



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular-sized Project Concept

Country/Region: Republic of Armenia

Project Title: Enhancing resilience of communities to climate change in Shirak Marz leveraging best practices of the pilot project implemented in Artik community

Thematic Focal Area: Urban Development

Implementing Entity: “Environmental Project Implementation Unit” State Agency

Executing Entities: “Environmental Project Implementation Unit” State Agency

AF Project ID: AF00000368

IE Project ID:

Requested Financing from Adaptation Fund (US Dollars): 4,472,630

Reviewer and contact person: Martina Dorigo

Co-reviewer(s): Imen Meliane

IE Contact Person:

<p>Technical Summary</p>	<p>The project “Enhancing resilience of communities to climate change in Shirak Marz leveraging best practices of the pilot project implemented in Artik community” aims to improve resilience of highly exposed communities of Shirak region (Artik, Ani and Ashotsk municipalities) of Armenia to hydrometeorological threats that are increasing in frequency and intensity because of climate change. This will be done through the three components below:</p> <p><u>Component 1:</u> Restoration, management, and increase of adaptation potential of natural landscapes of the area affected by climate change and anthropogenic factors (USD 2,961.320);</p> <p><u>Component 2:</u> Prevention and management of floods (USD 800,000);</p> <p><u>Component 3:</u> Raising awareness and knowledge level of population for the management of stone pit wastes and floods (USD 300,000).</p> <p><u>Requested financing overview:</u> Project/Programme Execution Cost: USD 60,920 Total Project/Programme Cost: USD 4,122,240</p>
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	<p>Implementing Fee: USD 350,390 Financing Requested: USD 4,472,630</p> <p>The proposal includes a request for a project formulation grant and/or project formulation assistance grant of USD 45,000.</p> <p>The initial technical review raised several issues, such as the need to clarify how the proposed measures will be sustained after project's finalization; how the project is building on lessons learned from the previous pilot project; as well as various issues for compliance with the Fund's Gender Policy and Environment and Social Policy as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review.</p> <p>The second technical review finds that the proposal has not addressed all of the CRs and CARs requests. Some issues remain, including those related to strengthening the climate rationale of the proposal, demonstrating lack of duplication with other projects and demonstrating alignment with national strategies and plans and with the Fund's Environmental and Social Policy.</p>
Date:	18 January 2024

Review Criteria	Questions	Comments initial technical review (Nov. 2023)	Comments second technical review (Jan. 2024)
Country Eligibility	1. Is the country party to the Kyoto Protocol, or the Paris Agreement?	Yes.	-
	2. Is the country a developing country particularly vulnerable to the adverse effects of climate change?	Yes. Armenia has been experiencing historical rise in temperatures has resulted in the rapid shrinking of the glaciers in Armenia's mountain regions, with spatial extents retreating at around 8 m per year. In addition, increased frequency of severe floods in the last 20 years,	-

		<p>which is due to the spring temperatures that are not typical for the region, resulted in accelerated snowmelt causing the emergence of strong floods.</p> <p>Climate change related risks and the frequency of hazardous hydro-meteorological phenomena have increased over the last decade as a result of changes in global atmospheric circulation.</p>	
Project Eligibility	<p>1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?</p>	<p>Yes. As per the endorsement letter dated 18 August 2023.</p>	-
	<p>2. Does the length of the proposal amount to no more than Fifty pages for the project/programme concept, including its annexes?</p>	<p>Yes. CAR1: Please remove the instructions on how to prepare a proposal highlighted in yellow throughout the proposal.</p>	<p>CAR1: Not cleared. In section II of the proposal template (from page 15 onwards), the instructions were not removed.</p> <p><u>EPIU Response:</u> Addressed</p>
	<p>3. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?</p>	<p>Yes. The project aims at improving resilience of Ani, Ashotsk and Maralik regions of Armenia to hydro-meteorological threats that are increasing in frequency and intensity because of climate change. The project's activities would lead to tangible outcomes, for instance: natural and agro landscapes</p>	<p>CR1: Cleared. The revised proposal clarifies on page 16 that specific details regarding the typology and exact location of areas will be determined at fully developed proposal stage.</p> <p>CR2: Cleared.</p>

		<p>restoration measures (creation of forest cover, establishment of forest grove, creation of sowing areas for perennial plants); introduction of infrastructure for piloting high value agricultural models.</p> <p>The project includes a coherent theory of change which explains how planned activities are suitable in responding to climate change negative impact and environmental threats posed by anthropogenic reasons.</p> <p>CR1: Please clarify the typology of the areas where land restoration practices will be achieved (protected areas; private or public owned) or where the orchards demonstration sites will be located.</p> <p>CR2: The project aims to pilot an index insurance in beneficiary municipalities, however there is no information on the arrangements and nature of this insurance. Please clarify.</p> <p>CR3: Clarify what is meant by infrastructure for piloting high value agricultural models (under output 1.7).</p>	<p>As per clarification provided on pages 16 and 17.</p> <p>CR3: Cleared. The proposal on page 22 specifies that this infrastructure includes facilities for climate-resilient practices like precision agriculture and hydroponics, alongside organic farming and agroforestry. A beneficiary needs assessment will further identify different typologies of infrastructure.</p> <p>CR4: Not cleared. Please strengthen the climate change rationale for this project component by explaining how these measures will prevent floods.</p> <p>EPIU Response: Climate change rationale for this component of the project is advanced.</p> <p>CR5: Not cleared. While the proposal includes regional governments in capacity building initiatives, it should also clarify that at local level capacity building will be targeting local governments, as this is not reflected in the text.</p>
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		<p>CR4: Component 2, focuses on the improvement of road infrastructure. Please clarify how this approach will mitigate negative effects due to climate change.</p> <p>CR5: Component 3 on knowledge enhancement seems to be addressed to communities and local NGOs only. Please clarify if the project aims to provide any type of capacity building to local and national government representatives, to ensure sustainability and possible replication of measures.</p>	<p>EPIU Response:</p> <p>Clarification - local governments in the context of the proposal are regional governments and municipalities. Description of the outputs in the "Project/Programme Components and Financing" table is advanced to respond to the reviewer's comment.</p>
	<p>4. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>Yes.</p> <p>The concrete adaptation measures in landscape restoration and flood prevention will yield environmental and economic benefits for the target communities, however there is no clear indication on the expected number of beneficiaries.</p> <p>CAR2: Include information on the number of expected direct and indirect beneficiaries disaggregated by sex and clarify how the project will</p>	<p>CAR2: Not cleared.</p> <p>The proposal includes number of estimated beneficiaries, disaggregated by sex, under each project component, however it is unclear if the total estimated number is 32,000 or if beneficiaries targeted under each component are the same. Please clarify.</p> <p>EPIU Response:</p>

		<p>ensure an equitable distribution of benefits to community members, households.</p> <p>CAR3: To be in compliance with the Gender Policy, the proposal needs to include an initial gender analysis. The proposal suggests that the project will conduct a gender analysis for the development of the fully developed proposal, however an initial analysis should be included at concept note stage.</p> <p>Please note that such preliminary gender assessment can draw on already existing gender studies or sectoral or country reports to provide some indicative information such as disaggregating the likely beneficiaries by gender and noting general differences regarding the roles and needs of women, men and other gender groups and possible different effects of the activity on them.</p>	<p>32,000 is the total number of beneficiaries.</p> <p>CAR3: Cleared. An initial gender assessment has been included as Annex 1 on page 53.</p>
	<p>5. Is the project / programme cost effective?</p>	<p>Unclear.</p> <p>The proposal provides a very general statement on how the selected approach should be cost-effective, specifying that a cost-effectiveness analysis will be carried</p>	<p>CAR4: Cleared, as per additional information provided on page 17, noting that a full assessment of the project cost-effectiveness will be carried out for the development of the fully developed proposal.</p>

