175. Georgia has ratified eleven human rights Conventions and optional protocols including against torture; civil and political rights; the elimination of discrimination against women; racial discrimination; rights of the child; and persons with disabilities. Georgia also does not have any pending human rights issues with the Human Rights Council Special Procedures, and neither are there pending OHCHR assessment recommendations. DiMMA and DiMMAdapt will address basic human rights that aim to redress the disparities in standards of living and access to a healthy environment for women, children, youth and marginalised.

176. Any observed human rights violations will be reported on. The project will respect international human rights, it integrates overarching human rights principles in order to strengthen social and environmental sustainability by including measures to assist the republic of Georgia in these respects. Information on any human rights violations will be reported by AF staff to investigate incidents and undertake a variety of actions aimed at either preventing, stopping the violations or obtaining some remedy from the relevant duty bearer on behalf of those affected.

Principle 5: Gender Equality and Women's Empowerment.[30]

177. The project has taken proactive measures to integrate gender focused development strategies that will ensure it will not pose a risk to the principle of gender equality and women's empowerment.

178. **Gender Equality Policy and Legal Framework.** Women enjoy equal rights in Georgian legislation. It does not discriminate against women and the Constitution of Georgia guarantees equal rights to both men and women. A Gender Equality Law was adopted in 2010 and aimed to ensure women's security, equality in the labour market and the strengthening of women's political participation. The Law established the Advisory Council on Gender Equality which is tasked to monitor the implementation of national action plans on gender equality, check the gender component of legislative acts, make recommendations and provide annual reports to the Parliament. The Law also states that local self-government bodies along with central legislative bodies are obliged to ensure identification and elimination of discrimination based upon sex. The budget, socio-economic development priorities, municipal programmes and plans of local self-government bodies are to be implemented in such a way as to exclude any kind of gender-based discrimination.

179. The non-discrimination Law was adopted in 2014. This Law states the principles of equality and non-discrimination on the basis of gender identity and sexual orientation along with race, colour, language, national, ethnic or social belonging, sex, pregnancy or maternity, marital or health status, disability, age,

[30] Project gender screening is available in annex 7

nationality, origin, place of birth, place of residence, internal displacement, material or social status, religion or belief, political or any other grounds. The Law includes the principle of equality established by the UN Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), according to which temporary special measures developed in order to achieve factual equality shall not be considered discrimination. Georgia ratified the CEDAW in 1994, and the Optional Protocol to CEDAW in 2002. The country is a member of the Council of Europe, and ratified the European Convention on Human Rights in 1999.

180. **Analysis**. There is a significant number of women headed households in Georgia. Nearly 30 percent of the family holdings were headed by women in 2014 (Agricultural Census, 2014). Women household heads are less likely than male heads of comparable households to be employed and 30 percent of such households fall under the 40-poverty percentile.[31] Households headed by women are more likely to be poor than those headed by men. Interestingly however, having more women in the household is associated with a lower risk of poverty.

181. Women in Georgia are self-employed, engaged in agriculture but mostly as unpaid household labour. Although women's access to education is high, it is not yet reflected in their overall employment and economic participation. About half of economically active women are not in the labour force. It is evident that responsibility for child caring and household errands in Georgia falls disproportionally on women, with 17 percent of women in economically active age being housewives. Due to prevailing traditional gender stereotypes, women are rarely engaged in activities outside the household. This situation is nearly the same in all regions, with increased exclusion (due to language and cultural barriers) for women in areas populated by ethnic and religious minorities.

182. Women are concentrated in the informal sector and lower-paying part-time work (health care, education, and subsistence agriculture). On average, women engage in agricultural work 80 days more than men do, yet their involvement is mostly as unpaid labour. The 2010 USAID gender assessment reported that women and men had distinct and often unequal roles. The study revealed that farms were generally owned and managed by men, and that most female farm owners were over 60, suggesting that "women farmers are less likely to be running farms for commercial purposes."

183. Women household heads are less likely than men heads of comparable households to be employed and 30 percent of such households fall under the 40 poverty percentile (World Bank - Poverty Assessment, 2016). For the women that are employed in Georgia, the gender pay gap is still pervasive. Although the average difference in monthly remuneration between men and women has decreased from 2012, it is still high, making female's remuneration about 44 percent lower than men's (Geostat, 2016). The difference is smaller in agriculture, where average female remuneration is about 20 percent lower than that of men. Women have little involvement in economic decision-making within the family and do not have the same rights and responsibilities as men do. The major challenges relate to high domestic workload, lack of childcare support services, especially in rural areas, unequal access to assets and resources, as well as traditional patriarchal and in some cases religious attitude to working women.

184. **Design.** The IFAD's poverty targeting and gender sensitive design and implementation guidelines were applied for the design of the project and a targeting and gender specialist was part of the design team, who did a poverty, targeting and gender assessment in the targeted areas. This resulted in the project developing a gender targeting strategy that set women quotas at 30 percent in recognition that nearly 30 percent of family holdings were headed by women in 2014 (Agricultural Census, 2014). Women requested for the consultations not to be held separately, and the time and locations of the meetings were determined by the farmers. The mission managed to meet with a number of women groups that are listed in annex 2.

185. Project interventions are designed to increase women's incomes, enhance their decision-making and empowerment by promoting them into decision-making positions in the PUUs and promoting their voice and representation in determining pasture user rights. Women's inclusion will involve at least 30% quota reserved for financing women headed households and women managed business out of the total number of: (i) seed capital investments directed to the adoption of improved dairy production systems by target households and adoption of alternative livelihood activities by youth; (ii) jobs created by the small enterprises in the programme area; and (iii) PUU members in PUUs selected for grant financing for improving pastures. The project aims to empower vulnerable women, youth through gender equality awareness raising and improved livelihoods.

[31] World Bank - Poverty Assessment, 2016

186. Young women up to 40 years of age (men up to 35) will qualify for DiMMAdapt support. Women, for the purposes for the IFAD projects in Georgia qualify as youth up to the age of 40. The social inclusion strategy of DiMMAdapt aims to empower vulnerable women, youth and men smallholder farmers by expanding their economic opportunities, access to climate resilient technologies and technical knowledge in agriculture to better adapt to the challenges of climate change.

Principle 6: Core Labour rights.

187. The project will not negatively affect Core Labour Rights.

188. Georgia has been a member of the ILO since 1993 and it has ratified the eight Fundamental Conventions on: forced labour; freedom of association and protection of the right to organise; the right to organise and collective bargaining; equal remuneration; abolition of forced labour; discrimination (employment and occupation); minimum age; and worst forms of child labour. Georgia has also ratified the governance (priority) convention on employment policy; the tripartite consultation (international labour standards) should have entered into force in May 2019.

189. The 2019 Report of the Committee of Experts to the 180th International Labour Conference, on the Application of Convention and Recommendations reported on the Application of International Labour Standards in Moldova. It called upon the GoG to:

    i. Ensure that national legislation, in particular the Labour Code (2006), the Law on Gender Equality (2010), the Law on Elimination of All Forms of Discrimination (2014) and/or the Law on the Public Service (2015), expressly commits to the principle of equal remuneration for men and women for work of equal value in consultation with the social partners;

    ii. Implement effective enforcement and detection mechanisms to ensure that the principle of equal remuneration for men and women for work of equal value is applied in practice;

    iii. Take steps to raise awareness among workers, employers and their organizations of the laws and procedures available in order to allow them to avail themselves of their rights;

    iv. Continue to provide information on decisions handed down by the judiciary, and cases handled by the Office of the Public Defender;

    v. Continue to provide gender-disaggregated data on labour market participation and remuneration;

    vi. Provide the Committee of Experts with information related to the 2018–20 Georgian National Action Plan on Gender Equality adopted in May 2018 and its potential impact on the principle of equal remuneration for work of equal value in law and practice; and

190. Of particular relevance to the project the Committee encourages the Government to:

    i. Provide information on the specific measures taken or envisaged in the framework of the State Concept on Gender Equality and the Gender Equality Council Action Plan 2018–20 directly aimed at reducing the gender pay gap. Such measures, may include, for example, undertaking sensitization programmes and awareness-raising activities to overcome traditional stereotypes regarding the role of women in society or adopting measures on shared parental leave, and affordable and available childcare services.

    ii. Continue its efforts in identifying and addressing the underlying causes of inequalities in remuneration, such as gender discrimination, gender stereotypes, and occupational segregation and to promote women's access to a wider range of job opportunities at all levels, including top management positions and higher paying jobs.

191. The project will contribute to the raising gender awareness for gender equality to overcome traditional stereotypes regarding the role of women in society. Positive discrimination in favour of women will be used to provide fair and equal opportunity to women who seek employment as labour and gain from wages earned.