		<p>out for the formulation of the fully developed proposal.</p> <p>CAR4: Since this project will scale-up previously identified pilot measures, it is expected that some information on cost-effectiveness is available. Please also provide more information on how this scaling up approach supports the overall cost-effectiveness.</p> <p>CAR5: Please demonstrate the cost-effectiveness of the selected approach from a sustainability point of view and provide details on how the project will specifically address each of the aspects identified to guarantee a cost-effective implementation.</p>	<p>CAR5: Cleared, as per information provided on page 17.</p>
	<p>6. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?</p>	<p>Unclear.</p> <p>The proposal states its alignment with the NAP, Sectorial Adaptation Plans, the National Development Plan, National Communication to UNFCCC, etc. However, it does not specify how is aligned.</p> <p>CAR6: Please demonstrate how the proposal aligns with the listed strategies and plans and include a hyperlink to these.</p>	<p>CAR6: Not cleared.</p> <p>The project includes a detailed description of national strategies and plans, however, does not indicate how the project is aligned to them.</p> <p>EPIU Response:</p> <p>New subsection “Additional points on the alignment of the Project with National Strategies” is added in the Proposal to</p>

		<p>CAR7: Please also specify how the proposal is aligned with Armenia NDC.</p>	<p>respond to the reviewer's comment.</p> <p>CAR7: Cleared. As per the information provided on page 27.</p>
	<p>7. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?</p>	<p>Unclear.</p> <p>The proposal does not include relevant national technical standards nor specifies how the proposal complies to them, this section includes provisions for compliance with the ESP only, which should not be included in this section.</p> <p>CAR8: Please identify relevant national technical standards and describe their compliance in a logical manner (for example building codes for the road and bridges improvement and for land restoration practices, if available).</p>	<p>CAR8: Cleared. As per information provided on pages 31-32. Please remove previous paragraphs on page 31 related to ESP compliance.</p>
	<p>8. Is there duplication of project / programme with other funding sources?</p>	<p>Unclear.</p> <p>This section includes several measures to avoid duplication and overlapping with other initiatives. However, it lacks information on existing or past projects and programmes and how the project will act in synergy or avoid duplication with these interventions.</p>	<p>CAR9: Not cleared. Even though there are no overlapping projects, this section should include also reference to relevant initiatives and demonstrate how the project could create possible synergies, where possible; or build on lessons learned from other relevant projects in other target</p>

		<p>CAR9: Please include a list of relevant potentially overlapping projects and specify how the proposed project will avoid overlap and ensure complementarity.</p> <p>CR6: Since this project scales-up measures implemented in a previous project funded by the AF, please include any lessons learned from the previous intervention and clearly state how this project is building on the previous one.</p>	<p>areas. If there are no projects in the target area, this should be specified this in the proposal.</p> <p>EPIU Response: Information about ongoing initiatives in the Project area are added to the text.</p> <p>CR6: Cleared. As per information provided on page 34.</p>
	<p>9. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?</p>	<p>Yes. The proposal includes a component on awareness and knowledge raising on recovery methods of degrades natural and agro landscapes and on the occurrence and prevention of floods, however there is no strategy/mechanism to capture the knowledge generated for better diffusion.</p> <p>CAR10: It is suggested to include a related output or activity (in component 3) on developing a mechanism for capturing experiences gained and for</p>	<p>CAR10: Cleared for this stage. Please note that this section needs to be further elaborated in the fully developed proposal.</p>

		supporting diffusion to different stakeholders at local and national levels.	
	10. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	<p>Yes.</p> <p>The proposal states that initial consultation, including gender considerations, was carried out with relevant stakeholders, including national agencies; CSOs; academia and representative of communities.</p>	-
	11. Is the requested financing justified on the basis of full cost of adaptation reasoning?	<p>Unclear.</p> <p>This section does not specify how the project will be able to achieve its intended objectives without funding from other donors. In addition, the section includes a series of recommendations stemming from the MTR and TE of the pilot project but is not clear how these will be taken into account in the proposed project.</p> <p>CAR11: Please demonstrate that the project/programme activities are relevant in addressing its adaptation objectives and that, taken solely, without additional funding from other donors, they will help achieve these objectives.</p> <p>CAR12: Please remove the text related to the MTR/TE recommendations and insert it section II F, specifying how/if the</p>	<p>CAR11: Cleared. As per information provided on pages 38-39.</p> <p>CAR12: Cleared.</p>

		project will take them into account and how it will learn from the previous initiative.	
	12. Is the project / program aligned with AF's results framework?	<p>Yes.</p> <p>The proposal is aligned with outcomes 1,5 and 6 of the Fund's Strategic Results Framework, however it needs to ensure coherence among outcomes and outputs.</p> <p>CAR13: The table in part III of the proposal, indicates that the project is aligned with outputs: 3.1; 3.2 and 4, however there is no alignment with associated outcomes 3 and 4, please revise to ensure consistency.</p>	<p>CAR13: Not cleared. The inconsistencies mentioned in the initial review remain.</p> <p>EPIU Response: Outcome 4 is removed. However, we believe that awareness raising component corresponds with the outcome 3 (which is mentioned in the table).</p>
	13. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	<p>Unclear.</p> <p>The proposal indicates a set of measures to ensure sustainability of the proposed measures, however it doesn't provide information on how sustainability and maintenance of the infrastructure will be achieved.</p> <p>CR7: Please clarify what institutional and financial arrangements will be put in place to sustain and maintain the small-scale infrastructure to be installed during the project implementation.</p>	<p>CR7: Not Cleared. Please include the details provided in the response sheet in the concept note proposal that these arrangement will be further assessed during the design of the fully developed proposal.</p> <p>EPIU Response: Done.</p>
	14. Does the project / programme provide an overview of environmental and social	No.	CR14: Not cleared.

	<p>impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>The environmental and social risk screening is not comprehensive as it doesn't take into account all the direct, indirect and cumulative risks which might arise due to project activities.</p> <p>CAR14: Please revise the environmental and social risk screening, taking into account all direct and indirect negative impacts which might occur due to project activities. For instance: if restoration efforts include invasive species, this might alter the ecosystem, and the road construction may lead to an involuntary resettlement of people or their livelihood.</p> <p>CAR15: Please include the category in which the screening process has classified the project/programme. (Category A, B or C), reflecting the AF ESP.</p> <p>An initial gender assessment needs to be included, ideally providing qualitative and quantitative data for gender roles, activities, needs, and available opportunities and challenges or risks for men and women. Please see also CAR3.</p>	<p>The environmental and social risk screening table in section K was not modified. Even though a comprehensive assessment will be carried out during the development of the fully developed proposal, the current risk screening suggests that there are no risks associated to this project, which is not the case. Please provide a preliminary list of estimated risks which might result from the implementation of activities.</p> <p>EPIU Response: Risks are incorporated in the table.</p> <p>CAR15: Cleared. As per information provided on page 36.</p>
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Resource Availability	1. Is the requested project / programme funding within the cap of the country?	Yes.	-
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?	Yes. The implementing entity fee amounts to 8.49% of the project cost.	-
	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?	Yes. The project execution costs are capped at 1.5% of the project cost as the implementing entity will assume also executing entity functions. However, there is no justification provided for this type of arrangement, which is approved only on an exceptional basis. CAR17: Provide a justification for EPIU to also assume executing entity functions.	CAR17: Not cleared, please provide a justification also in the proposal. EPIU Response: There is no enough qualified executing entity in the targeted regions that can implement proposed activities in the manner concordant with EPIU policies and procedures. Also, 1.5% of project's budget are not adequate for covering associated expenses. At the full proposal stage the letter from NDA will be provided with necessary justification.
Eligibility of IE	1. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes.	-
Implementation Arrangements	1. Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?	n/a at concept stage	

	2. Are there measures for financial and project/programme risk management?	n/a at concept stage	
	3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy and Gender Policy of the Fund?	n/a at concept stage	
	4. Is a budget on the Implementing Entity Management Fee use included?	n/a at concept stage	
	5. Is an explanation and a breakdown of the execution costs included?	n/a at concept stage	
	6. Is a detailed budget including budget notes included?	n/a at concept stage	
	7. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators, in compliance with the Gender Policy of the Fund?	n/a at concept stage	
	8. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	n/a at concept stage	
	9. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	n/a at concept stage	

	10. Is a disbursement schedule with time-bound milestones included?	n/a at concept stage	
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CONCEPT NOTE PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: Enhancing resilience of communities to climate change in Shirak Marz leveraging best practices of the pilot project implemented in Artik community

Country: Republic of Armenia

Thematic Focal Area:

Type of Implementing Entity: National Implementing Entity

Implementing Entity: "Environmental Project Implementation Unit" State Agency

Executing Entities: "Environmental Project Implementation Unit" State Agency

Amount of Financing Requested: **4.472.630** (in U.S Dollars Equivalent)

Project Formulation Grant Request (available to NIEs only): Yes No

Amount of Requested financing for PFG: 45,000 (in U.S Dollars Equivalent)

Letter of Endorsement (LOE) signed: Yes No

Stage of Submission:

This concept has been submitted before

This is the first submission ever of the concept proposal

In case of a resubmission, please indicate the last submission date: Click or tap to enter a date.

Please note that concept note documents should not exceed 50 pages, including annexes.

Project/Programme Background and Context:

Country overview

Armenia is a land-locked country within the Caucasus region between Europe and Asia. The majority of the country is at high altitude (greater than 1,000 meters above sea-level), including a freshwater Lake Sevan, with a surface area of 1,279 km² and the Seven River Basin with a surface area of 4,721 km², spans approximately one sixth of the nation's total land area. As of 2022, Armenia's population was estimated at 2.78 million people¹ and its GDP at \$ 19.5 billion². Around one third of the nation's population lives in its capital city, Yerevan³.

Over the past decade, Armenia has transitioned from an industry-dominated to a service-dominated economy. As of 2016, the service sector constituted 48.8% of the labour force. Agriculture remains a major employer with a labour market share of 35.3% and there remains a relatively high rate of unemployment (18%) as well as net out-migration. GDP is distributed less evenly than employment, with around 52,8% originating in the service sector, 26,64% in the industry and only 11,34% in agriculture. Poverty persists, affecting around 26,5% (2021 data) of the population based on the national poverty line⁴.

Climate baseline

Overview

Armenia's climate can be described as highland continental, with large variation between summer highs (June to August) and winter lows (December to February). The country also experiences large climatic contrasts because of its intricate terrain, and the climates range from arid to sub-tropical and to cold, high mountains. Summer highs in Armenia's capital Yerevan average around 30°C–33°C while the average in winter is 1°C–3°C. The more mountainous regions experience lower average temperatures and prolonged periods of snow cover. The average annual precipitation is low at 526 mm. Precipitation intensity is greater in Armenia's high-altitude regions with May and June the wettest months. For Armenia, altitude is the strongest controlling factor determining the spatial distribution of temperatures and precipitation in Armenia. Sub-zero average temperatures are common in Armenia's mountain ranges while its highest average temperatures are experienced in the relatively low-lying western plains. Similarly, Armenia's highest peaks may receive up to 1,000 mm of annual precipitation while precipitation can be as low as 200 mm in the western plains.

Due to the sharply intersected relief and the development of the slope processes, Armenia is characterized by active external processes. High frequency and magnitude of hazardous hydrometeorological phenomena (HHP) are characteristic for Armenia,

¹ World Bank data portal - [Armenia](#)

² World Bank data portal - [Armenia](#)

³ [Republic of Armenia – Fourth National Communication on Climate Change to the UNFCCC](#)

⁴ ["Armenia – Country Risk Climate Profile", joint publication by World Bank and Asian Development Bank, 2021](#)

which trigger droughts, landslides, mudslides, forest fires etc. and inflict significant losses to the population and the economy⁵.

Key trends

Temperature - Armenia's NC4 reports that it experienced an average temperature rise of 1.23°C between 1929–2016. This historical rise in temperatures has resulted in the rapid shrinking of the glaciers in Armenia's mountain regions, with spatial extents retreating at around 8 m per year. Trends suggest climate variability is increasing and in 2018, Yerevan experienced a new record July temperature, reaching 42°C.

Precipitation - Armenia's NC4 reported a 10% reduction in average annual precipitation volume was documented over the period 1935–2012. The spatial distribution of precipitation changes is irregular: the northeast and central regions have become more arid. However, precipitation has increased in the southern and northwestern regions and in the western region of the lake Sevan basin. Additionally, the number of days with heavy rainfall and hailstorms has increased.

Climate future

Temperature

The model ensemble's⁶ estimate of average warming in Armenia under the highest emission pathway is an average temperature increase of 2.8°C by the 2050s and 5.8°C by the 2090s. Ensemble estimates of warming under the lowest emission pathway also present an average temperature increase of 1.2°C by the 2050s and maintain through the end of the century. Both of these temperature increases represent greater rates of increase than the global average. By the 2090s, temperatures are projected to have increased around 35% to 40% higher than the global average. Under all scenarios, except for the lowest emission pathway, the number of summer days is expected to increase, and the number of frost and ice days are expected to fall dramatically by the end of the century.

In the case of Armenia, the rate of warming in maximum temperatures, is 5.8°C by the 2090s, which is notably faster than the warming in monthly average temperature. This points towards an increase in the intensity of temperature extremes and is among the some of the largest margins of warming projected anywhere on Earth. The seasonality of future temperature changes holds some uncertainty on lower emissions pathways. However, projected warming is strongest in the summer months from June to September. The months of July, August, and September are projected to see around 50% faster warming than the winter months from November to April under the highest emissions pathway.

Precipitations

While considerable uncertainty surrounds long-term projections in regional precipitation

⁵ [National Action Program of Adaptation to Climate Change and the List of Measures for 2021-2025](#)

⁶ Climate projections referred are derived from datasets available through the WB's Climate Change Knowledge Portal. These datasets are processed outputs of simulations performed by multiple General Circulation Models (GCM).

trends, global trends are evident. The intensity of sub-daily extreme rainfall events appears to be increasing with temperature, a finding supported by evidence from different regions of Asia. However, as this phenomenon is highly dependent on local geographical contexts further research is required to constrain its impact in Armenia. For Armenia, additional uncertainty remains around future changes in average annual precipitation, as well as for changes in seasons. Model ensemble estimates are not statistically significant across all emissions pathways. However, the trend indicated, which is consistent with historical climate behavior and most models, is towards a decline in average monthly precipitation. Under all emissions pathways, an increase in the precipitation associated with a maximum 5-day rainfall event is expected more predominantly in the northern and eastern areas of Armenia. Under all emissions pathways, precipitation reductions are projected in the western regions, and under lower emissions pathways reductions are also expected in the arid northern regions. These changes match global trends, which suggests the intensity of sub-daily extreme rainfall will increase as temperatures increase, a finding supported by evidence from different regions of Asia.

Climate related natural hazards

Armenia faces significant disaster risk levels and is ranked 101 out of 191 countries by the 2019 Inform Risk Index. This ranking is driven strongly by the exposure component of risk. Armenia has high exposure to natural hazards, including, riverine, flash, and coastal, and very high exposure to tropical cyclones and their associated risks. Drought exposure is also significant. Disaster risk in Armenia is elevated due to its moderate levels of social vulnerability and the country's decent coping capacity. The risks of disasters resulting from these drivers are likely to increase as the severity and frequency of extreme climate event increases. In recent decades the annual number of events designated as hazardous hydro-meteorological phenomena (such as hurricanes, snowstorms, heat waves) has increased.

Heatwaves: Armenia regularly experiences high maximum temperatures, with an average monthly maximum of around 13.2°C and an average August maximum of 27.5°C. The current annual probability of a heat wave (defined as a period of 3 or more days where the daily temperature is above the long-term 95th percentile of daily mean temperature) is around 3%. The model ensemble projects that the annual probability of a heatwave could increase from 5% to 18% (depending on emission scenarios) by the end of the century. The country is also projected to experience a significant increase in the number of very hot days (Tmax > 35°C). However, these increases primarily reflect the continual rise in temperatures against the model baseline period of 1986–2005.

Droughts: two primary types of droughts may affect Armenia, meteorological (usually associated with a precipitation deficit) and hydrological (usually associated with a deficit in surface and subsurface water flow, potentially originating in the region's wider river basins). When low hydrological flows also coincide with imperfect crop choices and land management practices, agricultural drought can also result. At present, Armenia faces a significant annual probability of severe meteorological drought, as defined by a standardized precipitation evaporation index of less than 2.

The 2001 drought highlighted the vulnerability of the rural poor to drought. Agencies

working in the region reported more than 25,000 poor households affected, the majority of whom were dependent on local food production which was severely damaged by the drought. The model ensemble projects a dramatic increase in the annual probability of drought increasing from 20% to over 80% (depending on emission scenarios) by the 2090s. Global overview of changes in drought conditions under different warming scenarios supports extreme projections, suggesting that the West Asia region could experience a considerable increase in the frequency of extreme drought. Under 1.5°C of warming what is currently a 1-in-100-year event may return every 20 years, and under 2°C of warming such an event may recur every 10 years or less⁷.