192. **Child Labour.** IFAD has a longstanding partnership agreement with ILO dating back to 1979 and the project will not engage child labour in any of its activities. The prohibition of child labour will be part of the agreement with the beneficiaries and will be a non-negotiable provision of the agreement. Furthermore, IFAD as part of IFAD's Rural Youth Action Plan 2019-2021 (RYAP), is one of the founding members and has an ongoing partnership with the International Partnership for Cooperation on Child

Labour in Agriculture (IPCCLA). IFAD has been involved in collaboration with United Nations and non-United Nations entities to advocate against child labour in agriculture, and contributed to the preparation of a policy brief entitled "Breaking the rural poverty cycle: Getting girls and boys out of work and into school". IFAD is also an equal opportunities employer and as such it works to ensure that all its projects are free of discrimination in respect of employment and occupation. The project design ensures quotas for women and youth participation and transparent processes for recruitment as well as raising awareness raising about women and youth participation in decision making processes.

Principle 7: Indigenous Peoples.

193. As there are no indigenous groups in Georgia, the project will not involve any particular indigenous group. This aspect does not seem to be of relevance in terms of further assessment for ESP compliance.

Principle 8: Involuntary resettlement.

194. No involuntary resettlement is foreseen in any circumstance during project implementation, but at all times the project will work through the national authorities, namely MEPA, to ensure that the vulnerable and marginalised will not be adversely affected. The project will engage in participatory consultative processes that will ensure that everyone's voice can be heard and concerns addressed. IFAD will broadly advertise its grievance procedures.

195. **Free, Prior and Informed Consent (FPIC)** Principle[32]. Should a situation of resettlement or economic displacement arise during the implementation of the project that was not anticipated during design, the implementers and IFAD will ensure that a consultation and negotiation process is undertaken with the potentially affected people, according to the FPIC and do-no-harm principles. In case no agreement is reached, the project implementers will modify the specific interventions associated with the affected people, or halt them if changes are not possible. In the case where project implementers fail to undertake a consultation and negotiation process with the affected people, according to the FPIC and do-no-harm principles, the conditions and terms of the loan or grant agreement could be considered to be breached and the loan could be suspended, following IFAD's normal procedures for loan suspension.

Principle 9: Protection of Natural Habitats.

196. The project is not expected to have any negative impact on critical natural habitats damage. DiMMAdapt will be implemented in the three contiguous regions of Imereti, Samegrelo-Zemo Svaneti and Samtskhe-Javakheti. The regions in which the project will be implemented have been selected based on a geographical targeting approach explained under paragraphs 47 – 55 of the DiMMAdapt project document and are relatively large mountainous areas where the households are more prone to economic and environmental shocks. The exact project site locations however will be the result of a detailed analysis that will rank all communes in the target areas along identified key criteria. It is at point of design not possible to specify exactly where the project will take place, however every effort will be made to avoid the natural habitat areas that are considered critical. To this effect and as part of the ESMP, the PMU will identify the national critical habitat areas and monitor that the project implementation will not engage in their unjustified conversion or degradation, including those that are legally protected; officially proposed for protection; recognized by authoritative sources for their high conservation value, including as critical habitat; or recognized as protected by local communities. The project will screen the project areas against the list of national protected areas[33] to ensure there is no overlap this screening will be reported on in the PPR. In the event of overlap mitigation measures will be made and will be monitored and reported on by the PMU. The project will comply with the following laws on protecting protected areas.

- Law of Georgia No 2307 of 30 April 2014
- Law of Georgia No 2368 of 6 June 2003 - LHG I, No 19, 1.7.2003, Art.128
- Law of Georgia No 4736 of 17 February 2016
- Law of Georgia No 5201 of 8 November 2011

[32] Adapted from UN Permanent Forum on Indigenous Issues (UNPFII), 2005, Report on the International Workshop on Methodologies Regarding Free, Prior and Informed Consent and Indigenous People
[33] https://apa.gov.ge/en/protected-areas

- Law of Georgia No 476 of 25 March 2013
- Law of Georgia No 5201 of 8 November 2011
- Law of Georgia No 476 of 25 March 2013

Principle 10: Conservation of Biological Diversity.

197. There are no identified risks to biological diversity. To mitigate any possible risks the project will screen the project areas for critical biodiversity to ensure there is no overlap, this screening will be reported on in the PPR. In the event of overlap mitigation measures will be made and will be monitored and reported on by the PMU.

198. The project will only utilise ingenious species, hereby mitigating any risk of species invasion. The project will otherwise be actively improving or otherwise protecting natural ecosystem services through outcomes 1.1 and 1.2 of the project. The project will not be exposed to any risks related to conservation and biodiversity and care will be taken to not endanger any flora and fauna habitats particularly endangered species listed in the table below.

Table 16 List of Endangered Flora and Fauna

Description	Name
Flora red List of endangered species of trees and plants	• Georgian nuts. • High mountain oak. • Dea-buckthorn (Hippophaerhamnoides). • Caucasian astragalus. • Yew. • Elm.
Fauna red list of endangered species of animals and birds.	• Brown bear (Ursusarctors). • Caucasian squirrel (Sciurusanomalis). • Caucasian heathcock (Tetraomlokosiewiczi). • Imperial Eagle (Aquila heliacal).

Principle 11: Climate Change.

199. The DiMMAdapt project is a result of a thorough national assessment of the climate change adaptation needs and recommended course of action, that have been presented in the Climate Change National Adaptation Plan (CCNAP). The CCNAP was in turn a product of the IFAD / GEF project Enhancing Resilience of Agriculture Sector in Georgia (ERASIG) that built climate change resilience into IFAD's preceding Agriculture Modernisation, Market Access and Resilience Project (AMMAR) project. The CCNAP has identified a number of climate change related impacts. These are: (i) Localised precipitation is more concentrated and heavier in summer, increasing the torrential regime and hereby increasing the risk of flooding, soil erosion, and reduced soil percolation; also (ii) Reduced precipitation in the summer months for 3 regions in the programme area and increased evaporation caused by higher temperatures will likely have negative impacts on water availability leading to longer drought events in the future.

200. The DiMMA programme aims at rural economic development and poverty reduction by contributing to the modernization and emergence of a competitive diversified resilient and sustainable dairy industry. One of the main pillars of the strategy relies on DIMMAdapt support for the climate-smart intensification and modernization of dairy production through a better management of the natural resources and of their livestock. One of the outputs of DiMMA will be to promote artificial insemination for the gradual interbreeding with local breeds to develop a herd that is more productive and better adapted to the changing climatic conditions. Emphasis needs to be made that this will be a slow and gradual improvement process as existing heads die or are slaughtered over time - not one of additional cows. Georgian authorities have explicitly rejected the introduction of high-yielding foreign landraces. The aim is for a reduction of cattle numbers and GHG emissions through a combination of retirement of old non-

commercial farms; increased productivity through better breeds and improved nutrition leading to fewer cows for the same output and more work per cow.

201. **GHG risk.** The project is designed to be, on the whole, a net carbon sink, and many measures have been taken to further reduce the GHG emission of cattle. These include improved feeding throughout the year with minimal usage of herbicides and chemical fertilisers and the use of manure as compost. Research shows[34,35,36,37] that subsistence farming has a low productivity mainly due to low feed quality, with low protein and energy intakes particularly during drier periods that also leads to higher GHG emissions. Feed quality and production efficiency are major factors contributing to GHG emissions and climate-smart production systems reduce the GHG emissions (methane mainly, but also CO_2 and N_2O) per kg of milk and meat. There is however a minor risk that as an indirect result of improved pastoral resources, and through DiMMA, access to Artificial Insemination and improved access to processing and market infrastructure, cattle numbers and associated GHG emissions may inadvertently increase. Management measures have been integrated both in DiMMAdapt as well as DiMMA to directly mitigate this risk and guarantee that the project will constitute a carbon sink and will not result in GHG increases.

202. **Cattle registry.** DiMMA and DiMMAdapt have integrated a project-level cattle registry system into the activities related to cattle replacement through Artificial Insemination (AI) and pasture improvements grants. The way it will work is that grants under DiMMA will be administered by the Agriculture Projects Management Agency (APMA). The APMA is an arm of the Ministry of Environmental Protection and Agriculture (MEPA) that supports investments in agricultural projects with cheap credit programmes for agricultural loans in partnership with 13 commercial banks. Under DiMMA agricultural sector projects approved by these banks at the nominal interest rate of 13-15% are eligible for 11% government subsidy through APMA, thus reducing the net interest rate for the borrower to 2-3%. The APMA will monitor cattle numbers through the pasture improvement grants; it will also manage the Dairy Value Chain Development Facility (DVCF) of the programme that will meet 60 to 80 percent of the investment costs for a number of dairy activities under DiMMA, including AI. Smallholders who want to apply for the AI programme will therefore benefit from 2-3 percent interest rates and in return they will need to declare the number of cows they own. The APMA will monitor pasture herd numbers and will record any eventual increases and report to the PMU on a quarterly basis. PUUs found to have increased cattle numbers will be required to demonstrate offsetting has taken place through the PMP equivalent to the level of GHG emitted. The continuation of the grant cycle will be dependent on this evidence.

203. DiMMA is further supported by the Food and Safety Agency (FSA) which is also under MEPA and is responsible for registering and labelling of livestock. It will be the role of the FSA to register as well as carry out verifications of the declared cattle numbers. The FSA will also report to the PMU on a quarterly basis. The PMU will be able to ensure both the numbers reported by the APMA as well as the FSA correlate. It will be the responsibility of the DiMMAdapt Climate Change Specialist to report any cattle increases both in the biannual progress reports as well as in the annual Project Performance and Reporting (PPR) to the Adaptation Fund together with the proposed management response.

204. **GHG offsetting.** The targeted mountainous regions have been identified in the nationwide climate change assessment led by IFAD under the AMMAR project as being the most vulnerable pastures in Georgia. One of the main objectives of DiMMAdapt is the sustainable rehabilitation of 1,000 ha of these vulnerable pastures through smallholder capacity building in developing community Pasture Management Plans (PMP) that will ensure sustainability through ownership. While providing for sustainable livelihoods in the form of feed for cattle, the rehabilitation of these pastures will also provide a significant sustainable carbon storage mechanism. DiMMAdapt will benefit from two successful projects both supported by GEF that will ensure the project will be based on best practices. The first is AMMAR that is implemented by the same PMU that will implement DiMMA and DiMMAdapt and, as can be seen in Annex 3, is successfully protecting vulnerable pastures with windbreaks and the planting of 40,000 indigenous trees.

205. The second project DiMMAdapt will benefit from is the IFAD/GEF Community-Based Integrated Natural Resources Management Project (CBINReMP) in Ethopia. The CBINReMP is similar to DiMMA and DiMMAdapt in as much as CBINReMP also developed community-based management plans but for

[34] FAO (2013) Tackling climate change through livestock.
[35] Gaitán L, Läderach P, Graefe S, Rao I, van der Hoek R (2016) Climate-Smart Livestock Systems: An Assessment of Carbon Stocks and GHG Emissions in Nicaragua. PLOS ONE 11(12)
[36] Dr, Jan Dijkstra (2015) Large impact of grass quality on methane emission. Wageningen University.
[37] T.V. Vellinga and I.E: Hoving. Maize silage for dairy cows: mitigation of methane emissions can be offset by land use change. April 2011, Volume 89, Issue 3, pp 413–426

the degraded Ethiopian rangelands. Carbon sequestration was also a key outcome of the GEF component and this was achieved through a partnership IFAD set up with the Colorado State University and their 'stock exchanges and GHG emissions measure, monitor and model software programme' to calculate GHG sequestration. The lessons that DiMMAdapt can learn from CBINReMP is that gathering baseline satellite imagery is very important. Therefore, DiMMAdapt will develop GIS pasture mapping as detailed under output 1.1.1 and this will be enhanced with the acquisition of satellite images of the project areas, once defined through community-based consultation processes.

206. DiMMAdapt will contract the Colorado State University, or a similarly experienced organisation. They will once a year report the level of GHG sequestration as a result of the pasture rehabilitation programme but also the net GHG emissions as a result of any cattle increases (if any). Until the PMPs have been developed, it is not yet known precisely how many ha of grasslands will be rehabilitated or how many trees planted as windbreaks or as measures against erosion in highly degraded pasture lands, neither will it be known how many other leguminous plants will be planted to stabilise erosion gullies etc. The proposal has however in annex 5, conducted an estimate of the expected GHG balance using the Ex-Ante Carbon-balance Tool (EX-ACT) developed by FAO (using IPCC default values (Tier 1) and/or region-specific coefficients (Tier 2)).[38] This tool enables the inputting of inter alia livestock numbers as a result of project activity as well as rehabilitation of degraded lands. The proposal presents two scenarios: 1) the rehabilitation of 3,800 ha of grasslands including 1,000 ha of rehabilitation with physical investments and 3,800 ha of improvement management through rotational grazing; and 2) the same as scenario one but with an additional 1000 cattle fed with improved pasture feed. In scenario one the project hypothetically would offset 10,866 tCO_2eq per year and - 217,325 tCO_2eq overall. Under the second scenario a hypothetical increase of 1,000 cows fed with improved pasture feed would contribute 3,230 tCO_2eq per year and 64,596 tCO_2eq overall leaving a net negative 7,636 tCO_2eq per year and -152,729 tCO_2eq overall (conservatively rounded to 150,000 in the LogFrame). In practical terms it would require the rehabilitation of degraded lands with 200 ha of grasslands to offset an increase of 1,000 cattle. The project is demonstrably set on a clear carbon negative trajectory, nevertheless, measures have been integrated into both DiMMA and DiMMAdapt to ensure management and monitoring processes are in place to offset any unexpected increases in cattle numbers.

207. **Monitoring and reporting.** The climate change focal point will work in close collaboration with the DiMMA M&E officer to ensure that the M&E framework correctly records the data received both from the cattle numbers but also the net GHG emission calculations conducted by the specialist institution. The regular reporting both biannually for the progress reports, as well as annually in the PPR to the AF will report on the net GHG levels and in the unlikely event that cattle numbers and their respective net GHG emissions may increase, the planned course of action to be taken as part of the PMP designed by the PUU to offset them.

Principle 12: Pollution Prevention and Resource Efficiency.

208. It is not expected that the project will pose any significant pollution risks and no further assessments will be required. As stated under Principle 11, the project will not be a net emitter of GHG's additionally it will bring environmental benefits in sustainable resource management for example in addressing the overgrazing pressures by supporting the training of PUU's in pasture assessment and management. These will include vulnerability assessments, livestock inventories, pasture assessment maps, annual pasture use plans and maps, pasture improvement plans and infrastructure improvement plans.

209. The project will further promote initiatives to reduce the pressure stressors weighing on the pastures. It will achieve this through a dual approach of piloting economic incentives to encourage the market-vulnerable smallholders not to depend on the pasture eco-services. The pilots will include beekeeping, mushroom growing, greenhouses, and orchards, and by introducing fodder conservation and diversification pilots. Secondly the project will also improve the productivity of the pastures, thereby reducing the overgrazing pressures.

210. DiMMAdapt will also reduce soil erosion and the risk of flooding and mudslides. This will be achieved through cost-effective and no regret nature based measures. The PUUs will be equipped with the tools to assess, monitor and implement PMPs that will include the planting of indigenous bushes and trees to protect against soil erosion and function as barriers against storms and high winds. River floodwaters will be managed through the restoration of riverine vegetation as barriers against floods, to reinforce river banks and function as sources of fodder. Energy efficient technologies will also be introduced

[38] http://www.fao.org/tc/exact/carbon-balance-tool-ex-act/en/

through solar powered milk pre-cooling heat exchanger pilots to increase the quality of the milk produce while offsetting reductions in production. The project will further promote resource efficiency through the introduction of manure composting, this will promote the reuse of a resource that was observed during the design missions as going to waste and polluting soils and nearby water sources.

Principle 13: Public Health.

211. The project will not have negative impacts on public health.

212. The WHO[39] explains that many factors combine together to affect the health of individuals and communities. Whether people are healthy or not, is determined by their circumstances and environment. To a large extent, factors such as where people live, the state of their environment, genetics, income and education levels, and our relationships with friends and family all have considerable impacts on health, whereas the more commonly considered factors such as access and use of health care services often have less of an impact. The main overarching determinants of health are:

- The social and economic environment,
- The physical environment, and
- The person's individual characteristics and behaviours

213. The project will improve all the determinants of health presented in the screening table below and as listed by the WHO. DiMMAdapt will have a positive contribution to public health as healthier, more resilient pasture ecosystems have positive impacts on health, by supporting livelihoods and local economies, improved diets, food security and reduced vulnerability to climate shocks.

Table 17 Public health screening

Determinants of health	Health Risks	Mitigation Measures	Impact on Health
Income and social status	Lower income and social status are linked to worse health.	The project will further target the landless rural poor and support 620 non-commercial rural households with 250 pilot complementary, non-competitive, non-extractive livelihood projects. It will prioritise women and youth to encourage and nurture new micro-enterprises to develop new additional sources of income and become producers of alternative commodities	Positive.
Education	Low education levels are linked with poor health, more stress and lower self-confidence.	The project will have a broad capacity building programme. PUUs will be trained in pasture assessment and mapping and management, forage production and conservation that will give them the knowledge to better manage their environment and their livelihoods.	Positive.
Physical environment	Employment and working conditions – people out of employment are less healthy.	Activities under project will create employment enabling marginalized and vulnerable groups including unemployed youth and women to raise their income hereby improving their health.	Positive.
Social support networks	Greater support from families, friends and communities is linked to better health	The project will develop Pasture User Associations that will develop a sense of community as people work together to achieve a common objective that has	Positive.