Extreme Precipitation, Flood, and Landslide: heavy rainfall events are known to trigger landslides and floods in rural areas of Armenia, often affecting poorer and more isolated rural communities. River levels in Armenia are particularly variable, and high flows often hit communities without forewarning, resulting in flood disasters. Flooding can result in damage to subsistence agriculture and increase the incidence of poverty and health issues. Floods also represent a risk to national economic productivity particularly when affecting the capital city, Yerevan. While most climate models project a small increase in the intensity of extreme precipitation events, uncertainty remains in precipitation projections and model ensemble estimates. The general shift in the seasonality of precipitation away from the summer months, combined with the projected loss of many of Armenia's glaciers will likely intensify extreme events and highlight a need for disaster risk reduction measures. However, research and development in the climate modelling arena is needed to support decision makers and planning efforts, specifically more reliable downscaled modelling and additional work will be needed in order to better understand and map rural exposure and vulnerability.

Climate change impacts

Natural Resources

Water: uncertainty remains around the precise trajectory of future change in the availability of water resources in Armenia and river flows are expected to reduce dramatically. While vulnerability for basin and watersheds vary, under a "worst-case scenario", average decrease in river flow is estimated at 39% by the end of the century⁸. These changes would have a significant impact on the levels of Armenia's lakes and reservoirs, with implication for society potentially coming from the resulting damage to fish stocks and decline in water levels and water quality. However, caution should be applied as these projections are derived from a single climate scenario; other scenarios provide less consistent trends. More recent analysis of runoff from Caucasus Glaciers suggests a significant increase in the short-term (up to 2022) as melting intensifies, but near total loss of glaciers and glacial meltwater towards the end of the 21st century.

A likely impact of the loss of Armenia's mountain glaciers is an increase in variability of water flows as glaciers typically act to smooth runoff over the year. Water scarcity towards the end of summer (August, September) is likely to increase. Armenia has

⁷ [Global Changes in Drought Conditions Under Different Levels of Warming](#), Naumann, G., Alfieri, L., Wyser, K., Mentaschi, L., Betts, R. A., Carrao, H., . . . Feyen, L. (2018).

⁸ [Republic of Armenia – Fourth National Communication on Climate Change to the UNFCCC](#)

already experienced declines in annual precipitation and desertification has been documented around the nation, including in the Ararat Valley, an important agricultural production area⁹. More information is needed to understand the potential threat of a broader restructuring of the nation's ecosystems, particularly whether tipping points threaten the viability of current agricultural operations.

Soil and Land Cover: a key route through which climate change may lead to soil and land degradation is through its impact on soil moisture. With very large increases in the frequency and intensity of drought projected over Armenia, the potential for declines in soil quality are significant. The Caucasus region is among many regions where an expansion of the arid and semi-arid area is projected, with the affected area growing rapidly over the 21st century under higher emissions pathways. Such changes will reduce ecosystem productivity resulting in species range shifts, and potential loss of biodiversity.

Linked to issues of land degradation and drought are potential changes to Armenia's forest cover, Armenia's NC4 estimates a potential loss of 14,000–17,500 ha (around 3%–4%) by 2030 as a result of changes to ecosystems and growing conditions, as well as increased frequency of forest fire, pest and disease outbreaks, and invasive species. Armenia has already begun to enact adaptation and restoration plans to reduce deforestation through its National Forest Policy and Strategy, improved wildfire management policies and specific area action plans such as the City of Yerevan 5-Year Plan (2019–2023) to restore the city's buffer forest layer by 40 hectares. A general trend of species range shifts towards higher altitudes is expected and conversion of lower altitude land cover to arid forest types, steppe, and semi-desert. Armenia's National Strategy and Action Program to Combat Desertification was ratified in 2015 to increasing the effectiveness of land management, raising public awareness on desertification issues and their solutions, as well as international cooperation¹⁰.

Regional context

Shirak province (marz) administrative district where the project is envisaged to be implemented is located in the north-west of the Republic of Armenia bordering Turkey in the west and Georgia in the north. "Arpi lake" national park is located in this marz. The climate of the marz is mountainous with cool summers and severe and long winters. Annual precipitation is 500-600 mm. The absolute minimum temperature in Armenia was recorded in this area which was -46°C.

Shirak marz is known for its reserves of tufa, pumice, and limestone mines, especially Artik region which is located in the southern part of the marz. The region is located on the volcanic plateau and foothills and is known for its favorable conditions for grain crop and livestock development. For years exploited stone pits have had negative impact on the environment. Previously, more than 60% of the total volume of construction stone products of the country was produced in Artik and its adjacent communities. Many mines were closed due to reduction of construction stone consumption volumes; however, no conservation and reclamation works of these closed mines have been carried out thus causing many environmental problems.

⁹ [Republic of Armenia – Fourth National Communication on Climate Change to the UNFCCC](#)

¹⁰ [National Strategy and Action Program to Combat Desertification in the Republic of Armenia](#)

Hundreds of hectares of agricultural and natural landscapes were degraded and lost its natural way of restoration due to the exploitation of mines. Dust through strong winds and solid remnants through snowmelt and rainfall spread over great distances polluting natural agro landscapes. As a result, there is a decrease in the yield of agricultural crops, crop quality, and adaptation level of natural landscapes to climate change.

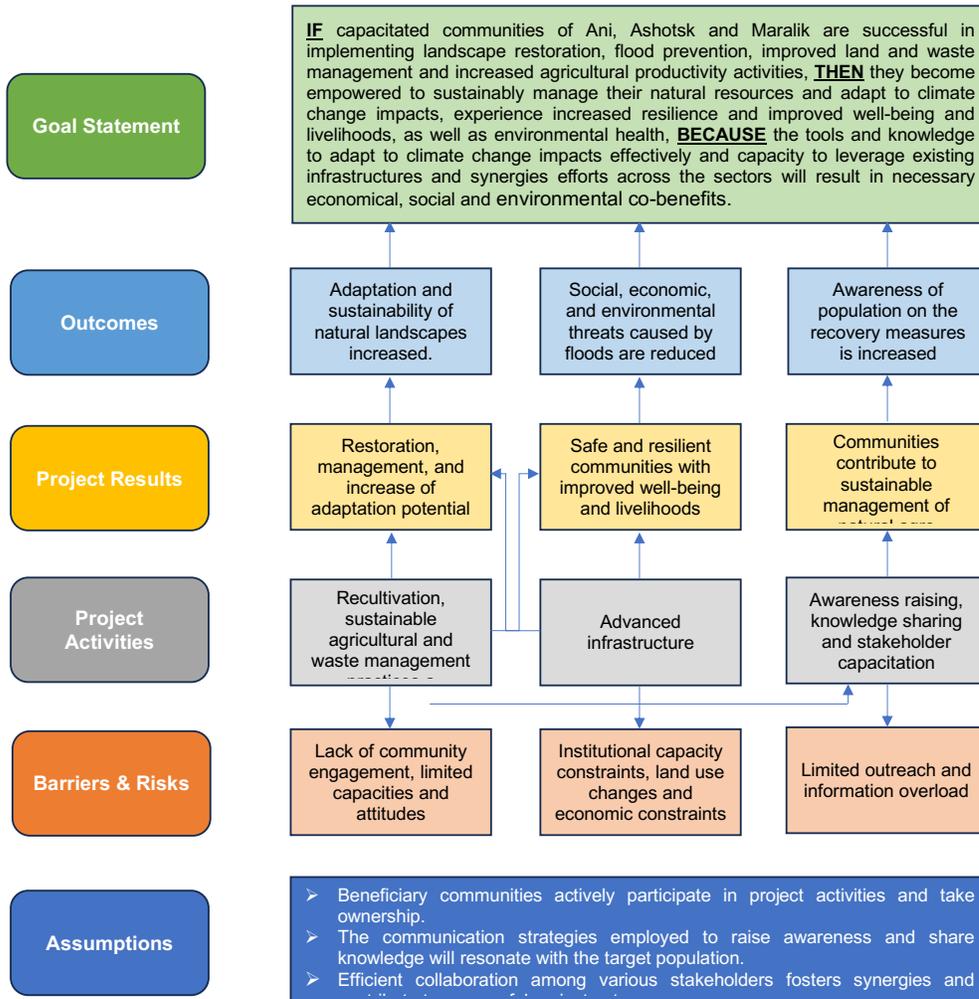
Another problem is increasing the frequency of severe floods in the last 20 years, which is due to the spring temperatures that are not typical for the region. If until 1980s the air temperature reached 20-25°C within one and a half months, now it is rising quickly and unevenly. As a result, this accelerates snowmelt causing the emergence of strong floods. The negative impact of such climate change is also lies in the fact that industrial waste of the mines is dumped into two storm canals passing through Artik city territory significantly reducing their capacity. During intense spring snow melt and heavy rains, flood waters overflow residential and public buildings, lands, gardens, streets, and yards. This phenomenon is repeated every year. Flood that occurred in June 2016 caused more than 210,000 USD damage to Artik city infrastructures and population. The elimination of the consequences of such floods cannot be done only by means of the city budget. The budget of the city and adjacent communities does not allow implementing procedures to eliminate negative impact of repeated floods and other issues created by the closed stone pits to the environment.