[39] https://www.who.int/hia/evidence/doh/en/

		mutual benefits for all participants. This will give a sense of improved community participation and support and lead to improved health as a result of an improved environment and livelihoods.	
Health services	Access and use of services that prevent and treat disease influences health	Through improved livelihoods and employment, the beneficiaries will have improved access to healthcare that will be beneficial for their health.	Positive.
Land use	Changes in land use, soil quality, choice of crop have impact on health	. Positive changes in land use and soil quality will be achieved through pasture assessment maps; vulnerability assessments; annual pasture use plans; and pasture improvement plans. This will directly result in the rehabilitation of 1,000ha of degraded pastures.	Positive.
Unsustainable farming	Unsustainable farming including chemical and energy use, biodiversity, organic production methods, and diversity of foods produced	The PMPs developed by the PUU will be sustainable agriculture and provide an alternative to the mass-industrialisation of the sector as a result of the EU Deep and Comprehensive Free Trade Area (DCFTA). . It will promote fencing, improved vegetative cover, improved fodder management and introduction of resilient plant species, including highly resilient and diverse native plant species tolerant to drought; water management measures for both water conservation and restoration of water points, but also the DRR of flooding events through increased vegetative cover and better river management against flooding.	Positive.

Source: https://www.who.int/hia/evidence/doh/en/

Principle 14: Physical and Cultural Heritage.

216. Georgia ratified the convention Concerning the Protection of World Cultural and Natural Heritage on 4 November 1992. The national and regulatory framework for the recognition and protection of physical and cultural heritage include the Law on Preservation of Cultural Heritage (1999); Law on Export and Import of Cultural Property (2001); and the Law on Cultural Heritage (2007). On a national scale Georgia has three sites recognised on the World Heritage list these are: the Gelati Monastery, the Historical Monuments of Mkskheta, and the mountain landscapes of Upper Svaneti. Pasture rehabilitation will help ensure the protection of the natural mountain landscapes of the Svaneti region against erosion and environmental degradation.

217. The project will rehabilitate degraded pastures and will not have any adverse impacts on physical and cultural heritage of the people in the intervention areas identified. A public consultation was conducted in the project areas and the chances of damage to physical assets are determined to be extremely low. Furthermore, through the integration with the DiMMA project, DiMMAdapt will support the cultural heritage of Sulguni and Imeruli cheese making by supporting the formulation and registration of collective brand, label or denomination of origin for local premium cottage cheese. This will enable small and medium scale processors, especially those in mountainous areas, to differentiate and protect their products.

Principle 15: Lands and Soil Conservation.

218. Georgia has a wide variety of soil types within a small area and soil erosion, desertification and salinization are growing problems. Water and wind erosion, environmentally degrading agricultural practices and other anthropogenic activities such as uncontrolled logging as well as natural processes has led to the degradation of around 35 percent of farmland. The mountain ranges for example with the predominant grasslands are very rich in species with many endemic to the region, but they are vulnerable to overgrazing that is the primary cause of degradation followed by Climate Change.

219. Some of the main objectives of the DiMMAdapt project include the promotion of soil conservation and the avoidance of degradation of pasture lands. The activities the project will undertake to directly reduce soil degradation and promote soil conservation include:

    a) Carrying out demonstrations targeted at the Pasture User Associations (PUU's) on collective pasture management approaches and methodologies for improving grassland productivity.

    b) Increasing awareness of climate change.

    c) Training and providing technical backstopping to the PUUs in the designing of the Pasture Management Plans. Areas will include: the designing of community-based pasture assessment maps; vulnerability assessments; annual pasture use plans; pasture improvement plans; forage production and conservation; water management measures for pasture resilience; the restoration of degraded pastures; and restoration of riverine vegetation, generating threat analyses, designing an adaptation strategy with related adaptation activities, a management plan, fees and revenue generation.

    d) Restoring of degraded pastures including forests through: rotation / fencing; improved vegetative cover and fodder yield through the interspersing of fodder with highly diverse native plant species such as grasses, leguminous plants and small bushes that are highly tolerant to extended summer droughts.

    e) Introducing water management measures to improve water soil retention; drainage; water spring restoration; and protection and shade through reforestation in water points.

    f) Measures to mitigate against the increased prevalence of torrential rain leading to soil erosion, mudslides and floods. These activities will include the plantation of bushes and trees, that will protect against soil erosion and function as barriers against storms and high winds, while also serving as a possible source of by-products such as fruit, berries, fodder and wood.

IV. Environment and Social Management Plan

i) Safeguards and Screening Procedures.

220. DiMMAdapt is largely an environmentally and socially beneficial project with no negative impacts. The main challenge is ESP 11 due to activities associated with DiMMA (and not DiMMAdapt) which can be easily mitigated and has meant DiMMAdapt is rated as a category 'B'. As per AF reporting requirements, the PMU will submit the PPR tracker that also includes the 15 ESP principles and the risk mitigation measures that have been taken. These will include the identification and exclusion (if any) of protected natural habitats in the project area under ESP 9; of critical biodiversity under ESP 10; and of cultural heritage sites under ESP 14. In response to the AF review comment that the activities of components 1.2 and 2.1 have yet to be selected and that the ESMP does not have adequate provisions for risks identification for concrete activities of these components, the PMU will conduct an environment and social risk screening of the said components. It will report the risk analysis and proposed mitigated measures in the annual PPR, as detailed in the table below.

221. The project has also mainstreamed a series of management processes that will mitigate any risk of increases in cattle numbers. The ESMP of the project comprises the GHG monitoring and a response mechanism that has been described in ESP 11 here above and summarised in the table below. This includes integrating a project-level cattle register that will be monitored and reported on by the Agriculture Projects Management Agency (APMA), the Food and Safety Agency (FSA) and the PMU. The project will partner with a qualified research centre such as the Colorado State University, or a similarly experienced organisation that is able to quantify if any GHG increases have occurred and how to offset them. PUUs found to have increased cattle numbers will be required to demonstrate offsetting has taken place through the PMP equivalent to the level of GHG emitted. The continuation of the grant cycle will be dependent on this evidence. The PMU will regularly monitor and report the cattle numbers and GHG balance to the Adaptation Fund on an annual basis through the PPR with any proposed

management measures the PUUs will have to take as necessary. Below is a summary EMSP management plan and reporting requirements.

Table 18 Summary management and reporting plan

ESP	Management Plan and Reporting Requirements
ESP 9 Protection of natural habitats	**A) The project will identify:** i. The presence in or near the project area of natural habitats, and ii. The potential of the project to impact directly, indirectly, or cumulatively upon natural habitats.
	B) If such habitats exist and there is a potential of the project to impact the habitat, the project will: i. Describe the location of the critical habitat in relation to the project and why it cannot be avoided, as well as its characteristics and critical value. ii. For each affected critical natural habitat, provide an analysis on the nature and the extent of the impact including direct, indirect, cumulative, or secondary impacts; the severity or significance of the impact; and a demonstration that the impact is consistent with management plans and affected area custodians.
	C) Reporting. The project will report annually in the PPR supervision report to the Adaptation Fund.
ESP 10 Conservation of Biological Diversity	**A) The project will identify:** i. The official national list of threatened flora and fauna species. ii. The presence in or near the project area of critical biodiversity iii. The potential of the project to impact directly, indirectly, or cumulatively upon critical biodiversity.
	B) If critical biodiversity exists and there is a potential of the project to impact the habitat, the project will: i. Describe the elements of known biological diversity importance in the project area, using any relevant sources of information, such as protection status, status on the IUCN Red List of Threatened Species and other inventories, recognition as a UNESCO Man and the Biosphere Programme reserve[40], Ramsar site[41]. ii. Describe why the biological diversity cannot be avoided and what measures will be taken to minimize impacts.
	C) Reporting. It is unlikely the project will have any negative impact on protected species. The project will therefore conduct the screening and reporting as soon as the project areas have been determined. In the unlikely event that the project is expected to have a negative impact on biodiversity conservation, the project will develop an ESMP in relation to ESP 10 and monitor and report in the biannual progress

[40] United Nations Educational, Scientific and Cultural Organization, www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme

[41] Convention on Wetlands of International Importance, called the Ramsar Convention, www.ramsar.org

	reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and impact assessment.
ESP 11 Climate Change	**A) Cattle Registry** i. The APMA will monitor cattle numbers through the pasture improvement grants ii. Smallholders who want to apply for the AI programme will therefore benefit from 2-3 percent interest rates will need to declare the number of cows they own. iii. Food and Safety Agency responsible for registering and labelling of livestock will register as well as carry out verifications of the declared cattle numbers.
	B) Data Collection i. The APMA will monitor pasture herd numbers and will record any eventual increases and report to the PMU on a quarterly basis. ii. The FSA will verify and report to the PMU on a quarterly basis iii. The climate change focal point will work in close collaboration with the DiMMA M&E officer to ensure that the M&E framework correctly records the data received both from the cattle numbers and liaises with GHG research institute.
	C) GHG calculations. i. Based on the annual cattle registry data, a reputable international GHG research institute will calculate the GHG emissions and required offsetting needed. ii. Based on remote sensing data of project sites, the institute will also calculate the net carbon sink of the project after cattle numbers.
	D) Reporting . The project will report both biannually for the progress reports, as well as annually in the PPR to the AF. It will report on: i. Overall cattle numbers and annual increase. ii. The net GHG levels and in the unlikely event that cattle numbers and their respective net GHG emissions may increase, iii. the planned course of action to be taken as part of the PMP designed by the PUU to offset GHG increases.
ESP 14 Physical and cultural heritage	**A) The project will identify:** i. The presence in or near the project area of areas of physical and cultural heritage ii. The potential of the project to impact directly, indirectly, or cumulatively upon areas of physical and cultural heritage.
	B) If such physical and cultural heritage exist and there is a potential of the project to impact upon it, the project will: i. Provide an inventory of the physical and cultural heritage present in the wider project area that enjoys recognition at community, national, or international levels. Describe the cultural heritage, the location and the results of a risk assessment analysing the potential for impacting the cultural heritage; and ii. Describe the measures to be taken to ensure that cultural heritage is not impacted, and if it is being accessed by communities, how this access will continue.

	C) Reporting. It is unlikely the project will have any negative impact on physical and cultural heritage. The project will therefore conduct the screening and reporting as soon as the project areas have been determined. In the unlikely event that the project is expected to have a negative impact on biodiversity conservation, the project will develop an ESMP in relation to ESP 14 and monitor and report in the biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and impact assessment.

ii) Unidentified Sub-Projects (USP) Screening and ESMP Procedures

223. The Execution Entity will build on the ESMP in this proposal and develop an ESMP for the project since there are a number of activities that are as yet undefined; the ESMP and ESI screening will follow the format 1 and 2 templates in annex to this annex. Each of the Pasture Management Plans (PMPs) will constitute a USP within the ESMP, in order to ensure environmental and social sustainability. Each of the PMPs will undergo a screening procedure as detailed in the USP guidance document[42] and summarised in paragraph 229 hereunder. The assessed sub-projects will then be integrated in a single ESMP to ensure coherence and harmonization among management measures avoidance, mitigation, as well as enhancements that would be implemented during the design monitoring and implementation phases of the project.

224. The project will also screen the alternative, complementary, non-competitive, non-extractive livelihood jobs that will be created under output 2.1.2 (per batch of applications). The screening will take place during the grant approval process at the beginning of every project year by the Agricultural Cooperatives Development Agency (ACDA) and the Climate Change Officer and approved by the Steering Committee. The ACDA operates State support programmes fostering hazelnut production, beekeeping and dairy production through Agricultural Cooperatives and will be responsible for the issuing of the grants for output 2.1.2.

225. The project will have three layers of environmental and social safeguards where project interventions will be implemented:

a) Adoption of General Environment and social Policy by the project as follows:

Policy Issue	Project Guideline
Compliance with the law	The project interventions will comply with relevant national environmental laws, policies and regulations.
Access and equity	The project will ensure equal access to training, equipment, infrastructure and services. Gender equity, integration of youth and environmental sustainability were pursued as key cross-cutting themes in the project design.
Marginalized and vulnerable groups	The Project will not fund in the target areas any intervention that could have a negative impact on marginalize and vulnerable groups.
Human rights	The project will ensure to respect and adhere to all the relevant conventions on human rights.
Gender equity and women's empowerment	The project recognizes the different impact that project investments might have according to gender, and will only finance gender-responsive measures to address the needs and constraints of women and men, such as quotas for investment grants to enhance women's opportunities in formal sector employment; investments in skill training, market information, and improved market access.

[42] https://www.adaptation-fund.org/wp-content/uploads/2019/04/AFB.B.32-33.7_Compliance-with-ESP_Update-of-PPR_and_Guidance-for-USPs_revised-1.pdf

Core labour rights	The project interventions directly or indirectly supporting job opportunities will ensure relevant national labour laws guided by the ILO labour standards.
Involuntary resettlement	The project will not fund in the target areas any intervention that leads to or give rise to possibility of involuntary resettlement.
Protection of natural habitats	The Project will not fund in the target areas any intervention that encroach in to any declared or proposed protected area of natural habitats or that result in the conversion of natural habitat to other purposes.
Conservation of biological diversity	The project will not fund in the target areas any intervention that negatively affects wild species populations and conservation status.
Climate change	The project will not fund in the target areas approaches and techniques that are not compliant with the adaptation priorities proposed by Third National Communication to the UNFCCC and other governmental documents. The project will record cattle numbers and monitor GHG emissions, the project will ensure the PMPs are adjusted to offset any GHG increases as a result of increases in cattle numbers.
Pollution prevention and resource efficiency	The project will not fund in the target areas any intervention that overexploits, damages and/or degrades key resources such as freshwater, soil, vegetation cover, and agro-biodiversity such as local breeds and crop species and varieties.
Human Health	The project will not adversely affect human health in among other areas of income and social status; education; physical environment; social support networks; health services; land use; unsustainable farming; and water.
Physical and cultural heritage	The project will not fund in the target areas any intervention that displaces, damages, makes it inoperative and/or inaccessible any physical and human resource that is of historical or cultural significance.
Lands and soil conservation	The project will not fund in the target areas measures and technologies that increase the risk of land degradation.

226. **(b) Conformation of the ESMP to the technical guidelines and specifications.** These guidelines will be adopted from: the technical and legal framework of the Law of Environmental Protection; the Gender Law; the Law on Water; the Law on Environmental Permits; the Code of Good Agricultural Practices; the Forest Code; and other government documents.

227. **(c) ESI Screening and ESMP preparation.** The ESI Screening and ESMP will be prepared and presented in the format given in Format 1 and 2 included at the end of this Appendix. Each of the ESI Screening and ESMP will undergo a two-layered screening process: (i) an internal process to ensure that the documents are prepared in conformity to the guidelines. (ii) A second screening will be undertaken by the Steering Committee or Governorate-level sub-committee nominated for the purpose.

Consultation

228. **Design Consultations.** The project design team had a gender specialist that implemented a gender and youth sensitive consultation strategy; the design team's schedule (including a gender specialist) was arranged around communities' needs at times of day they suggested. The project proposal was

developed through a gender and youth sensitive participatory approach and the field survey focus groups assisted the development of interventions and the activities were designed based on local community concerns. The team also met and discussed with inter alia a broad selection of women groups (presented in annex 2), international donors and development partners.

229. **ESMP Consultations.** Consultations of key stakeholders will be undertaken as part of the finalization of the Environment and Social Impact (ESI) Screening and Environment and Social Management Plan (ESMP) under the proposed project at the local level (land areas and rural communities affected by the PMPs) and project level.

230. The aim of consultations will be to: (i) disseminate information about the sub-project; (ii) verify the identification of potential impacts (ESI) and their proposed mitigation plan (ESMP); (iii) verify the significance of the impacts and the mitigation measures; and (iv) allow the stakeholders to express their concerns and opinion about the project activities. The consultations will be conducted at three levels: one, at the village level; second, at the regional level; and the third at the state level.

231. **Village Level Consultation:** A formal presentation of the ESI Screening and ESMP will be made at the village councils. The presence of any persons whose land is in the PMP will be ensured in these meetings. The presentation of the ESI Screening and ESMP will be undertaken in the most appropriate way to the literacy level of the members present in the meetings.

232. **State Consultation:** A consolidated statement on the ESI Screening and ESMP will be placed in the project steering committee to approve sub-projects and provide guidance on key aspects.

233. **Public Disclosure:** A copy of the ESI Screening and ESMP will be submitted to the village councils where it can be accessed by any member of the village for future references. The sub- projects will form part of the documentation that will be in public domain and will be available at the governorate management team offices for inspection with prior information.

Grievance Mechanism

234. The proposed project will utilize the existing IFAD's grievance mechanism to allow affected to raise concerns that the proposed project is not complying with its social and environmental policies or commitments. The consultative process with the community and beneficiaries aims to ensure prevention of grievances that might arise from the project activities. However, if at all, there are any grievances, the below redressal mechanism is proposed:

- Grievance redressal mechanism would be shared with the community during the project inception workshop and subsequent meetings with the beneficiaries
- As part of the grievance redressal mechanism, the contact details of the project partners - Cluster Coordinator/ Project Manager would be made available to stakeholders including project beneficiaries and the community. Contact numbers would be displayed at common or predominant places along–with the project details. This is expected to promote social auditing of project implementation. The grievance mechanism will be available to the entire project intervention areas. However, the functionality of the mechanism rests with the beneficiaries considering that the project including the grievance mechanism is envisaged to be a bottom up approach.

235. Grievances are aimed to be addressed at the field level by the project team which will be the first level of redressal mechanism. If the grievance is not resolved at the field level, it will be escalated to the PMU and then to IFAD who will be responsible for addressing grievances related to violation of any of the provisions of Environmental and Social Policy of the Adaptation Fund. All grievances received and action taken on them will be put up before the PMU and Steering Committee meetings and will also be included in the progress reports for reporting and monitoring purposes.