Project/Programme Objectives:

The objectives of proposed Project are the following:

- Increase adaptation level of natural and agricultural landscapes;
- Prevent floods and eliminate their consequences,
- Restore the natural landscape of the area affected by climate change and anthropogenic impacts, at the same time to demonstrate the possibilities of adaptation level increase of degraded natural landscapes,
- Improve the adaptation potential of community producers, institutions, and other relevant stakeholders regarding climate change under current climate change conditions;
- Replicate and scaleup good practices achieved during implementation of the pilot project “Artik city closed stone pit waste and flood management pilot project”;

TOC Diagram of the Project:



TOC description of the Project:

At the heart of this project is a transformative vision to enhance the resilience and well-being of vulnerable communities in the Ani, Ashotsk, and Maralik regions of Armenia, in the face of increasing climate change impacts. The Project's Theory of Change (TOC) outlines a strategic pathway that connects its interventions to the desired outcomes, leveraging a holistic approach that integrates restoration, climate-resilient

agriculture, flood prevention, and awareness-building initiatives.

The "if-then-because" logic driving the TOC envisions a series of interrelated steps that culminate in lasting change. **IF** capacitated communities of Ani, Ashotsk and Maralik are successful in implementing landscape restoration, flood prevention, improved land and waste management and increased agricultural productivity activities, **THEN** they become empowered to sustainably manage their natural resources and adapt to climate change impacts, experience increased resilience and improved well-being and livelihoods, as well as environmental health, **BECAUSE** the tools and knowledge to adapt to climate change impacts effectively and capacity to leverage existing infrastructures and synergies efforts across the sectors will result in necessary economical, social and environmental co-benefits.

The Project recognizes the central role of communities in this process. By engaging local communities and enhancing their capacity through tailored interventions, the Project aims to empower them to sustainably manage their natural resources. This engagement, combined with targeted knowledge-sharing, will equip communities with the tools to adapt to climate change impacts effectively. If communities are actively involved and empowered, then they will contribute to enhanced well-being because they will diversify their livelihoods, mitigate risks, and secure essential resources.

Furthermore, the project's alignment with National Adaptation Plan, Sectorial Adaptation Plans (for water and agriculture sectors) and Marz Adaptation Plans and their focus on fostering collaboration among stakeholders are integral to achieving sustainable outcomes. The synergy between Project activities and broader policies will lead to cohesive resource allocation and increased project impact. If the Project leverages existing structures and promotes collaboration, then it will contribute to the achievement of broader development goals, amplifying the benefits of its interventions.

The implementation of concrete measures, including improved land management practices, increased agricultural productivity, enhanced waste management, and reduced flood risks, will result in direct positive changes for communities. This transformation will be visible through increased crop yields, better health outcomes, and reduced property damage. If communities experience these improvements, then their social well-being, livelihoods, and environmental health will significantly benefit, enhancing the sustainability of their ecosystems.

As the project journey progresses, its aim is not just to generate short-term impacts but to lay the groundwork for long-term resilience. Through effective interventions, if the project establishes self-sustaining ecosystems of resilience through effective interventions, then communities will not only adapt but thrive economically, socially, and environmentally in the face of evolving conditions. The key "because" factor lies in the strengthened local capacities, improved resource management, and adaptive practices that communities will have cultivated, creating a legacy of sustainability.

The TOC underscores the importance of understanding and addressing potential risks and barriers that might impede the desired outcomes. Through community engagement, adaptive management, and strategic planning, the project aims to mitigate these challenges to ensure its success.

In summary, the Theory of Change for this project paints a compelling picture of how concerted efforts in restoration, climate-resilient agriculture, flood prevention, and awareness-building will converge to build resilient communities. This journey involves empowering communities, fostering collaboration, aligning with national strategies, and creating lasting change that goes beyond adaptation to create thriving ecosystems of resilience. Through these steps, the project seeks to foster a future where vulnerable communities in Armenia are not just surviving but thriving in the face of a changing climate.

Project/Programme Components and Financing:

N	Project/Program Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)
1.	<p><u>Component 1:</u> Restoration, management, and increase of adaptation potential of natural landscapes of the area affected by climate change and anthropogenic factors.</p>	<p><u>Output 1.1</u> Soil cover of mine adjacent to Maralik community is recultivated (<i>10 ha of forest cover will be created</i>);</p> <p><u>Output 1.2</u> Forest grove established with support of previous project is taken care of and became sustainable;</p> <p><u>Output 1.3</u> Sowing areas of perennial plants are created reducing rangeland degradation in Ani, Ashotsk and Maralik communities (<i>900 ha of perennial sowing area established</i>);</p> <p><u>Output 1.4</u> Crop yield and crop quality of the adjacent agro-landscapes is increased in Ani, Ashotsk and Maralik</p>	<p><u>Outcome 1:</u> Adaptation and sustainability of natural landscapes of the area affected by climate change and anthropogenic factors increased.</p>	<p>466.320</p> <p>180.000</p> <p>450.000</p> <p>300.000</p>

	<p>communities (45 ha hay meadows and arable lands 570 ha pastures);</p> <p><u>Output 1.5</u></p> <p>Waste collection practices are introduced in Ani, Ashotsk and Maralik communities (<i>garbage tracks, bins and collection</i>) and pilot program for integrated management of household waste in the village of Vardakar is implemented;</p> <p><u>Output 1.6</u></p> <p>Mapping of all degraded lands in Shirak region is implemented;</p> <p><u>Output 1.7</u></p> <p>Infrastructure for piloting high value agriculture models (including new types of climate resilient crops) at 100 ha of degraded land is implemented with the commercial lending from private financier engaged (construction of the facilities);</p> <p><u>Output 1.7</u></p> <p>Demonstration sites for intensive orchards in all beneficiary communities are constructed (10 ha in each community);</p> <p><u>Output 1.8</u></p> <p>Architecture and design work for all components are carried out;</p>		<p>220.000</p> <p>25.000</p> <p>250.000</p> <p>900.000</p> <p>70.000</p>
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		<u>Output 1.9</u> Index insurance piloted in beneficiary municipalities		100,000
Subtotal for the Component 1.				2.961.320
2.	<u>Component 2:</u> Prevention and management of floods	<u>Output 2.1</u> Infrastructure constructed during the pilot project is maintained <u>Output 2.1</u> Road infrastructure (two small bridges and renovation of existing road) is advanced to divert the heavy-duty vehicles away from the adjacent to the mine communities;	<u>Outcome 2:</u> Social, economic, and environmental threats caused by floods as a result of climate change is reduced	800,000
Subtotal for the Component 2.				800.000
3.	<u>Component 3:</u> Raising awareness and knowledge level of population for the management of stone pit wastes and floods	<u>Output 3.1</u> The level of knowledge on effective recovery methods <u>of regional governments and municipalities</u> on degraded natural and agro landscapes will be increased <u>Output 3.2</u> The knowledge level of the population on natural and agro landscape adaptation to climate change will be increased <u>Output 3.3</u> Increasing of the knowledge level of the population on the occurrence and prevention possibilities of floods	<u>Outcome 3:</u> Raising awareness and knowledge level of population on the recovery of agro landscapes and flood risk reduction	300,000

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		<u>Output 3.4</u> Promoting the importance of the sustainable thinking, learning and dissemination of information related to the landscape adaptation to climate change in communities <u>Output 3.5</u> The involvement of local media and environmental NGOs in the process of mitigating the negative effects of climate change will be increased		
Subtotal for the Component 3.				300.000
Total: Project Components				4.061.320
	Project/Programme Execution cost			60.920
	Total Project/Programme Cost			4.122.240
	Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			350.390
	Amount of Financing Requested			4.472.630

Projected Calendar:

Indicate the dates of the following milestones for the proposed project/programme

Milestones	Expected Dates
Start of Project/Programme Implementation	01 September 2024
Mid-term Review (if planned)	01 September 2026
Project/Programme Closing	01 September 2028
Terminal Evaluation	10 December 2028

communities adds a practical dimension to the component. These orchards showcase the potential for sustainable agricultural practices, contributing to the overall goal of enhanced adaptation potential.