V. Monitoring and Reporting

236. As described in section III – D of the proposal, the project will have a comprehensive monitoring and reporting programme that will include quarterly reports, technical reports, annual project reports, the AF PPR tracking, annual IFAD supervision mission reports, a Mid-term Review and a final evaluation and impact assessment.

237. The ESMP will involve the following Internal and External Monitoring process:

- **Internal Monitoring Process:** The internal monitoring will be undertaken by the PMU. Each of the environment and social parameters deemed a risk (primarily cattle number increases, but also natural protected areas as the project locations are identified) will be monitored along with the implementation of their mitigation measures. They will submit a Compliance and Impact Monitoring Report to the IE every six months and the consolidated report will also be annexed in the Annual Report.
- **External Monitoring Process:** An Environment Audit and Social Audit will be carried out in sample villages every year to verify the registration of cattle numbers. The Audit Reports will be shared with the IE and a consolidated statement of these audits will be annexed to the Annual Report of the project.

238. The project will update the ESMP of the project with the following information for each USP it has identified during the relevant reporting period. The updated ESMP will be attached to the PPR report[43]:

- A brief description of the fully formulated USP, with details on (i) the characteristics of the USP and (ii) the specific environmental and social setting in which the USP will be implemented. This information needs to be provided to an extent sufficient to appreciate the effectiveness of the risks identification that was carried out;
- The outcome of the ESP risks identification process, using the same structure as that of Section II.K, identifying risks according to each of the 15 ESP principles, justifying the risk findings, and showing that this is the outcome of an evidence-based and comprehensive effort;
- For each of the identified risks, a description of the subsequent impact assessment that was undertaken and the findings thereof, showing that the assessment was commensurate with the risks identified;
- The findings of the impact assessments, and the safeguard measures that have been formulated to avoid, mitigate or manage undesirable impacts;
- The updated detailed safeguard arrangements in the implementation component of the ESMP, identifying and allocating roles and responsibilities to implementation partners for the application of the ESMP. This should include an assessment or a confirmation of the required capacity and skills with the relevant implementation partners;
- Information on the consultations that were held on the risks identification and impact assessments outcome as well as on any proposed management measures, and how any feedback was responded to;
- Gender-disaggregation of the information used in the risks identification and subsequent safeguards actions;
- Information on disseminating information to stakeholders on the grievance mechanism.

Implementation Schedule

239. The implementation schedule of ESMP will be as follows:

Activities	Time					
	2021	2022	2023	2024	2025	2026
ESMP and ESI screening	Q1-4	Q1-4	Q1-4	Q1-4	Q1-4	Q1-2
Monitoring and reporting of ESMP	Q1-4	Q1-4	Q1-4	Q1-4	Q1-4	Q1-2
MTR				Q3		
Environmental and social audit	Q4	Q4	Q4	Q4	Q4	Q2
Final Impact assessment						Q2

[43] More detailed information is available under the format 1 and 2 templates below.

Cost for ESMP

240. The preparation and implementation of the ESMP will have costs that have been built into the project budget. The cost implications and their source of funds will be as follows:

ESMP related activity	Source of funding to cover costs
Preparation of PPR reporting	Built-in the Project Execution Cost
Preparation of ESI screening and ESMP	Built in the Project Execution Cost
Screening of ESI and ESMP	Built in the Project Execution Cost
GHG balance assessment	Built in the Project Execution Cost
Mitigation measures	Built into the Project Cost
Monitoring and reporting	Built in the Project Execution Cost
Conduct of Environmental and Social audit	Built in the Project IE Fee.

241. The institutional arrangements include the distribution of roles and responsibilities of key players, their responsibilities will be as follows:

Organisation / Designation	Responsibility
(IFAD/PMU) Adaptation Fund Climate Specialist - under the supervision of the PMU Director.	Preparation of PPR and overseeing implementation of ESMP that will record and monitor i) natural habitats and ii) cattle numbers as well as regularly assess the GHG levels. Regularly report on cattle numbers, GHG balance and propose mitigation measures. Supply the GHG monitoring institution with satellite images and any other information required. Conducts the PPR reporting, screening and designing of potential mitigation measures for ESPs 9,10 and 14.
Agriculture Projects Management Agency (APMA)	Will use the grant mechanism to record cattle numbers as well as monitor and report any increases on a quarterly basis.
Food and Safety Agency (FSA)	The FSA is responsible for registering and labelling of livestock. It will register as well as carry out verifications of the declared cattle numbers. The FSA will also report to the PMU on a quarterly basis.
GHG modelling institution	The institution will use specialised carbon modelling software to report once a year on the project's carbon status and make recommendations on corrective action if necessary.

Format 1: Indicative Format of ESI Screening

1. Project Description

1.1 Description of the proposed operation
1.2 Maps and diagrams of the project site
1.3 Area that will be affected and impacted
1.4 Settlements that will be affected
1.5 Population that will be affected (attach list of households)

2. Baseline Condition

2.1 Description of existing environmental and social condition
2.2 Attach maps and other data that has been collected

3. Environment Impacts and Risks

The Screening will be in terms of (a) Direct Environmental Risks; (b) Direct Environmental Impacts; (c) Indirect Environmental Risks; and (d) Indirect Environmental Risks on the following issues.

- Compliance with the Law
- Protection of Natural Habitats
- Conservation of Biological Diversity
- Climate Change
- Pollution Prevention and Resource Efficiency
- Public Health
- Physical and Cultural Heritage
- Land and Soil Conservation

4. Social Impacts and Risks

The screening will be in terms of (a) Direct Social Risks; (b) Direct Social Impacts; (c) Indirect Social Risks; and (d) Indirect Social Risks on the following issues.

- Compliance with the Law
- Access and Equity
- Marginalized and Vulnerable Groups
- Human Rights
- Gender Equity and Women's Empowerment
- Core Labour Rights
- Involuntary Resettlement
- Public Health
- Physical and Cultural Heritage

5. Analysis of Alternatives

Description of alternatives that were identified and their Screening in terms of:
(a) Direct and Indirect Environment and Social Impact
(b) Opportunities for enhancing environmental and social benefits

6. Recommendations

Risk Management options in terms of:
(i) Preventing Risk
(ii) Avoiding Risk
(iii) Mitigating Risk
(iv) Transferring Risk
(v) Absorbing Risk

6. Process Note for the preparation of ESI Screening

6.1 Consultations held with different stakeholders in the community

6.2 Consultations held with women and youth

6.3 Consultations held with village councils

Format 2: Indicative Format of ESMP

1 Management Plan

Environment and Social Risk Screening	Mitigation Measure	Implementation Schedule for the Mitigation Measure	Responsibility for execution of the mitigation measure
Compliance with the law			
Access and equity			
Marginalized and vulnerable groups			
Human rights			
Gender equity and women's empowerment			
Core labour rights			
Indigenous people			
Involuntary resettlement			
Protection of natural habitats			
Conservation of biological diversity			
Climate change			
Pollution prevention and resource efficiency			
Human Health			
Physical and cultural heritage			
Lands and soil conservation			

2. Consultation and Public Disclosure

The plan for consultation and public disclosure of the ESMP will be recorded here. The plan will be for:

(a) Consultations for preparation and implementation of ESMP

(b) Consultation with women of the village community

(c) Notification to village community when will the activities be implemented (d) Disclosure of Monitoring and Sub-Project Completion report

3. Monitoring Plan

The monitoring plan will comprise of the parameters for monitoring and the frequency with which the monitoring will be carried out. The recording and reporting procedures will also form part of the monitoring plan.

Mitigation Measure	Monitor Parameter	Responsibility for Monitoring	Recording and Frequency
Compliance with the law			
Access and equity			
Marginalized and vulnerable groups			
Human rights			
Gender equity and women's empowerment			
Core labour rights			
Indigenous people			
Involuntary resettlement			
Protection of natural habitats			
Conservation of biological diversity			
Climate change			
Pollution prevention and resource efficiency			
Human Health			
Physical and cultural heritage			
Lands and soil conservation			

4. External Audit and Verification

4.1 Conduct of Environment Audit

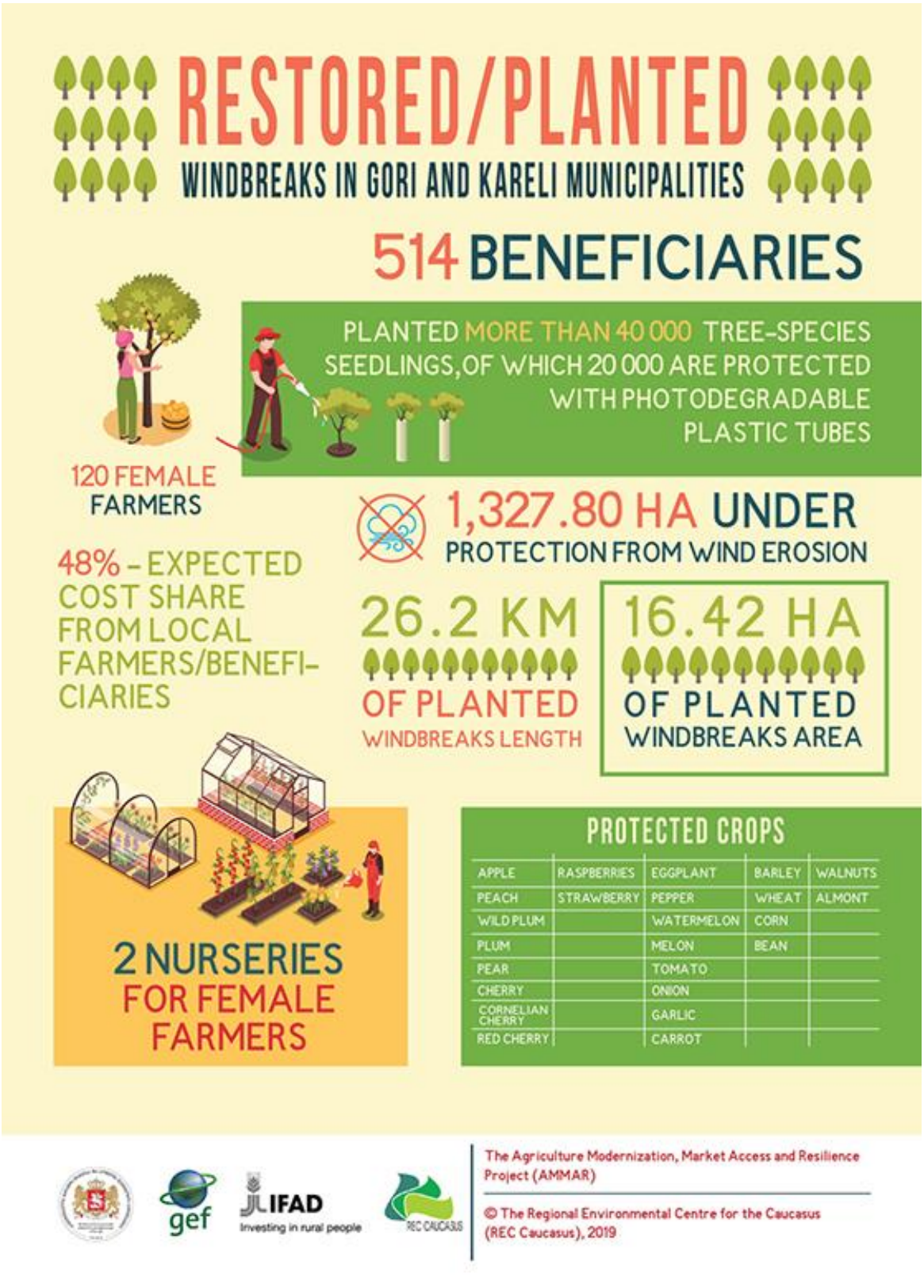
4.2 Conduct of Social Audit

4.3 External Verification processes

5. ESMP Completion Report

Annex 4 IFAD/GEF AMMAR Windbreak Summary

Figure 9 IFAD/GEF AMMAR project results leaflet

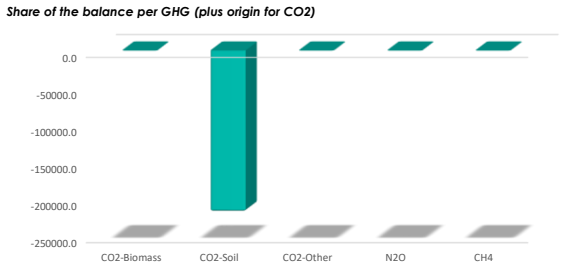


Annex 5 EX-ACT Carbon Models

Figure 10 Carbon Scenario 1 no cattle

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)	*4170*

Components of the project	Gross fluxes Without	With	Balance	Share per GHG of the Balance All GHG in tCO2eq CO_2 Biomass	Soil	Other	N_2O	CH_4	Result per year Without	With	Balance
	All GHG in tCO2eq Positive = source / negative = sink										
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	185 450	-31 875	**-217 325**	**0**	**-217 325**		**0**	**0**	9 272	-1 594	**-10 866**
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	185 450	-31 875	**-217 325**	**0.0**	**-217324.8**	**0.0**	**0.0**	**0.0**	9 272	-1 594	**-10 866.2**
Per hectare	44.5	-7.6	**-52.1**	**0.0**	**-52.1**	**0.0**	**0.0**	**0.0**			
Per hectare per year	2.2	-0.4	**-2.6**	**0.0**	**-2.6**	**0.0**	**0.0**	**0.0**	2.2	-0.4	**-2.6**



Share per GHG of the Balance	
CO2	-217 325 tCO2
N2O	0 tN2O
CH4	0 tCH4

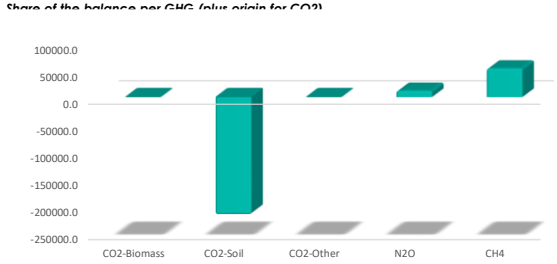
	Grassland	Forest	Livestock with improved pasture feed	tCO_2eq / year	tCO_2eq / overall

Hectares rehabilitated from degraded status	4,170 ha	-	-	-10,866	- 217,325
Number	-	-	0	-	-
Total GHG balance	-	-	-	-10,866	- 217,325

Figure 11 Carbon Scenario 2 1000 cattle

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)	4170

Components of the project	Gross fluxes Without	Gross fluxes With	Balance	Share per GHG of the Balance All GHG in tCO2eq CO_2 Biomass	CO_2 Soil	CO_2 Other	N_2O	CH_4	Result per year Without	Result per year With	Balance
	All GHG in tCO2eq Positive = source / negative = sink										
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	185 450	-31 875	**-217 325**	0	**-217 325**		0	0	9 272	-1 594	**-10 866**
Livestocks	4 889	69 485	**64 595.9**				**11 707**	**52 889**	244	3 474	**3 230**
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	190 339	37 610	**-152 729**	**0.0**	**-217324.8**	**0.0**	**11706.6**	**52889.4**	9 517	1 881	**-7 636.4**
Per hectare	45.6	9.0	**-36.6**	**0.0**	**-52.1**	**0.0**	**2.8**	**12.7**			
Per hectare per year	2.3	0.5	**-1.8**	**0.0**	**-2.6**	**0.0**	**0.1**	**0.6**	2.3	0.5	**-1.8**



Share per GHG of the Balance	
CO2	-217 325 tCO2
N2O	39.28376375 tN2O
CH4	2 116 tCH4

	Grassland	Forest	Livestock with improved pasture feed	tCO_2eq per year	tCO_2eq overall
Hectares rehabilitated from degraded status	4,170 ha	-	-	-10,866	- 217,325
Number	-	-	1000	3,230	64,596

Total GHG balance	-	-	-	-7,636	-152,729

-
- Annex 6 List of Climate Change Risk Management Options[44]

Figure 12 Table showing value chain climate risk management options for project staff.

Value chain interventions/ outcomes	Climate risk issues	Climate risk management opportunities
Input supplies		
Seeds	High-yield varieties may perform poorly under higher temperatures, humidity, salinity; certain hybrid seed varieties degrade soils over the long term	Provide access to specific climate-adapted varieties where available (e.g. heat-tolerant, submergence- tolerant); maintain diversity through seed banks, including wild relatives (CGIAR, 2013); test different seeds under different conditions
Fertilizers	Generally positive in low-input systems, but may increase inter- annual variability in yields; trade- offs with emissions	Integrate fertilizer advice and supply with wider soil management (FAO, 2013, Module 4); precision farming
Animal feed and breeds	Feed quality helps emissions reductions, but larger better-fed animals may be more exposed to climate-related water stress	Evaluate heat tolerance, housing and feed requirements of proposed livestock (FAO, 2013, Module 8)
Pest management	Possible increases in pests and diseases for crops (e.g. maize stem borer, tomato flies, cassava mealy bug) and livestock (e.g. cattle ticks)	Promote integrated pest management (e.g. push-pull methods [Minja 2006]); develop monitoring, knowledge and applied research systems for pests and diseases of crops, livestock and fisheries
Information services	Advance climate information enables better decisions about the timing of planting, input application and harvesting, and the choice of varieties, labour inputs and planting or grazing locations	Enable provision of seasonal and near-term forecasts in formats usable and accessible by farmers (Tall, 2013); strengthen early warning systems; invest in country-level capacity in scaled down climate impact modelling (WCRP, 2013; CCAFS, 2013) and scenario planning
Financial services	Lack of upfront capital may be a major drawback for farmers to adopt climate-resilient practices	Investigate financial channels to reduce risks associated with innovation (e.g. microfinance, small grants programmes, index-based weather insurance (WFP and IFAD, 2011)
Tools and Equipment	Possible damage of tools and equipment (e.g. water tanks, irrigation canals, pumps, generators, vehicles, seed storage) from extreme weather events	Substitute low-cost high-efficiency systems wherever possible (e.g. rainwater harvesting plus surface water irrigation); provide access to early warning systems; introduce protective features to the siting and storage of seeds, tools, vehicles, fuels and energy infrastructure
Agricultural Production		

[44] IFAD (2015) How to note: Climate chance risk assessments in value chain projects.