In the current phase of the Concept Note, preliminary plans for land restoration and the establishment of orchard demonstration sites within the Ani, Ashotsk, and Maralik regions are outlined. These initiatives are integral to Project's objective of enhancing climate resilience and sustainable agricultural practices.

Land restoration typology: The typology of areas targeted for land restoration, including whether these are within protected zones, public lands, or privately owned territories, will be determined based on a detailed assessment of the geographical, ecological, and legal contexts of the Ani, Ashotsk, and Maralik regions. This assessment will be conducted during the Full Proposal design stage. EPIU will ensure that all land restoration efforts align with national environmental policies, local land use regulations, and community needs.

Orchard demonstration sites: The specific locations for the demonstration sites of intensive orchards will be selected based on criteria such as suitability for showcasing sustainable agricultural practices, impact on local communities, and alignment with the project's broader goals. These sites will either be established on lands that are already part of community initiatives or on new sites identified through a comprehensive stakeholder engagement process. The detailed selection process, including the confirmation of land ownership status and securing necessary permissions, will be part of the full proposal design stage.

Through the upcoming detailed planning and design phase, EPIU will gather more precise information about the land typology and specific locations for our project activities. This will ensure that our project interventions are well-informed, context-specific, and tailored to the unique characteristics of the targeted regions."

In alignment with the project's broader aims, financial support from private financiers is leveraged to implement high-value agriculture models across 100 hectares of degraded land. This not only diversifies local livelihoods but also injects economic resilience into the community.

Lastly, the architectural and design groundwork for all components is meticulously carried out, ensuring a cohesive and effective implementation. The piloting of index insurance in beneficiary municipalities adds an innovative dimension, further enhancing the resilience of communities against climate-induced challenges.

In light of the existing agricultural insurance pilots in Armenia, co-financed by MDBs, bilateral assistance providers and the Central Bank of Armenia, the Project recognizes the importance of enhancing the utilization of these services among farmers. The current insurance covers specific crops such as apricots, grapes, apples, peaches, and grains, with eligibility criteria requiring a minimum area of 0.5 acres, presence of a hail station in the community, and age specifications for apricot and grape orchards. Risks covered include hail, fire, and spring frostbite, while uninsured risks comprise winter frostbite, pests, diseases, and other specified conditions.

The Project aims at increasing farmer's utilization of existing insurance products through enhanced awareness. By raising awareness about the benefits of these insurance options and the criteria for eligibility, EPIU hope to encourage more farmers to take advantage of this risk mitigation tool. While the current focus is on elevating understanding and utilization of existing insurance schemes, additional types of support for this insurance component will be carefully considered and detailed during the full proposal formulation stage. This might include provision of the methodological support for piloting new crops and risks.

Outputs 1.1 -1.9

- Soil cover of mine adjacent to Maralik community is recultivated (*10 ha of forest cover will be created*);
- Forest grove established with support of previous project is taken care of and became sustainable;
- Sowing areas of perennial plants are created reducing rangeland degradation in Ani, Ashotsk and Maralik communities (*900 ha of perennial sowing area established*);
- Crop yield and crop quality of the adjacent agro-landscapes is increased in Ani, Ashotsk and Maralik communities (*45 ha hay meadows and arable lands 570 ha pastures*);
- Waste collection practices are introduced in Ani, Ashotsk and Maralik communities (*garbage tracks, bins and collection*) and pilot program for integrated management of household waste in the village of Vardakar is implemented;
- Mapping of all degraded lands in Shirak region is implemented;
- Infrastructure for piloting high value agriculture models (including new types of climate resilient crops) at 100 ha of degraded land is implemented with the commercial lending from private financier engaged (construction of the facilities);
- Demonstration sites for intensive orchards in all beneficiary communities are constructed (10 ha in each community);
- Architecture and design work for all components are carried out;
- Index insurance piloted in beneficiary municipalities

Component 2:

Prevention and management of floods.

Number of beneficiaries – 15,000 (minimum 50% women)

At the heart of this project's holistic approach lies Component 2, which focuses on the essential task of preventing and effectively managing floods in the vulnerable areas of the Ani, Ashotsk, and Maralik regions. This component recognizes the pressing need to mitigate the social, economic, and environmental threats posed by floods due to climate change, ensuring the safety and resilience of local communities.

Central to this component is the maintenance of previously constructed infrastructure, ensuring that the flood prevention measures initiated during the pilot phase continue to

function effectively. These measures are a testament to the project's commitment to creating lasting change.

In a strategic move to divert heavy-duty vehicles away from flood-prone areas, the component advances road infrastructure. This enhancement not only safeguards communities but also fosters sustainable development by preserving vital roadways.

Climate change rationale of this component is the following - Heavy-duty vehicles, particularly from mining operations near these communities, contribute to soil compaction and surface runoff issues, exacerbating flood risks. Advancing road infrastructure, specifically constructing two small bridges and renovating existing roads, aims to reroute these vehicles away from flood-prone areas. This diversion decreases the direct impact on vulnerable terrains and minimizes potential road damage and blockages during heavy rains, ensuring a more effective response to flood events.

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The envisioned outcome of this component is a reduction in the multifaceted threats posed by floods. Socially, communities will experience improved safety and reduced vulnerabilities, while economic stability will be bolstered as a result of safeguarded infrastructure and livelihoods. From an environmental perspective, the project aims to minimize the environmental damage caused by floods, ensuring the health of ecosystems.

By proactively addressing the flood-related challenges through carefully designed infrastructure and preventive measures, this component aligns seamlessly with the broader project goal of building resilient communities. Through the synergy of effective flood management and innovative road infrastructure improvements, Component 2 serves as a cornerstone of the project's commitment to enhancing community well-being and environmental sustainability.

Outputs 2.1 – 2.2

- Infrastructure constructed during the pilot project is maintained
- Road infrastructure (two small bridges and renovation of existing road) is advanced to divert the heavy-duty vehicles away from the adjacent to the mine communities;

Component 3:

Raising awareness and knowledge level of population for the management of stone pit wastes and floods.

Number of beneficiaries – 2,000 (minimum 50% women)

Aiming to empower communities with the information and understanding needed to navigate the challenges of managing stone pit wastes and floods, Component 3 plays a crucial role in promoting informed decision-making and fostering sustainable practices.

For Component 3 of the project, the capacity-building needs of regional governments and municipalities are critical to implementing and sustaining effective management strategies for stone pit waste, flood management, recovery methods

for degraded natural and agricultural landscapes. This component aims to empower communities and local authorities with the necessary information and understanding to address these environmental challenges effectively. These capacity advancement activities will provide local governments with the tools to make informed decisions and implement sustainable practices. The project also emphasizes the importance of sustainable thinking and landscape adaptation to climate change, aiming to instill a stewardship mindset and proactive engagement in these governing bodies.

Central to this component is the goal of increasing the awareness and knowledge levels of the local population. Through strategic efforts, the project seeks to elevate understanding of effective recovery methods for degraded natural and agro landscapes. By equipping communities with insights into the significance of adapting to climate change impacts, the project aims to build a foundation for long-term resilience.

The dissemination of information about the occurrence and prevention of floods is a pivotal aspect of this component. By educating communities about flood risks and mitigation strategies, the project seeks to empower them to make informed choices that enhance their safety and preparedness.