Value chain interventions/ outcomes	Climate risk issues	Climate risk management opportunities
Soil management	Rising temperatures, greater soil moisture evaporation and more destructive interplay between dry spells and intensive rainfall events increase soil erosion and reduce soil organic content	Introduce measures to counter soil erosion (e.g. terracing, contour bunds, drainage, agroforestry, perennial crops); increase soil carbon and improve the management of soil organic matter; rehabilitate degraded lands (FAO, 2013, Module 4)
Water management	Greater crop evapotranspiration; loss of soil water; changes in amount and timing of rainfall; more variable river run-off; reduced groundwater recharge; changes in sea level; salinity intrusions into soil and groundwater	Adopt water conservation and efficiency measures such as water harvesting, efficient irrigation infrastructure, check dams, flood management and drainage; support riparian habitat restoration; undertake hydrological and salinity monitoring; introduce water allocation systems (FAO, 2013, Module 3)
On-farm energy	Mechanization using fossil fuels causes emissions increases; use of fuelwood can cause deforestation and erosion	Undertake trade-offs analysis (FAO, 2011; FAO, 2013, Module 5); introduce renewable energy sources (e.g. solar energy for heating, cooling, drying and pumping, small wind turbines, biogas digesters)
Diversification	Monoculture crops are more prone to catastrophic losses from climate extremes than diversified systems	Investigate potential for sustainable intensification and diversified cropping systems through crop rotations (e.g. staple/horticulture), intercropping, agroforestry, mixed crop/livestock systems (FAO, 2013, Module 6)
Livestock	Declining pasture productivity; increasing livestock mortality from heat stress; loss of productive pasture from erosion; damage to livestock infrastructure; declining fodder quality	Introduce mixed crop/livestock farming systems; support pasture restoration; diversify livestock breeds; improve rangeland management; make livestock infrastructure more climate resilient; increase production efficiency (FAO, 2013, Module 8)
Production infrastructure	Value chain-related production facilities in certain locations (including fields, greenhouses, livestock facilities) face greater exposure to floods, wildfires, high wind speeds	Include physical risk management structures at farm- level (e.g. windbreaks, flood control dykes, firebreaks); retrofit or relocate sensitive infrastructure; create buffer zones (e.g. wetlands, greenbelts, flood recession schemes)
Landscape-level management	Positive value chain outcomes (e.g. higher incomes) may incentivize greater land clearance and unsustainable water use, affecting local microclimate and hydrology and compounding climate hazards	Undertake participatory mapping and land-use planning; remote sensing-based landscape monitoring; exploit all available incentives (financial, regulatory, etc.) for sustainable environmental management in the project area (FAO, 2013, Module 9)
Skills base of farmers and local institutions	Local knowledge and capacity is central to managing production under conditions of rapid change	Invest in local capacity for planning, monitoring, decision-making and financial management; transfer control to local institutions; provide training on climate issues and support to farmer-based research and knowledge systems; include smallholders in policy dialogue and scenario-building exercises

Annex 7 Gender Sensitive Design Checklist.

Table 19 Gender-sensitive design and implementation checklist

		DiMMAdapt Design
1.	The project proposal contains – and project implementation is based on - gender-disaggregated poverty data and an analysis of gender differences in the activities or sectors concerned, as well as an analysis of each project activity from the gender perspective to address any unintentional barriers to women's participation.	The design is based on an analysis of gender issues in the sectors concerned, and on gender- disaggregated poverty data available at the time (from government, development agencies, and research institutions). The project design team had a gender specialist that implemented a gender and youth sensitive participatory approach and the field survey focus groups assisted the development of interventions and the activities were designed based on local community concerns.
2.	The project proposal articulates – or the project implements – actions with aim to expand women's economic empowerment through access to and control over productive and household assets.	The project aims to increase women's incomes, enhance their decision-making and empowerment. Women's inclusion will involve at least 30% quota. This will include women managed businesses out of the total number of: (i) seed capital investments directed to the adoption of improved dairy production systems by target households and adoption of alternative livelihood activities by youth; (ii) jobs created by the small enterprises in the programme area; and (iii) PUU members in PUUs selected for grant financing for improving pastures. The project aims to empower vulnerable women, youth through gender equality awareness raising and improved livelihoods.
3	The project proposal includes one paragraph in the targeting section that explains what the project will deliver from a gender perspective.	Such a paragraph is included under the targeting strategy section detailing that there is a 30 % quota. Also that the project aims to increase women's incomes and enhance their decision-making and empowerment; that the quota will be mainstreamed throughout the activities for: (i) the adoption of alternative livelihood activities by youth; and (ii) PUU members in PUUs selected for grant financing for improving pastures.
4	The project proposal describes the key elements for operationalizing the gender strategy, with respect to the relevant project components.	Component 1 details how youth and women will be granted representation or voice in decision making on allocation of pasture use rights. The quota for women participation and strengthening of their voice and awareness has been mainstreamed throughout. Capacity building will also focus on raising gender awareness among male and female counterparts.
5	The design document describes - and the project implements - operational measures to ensure gender- equitable participation in, and benefit from, project activities. These will generally include:	
	5.1 Allocating adequate human and financial resources to implement the gender strategy	The IFAD project DiMMA will have a dedicated Gender Focal Point that will ensure the gender strategy for both DiMMA and DiMMAdapt are correctly executed. The responsibilities for

		gender mainstreaming are cross-cutting and the Gender Focal Point will have the support of the M&E officer in ensuring that all the Gender-disaggregated data is being correctly collected, as well as the project director who will provide oversight and direction in relation to the implementation of the gender strategy.
	5.2 Ensuring and supporting women's active participation in project-related activities, decision- making bodies and committees, including setting specific targets for participation	The project will ensure that a minimum target of 30% of beneficiaries will be women throughout all activities. Women will also be supported in decision making positions as well as having a representation or voice in decision making on allocation of pasture use rights.
	5.3 Ensuring that project/programme management arrangements (composition of the project management unit/programme coordination unit, project terms of reference for staff and implementing partners, etc.) reflect attention to gender equality and women's empowerment concerns	A gender focus will be integrated into all Terms of References related to this project. This will be extended beyond the recruitment of the PMU staff to include all people being contracted by the project as well as the Pasture User Associations, where equality awareness will be promoted and women will be supported into decision-making positions.
	5.4 Ensuring direct project/programme outreach to women (for example through appropriate numbers and qualification of field staff), especially where women's mobility is limited	The project outreach will comprise of 30 percent of women to better ensure female representation and participation. The facilitators will also meet the project gender quota as this will ensure that the women's perspective is adequately upheld and promoted and that women beneficiaries do not feel excluded.
	5.5 Identifying opportunities to support strategic partnerships with government and others development organizations for networking and policy dialogue	. The results, lessons learned, best practices generated from DiMMAdapt and the importance of gender equality and mainstreaming, will have an enhanced impact as they will contribute directly to the DiMMA national dairy policy dialogue forum through the Ministry of Agriculture (MoA). This will bring together representatives of Government, producers, Georgian Farmers' Association; national level service providers; processors, research institutions; NGOs and donors - and the costs of which will be supported by DiMMA. The forum will promote an innovative nationwide dialogue for better regulation of pastures and rangeland ecosystems but also crucially, for the development of a Climate Change Adaptation strategy for the livestock sector – if accepted by the government, policy topics will include climate change adaptation/mitigation, gender awareness raising, disaster risk reduction and environmental sustainability.
6	The project's logical framework, M&E, MIS and learning systems specify in design – and project M&E unit collects, analyses and interprets sex- and age-disaggregated performance and impact data, including specific	The logical framework has gender disaggregated targets. The project Management Information System (MIS) and M&E framework will collect sex- and age-disaggregated performance data. This will be analysed and interpreted and reviewed during the Mid-Term review.

	indicators on gender equality and women's empowerment.	

Error! Reference source not found. **endorsing the proposed changes**

MINISTRY OF ENVIRONMENTAL PROTECTION
AND AGRICULTURE OF GEORGIA

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14 October 2024

N 7713/01

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

Letter of Endorsement

Subject: Endorsement for Changes in Dairy Modernization and Market Access: Adaptive and climate-resilient pasture management (DiMMAdapt) Project Proposal Design

In my capacity as designated authority for the Adaptation Fund in Georgia, I confirm that the above-mentioned national project proposal's changes, including the extension of the original completion date to 30 June 2026, 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's changes with support from the Adaptation Fund. The Government kindly confirms its continued commitment to implement the project.

Sincerely,

Nino Tandilashvili
First Deputy Minister

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