In parallel, the component strives to promote the importance of sustainable thinking related to landscape adaptation to climate change. Through engaging educational campaigns, it aims to instill a mindset of stewardship and proactive engagement in communities.

Crucially, local media and environmental non-governmental organizations (NGOs) are invited to join the endeavor, amplifying the outreach and effectiveness of awareness campaigns. Their involvement is instrumental in ensuring that the project's messages resonate widely.

The overarching goal of Component 3 is to raise the awareness and knowledge levels of the population. This outcome translates into increased community engagement, the adoption of climate-resilient practices, and the enhancement of local adaptive capacity. By enhancing awareness about the management of stone pit wastes and floods, the project contributes to the overall well-being of communities, fortifying them against environmental challenges and fostering a sustainable future.

Outputs 3.1 -3.5

- The level of knowledge on effective recovery methods of degraded natural and agro landscapes will be increased, including for regional governments, municipalities ~~and CSOs~~;
- The knowledge level of the population on natural and agro landscape adaptation to climate change will be increased;
- Increasing of the knowledge level of the population on the occurrence and prevention possibilities of floods;

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- Promoting the importance of the sustainable thinking related to the landscape adaptation to climate change in communities;
- The involvement of local media and environmental NGOs in the process of mitigating the negative effects of climate change will be increased;

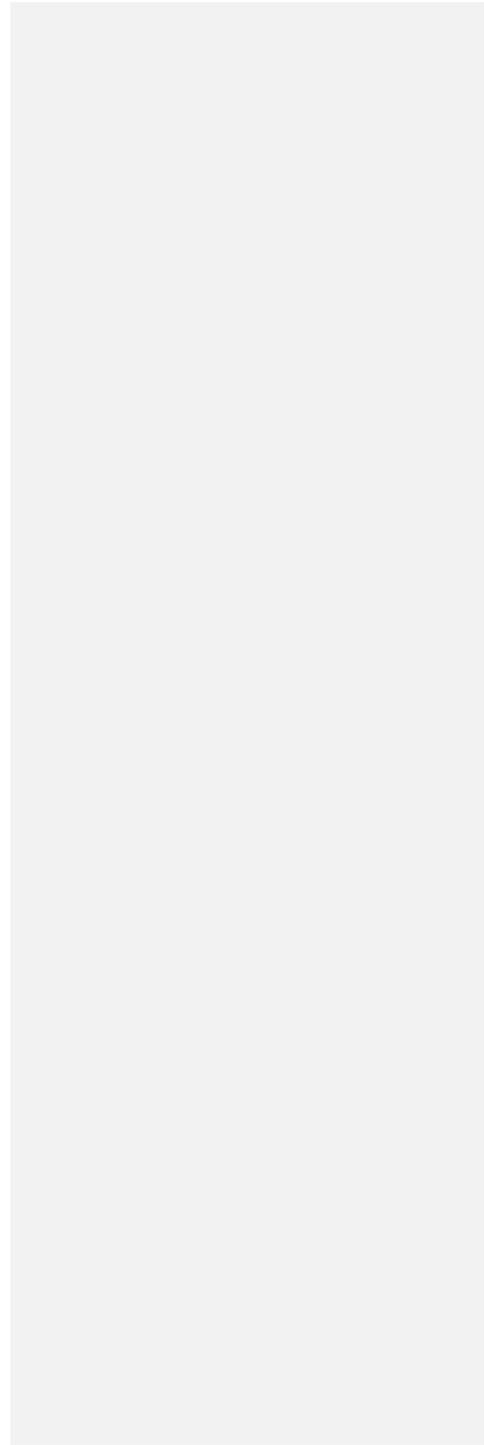
Operational arrangements:

To ensure effective project implementation, a robust governance structure will be established, comprising key stakeholders and dedicated entities responsible for decision-making, coordination, and oversight. This structure is designed to promote transparency, accountability, and the successful execution of project activities. The governance structure includes:

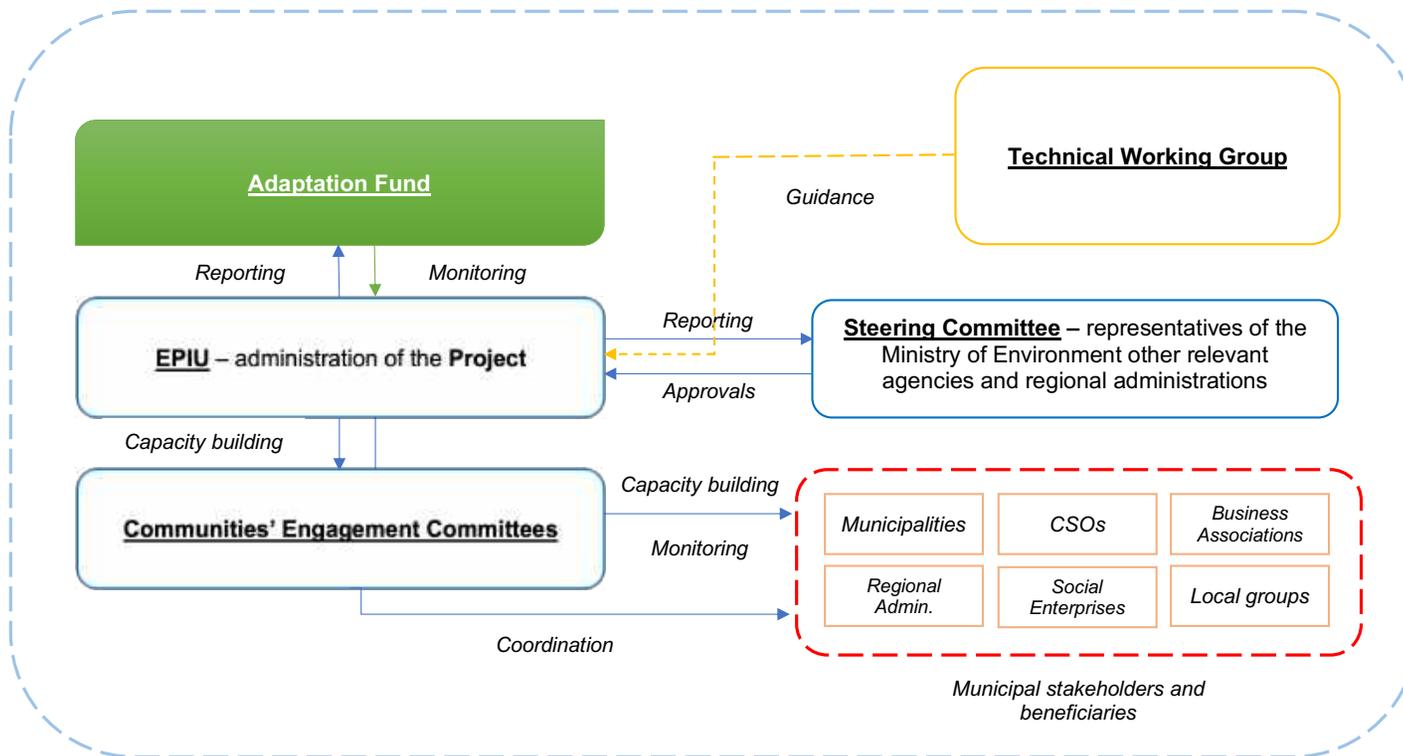
1. **Project Steering Committee (PSC):** The Project Steering Committee will serve as the highest decision-making body, providing strategic guidance, approving major project decisions, and ensuring alignment with national priorities. The committee will include representatives from relevant government ministries, project partners, community representatives, and the implementing entity.
2. **Project Advisory Committee (PAC)** will be established to provide valuable insights, guidance, and recommendations throughout the project's lifecycle. Comprised of key stakeholders representing a range of sectors and interests, the PAC will play a pivotal role in enhancing the project's strategic direction, ensuring alignment with broader goals, and optimizing outcomes.
3. **Project Management Unit (PMU):** The EPIU will serve the function of the Project Management Unit and carry out day-to-day management and execution of project activities. EPIU Director will assign technical experts, project managers, and administrative staff overseeing various components. The EPIU will report to the Project Steering Committee and ensure that activities are implemented according to the approved work plan.
4. **Technical Working Groups (TWGs):** Where necessary, Technical Working Groups will be formed to provide specialized expertise and guidance in specific areas, such as restoration, agriculture, flood management, and awareness campaigns. These groups will comprise experts from relevant fields, government agencies, NGOs, and academia, collaborating closely with the PMU.
5. **Community Engagement Committee:** At the communities' level, engagement committee will be established to facilitate local participation, ownership, and decision-making. This committee will ensure that community voices are heard, priorities are addressed, and project benefits reach the most vulnerable.
6. **Gender and Social Inclusion Focal Points:** Gender and social inclusion focal points will be designated (from EPIU responsible staff members) to mainstream gender considerations and promote social equity throughout the project. They will ensure that project interventions are responsive to the needs and priorities of all community members.

Through this governance structure, the project will foster collaboration, streamline communication, ensure compliance with policies and regulations, and facilitate effective resource allocation. By involving diverse stakeholders, technical experts, and community representatives, the governance structure will contribute to the project's success in enhancing resilience, promoting sustainable development, and empowering

vulnerable communities.



Organigram of the Project implementation:



B. Economic, social and environmental benefits of the Project and compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

Economic Benefits:

- Output 1.1, 1.2, and 1.3 focus on the restoration and management of natural landscapes, including afforestation and sowing areas of perennial plants. This will lead to increased productivity and economic opportunities in agriculture and forestry sectors, benefiting local farmers and communities economically.
- Output 1.4 aims to increase crop yield and crop quality, leading to improved livelihoods for farmers and higher income generation.
- Output 1.7 focuses on piloting high-value agriculture models and climate-resilient crops. This can lead to the development of new markets and agricultural practices, creating economic opportunities in the agricultural sector.

Output 1.7 focuses on the development of infrastructure necessary for piloting high-value agricultural models on 100 hectares of degraded land. This initiative will be underpinned by commercial lending from private financiers and involves constructing facilities essential for new, climate-resilient agricultural practices.

High-value agricultural practices suitable for Armenia's target regions include advanced technologies like precision agriculture, which utilizes data for efficient resource management, and hydroponic systems that enable soil-less crop cultivation. Additionally, the incorporation of organic farming and agroforestry could significantly enhance the value and sustainability of agricultural production. The specific choice of practices will be informed by local climatic, soil, and water conditions, as well as socio-economic factors.

Furthermore, during the Full Proposal design stage, a comprehensive beneficiary needs assessment will be conducted. This assessment will help tailor the project to the specific requirements and preferences of the local communities, ensuring that the selected high-value agricultural practices align with their needs. Based on this assessment, more specific targets and strategies will be introduced, ensuring that the project effectively meets the objectives of enhancing agricultural productivity and resilience in the Shirak region.

- Output 1.9, the pilot of index insurance, can help farmers manage risks and reduce economic losses due to climate-related events.

Social Benefits:

- Output 1.5 introduces waste collection practices in communities, promoting better sanitation and reducing health hazards. The implementation of integrated waste management in the beneficiary municipalities will improve the living conditions of its residents.

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- Output 2.1 aims to prevent and manage floods, reducing social disruptions, displacement, and loss of life and property caused by climate-related disasters.
- Output 3.1 to 3.5 in Component 3 focus on raising awareness and knowledge levels of the population, empowering communities to make informed decisions about landscape adaptation and disaster risk reduction. This awareness can lead to more resilient communities that can better cope with the impact of climate change.

Environmental Benefits:

- Output 1.1, 1.2, and 1.3 focus on restoring and recultivating degraded lands and creating forest groves. These efforts will enhance biodiversity, ecosystem services, and carbon sequestration, contributing to overall environmental health.
- Output 1.4 aims to increase crop yield and quality sustainably, reducing pressure on natural habitats and promoting sustainable agricultural practices.
- Output 2.1 focuses on flood prevention and management, which can reduce erosion, protect natural habitats, and preserve valuable ecosystems.
- Output 3.1 and 3.2 in Component 3 emphasize the recovery of agro landscapes and adaptation to climate change, which will lead to more sustainable land management practices.

Consideration for Vulnerable Communities and Groups:

- The project specifically targets vulnerable communities, including Ani, Ashotsk, and Maralik, which may be more affected by climate change impacts due to their geographical location or socioeconomic status.
- Output 1.6, mapping all degraded lands in Shirak region, helps identify areas where vulnerable communities are most impacted, ensuring targeted interventions.
- Output 1.5 introduces waste collection practices in the mentioned communities, which can alleviate environmental and health risks for vulnerable groups living in those areas.
- Output 3.5 aims to involve local media and environmental NGOs in the process of mitigating climate change effects, promoting inclusivity and giving a voice to vulnerable communities.

Gender Considerations:

The project aims to integrate gender considerations to ensure the equitable distribution of benefits and opportunities among men and women. While the table does not explicitly mention gender-sensitive activities, the project can adopt the following approaches to address gender considerations:

- Conducting a gender analysis to identify the specific needs and roles of women and men in the targeted communities.
- Ensuring women's participation and representation in decision-making processes related to project implementation and management.

- Designing training and capacity-building programs that are accessible and beneficial to both men and women.
- Encouraging the establishment of women's self-help groups or cooperatives to enhance their economic and social empowerment.
- Promoting gender-sensitive land-use planning to ensure that both men and women benefit from sustainable land management practices.

Avoiding or Mitigating Negative Impacts:

The project can take several measures to avoid or mitigate negative impacts on the environment and local communities:

- Conducting thorough environmental and social impact assessments to identify potential risks and negative consequences before project implementation.
- Implementing measures to minimize soil erosion and water pollution resulting from land restoration activities (e.g., afforestation and sowing areas).
- Ensuring proper waste management practices are in place to prevent adverse effects on the environment and human health.
- Engaging with local communities and stakeholders to address their concerns and seek their input during the project planning and implementation stages.
- Establishing monitoring and evaluation systems to track the project's impacts and make necessary adjustments to mitigate negative effects.

Overall, the project's focus on landscape restoration, flood prevention, and awareness-raising can contribute to sustainable development, improved livelihoods, and enhanced resilience for vulnerable communities, including vulnerable groups within those communities. The integration of gender considerations will further ensure equitable benefits and opportunities for men and women.

Ensuring equitable distribution of benefits

To ensure the equitable distribution of benefits to community members and households in Component 3 of the project, several modalities will be employed:

- **Targeted outreach and inclusion:** The project will implement targeted outreach strategies to engage all segments of the community, ensuring that both men and women, from diverse age groups and socio-economic backgrounds, are reached. This includes organizing community meetings, workshops, and information sessions in accessible locations and at convenient times to accommodate different schedules.
- **Gender-sensitive approach:** Special attention will be paid to gender sensitivity to ensure that women, who are often underrepresented in community decision-making, have equal opportunities to participate and benefit from the project. This might involve creating women-specific groups or sessions to encourage participation and address gender-specific concerns.
- **Stakeholder engagement and consultation:** Regular consultations with community members, local leaders, and households will be conducted to understand their needs, preferences, and constraints. This participatory approach ensures that

the project design and implementation are reflective of the diverse needs of the community.

- **Capacity building and training:** Capacity building and training programs will be designed to cater to the varied skill levels and knowledge bases within the community. These programs will be inclusive, catering to different educational backgrounds and learning styles, and will aim to equip community members with the skills needed to effectively manage stone pit wastes and floods.
- **Monitoring and evaluation:** The project will include a robust monitoring and evaluation system to track the distribution of benefits among different community groups. This system will help identify any disparities in benefit distribution and allow for timely adjustments to ensure equitable access and participation.
- **Feedback mechanisms:** Establishing transparent and accessible feedback mechanisms will allow community members to express concerns or suggestions regarding the distribution of benefits. This feedback will be regularly reviewed and used to make necessary adjustments in project implementation.

These modalities are aimed at ensuring that the benefits of the project are distributed equitably among all community members and households, thereby enhancing the overall effectiveness and sustainability of the project's impact.

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

The detailed cost-benefit analysis will be carried out during the Full Proposal preparation stage to compare the costs and outcomes of different projects or interventions. In the context of the proposed Project, the cost-effectiveness will be evaluated based on the following key aspects:

- **Project Scale and Scope:** The overall budget and scope of the project play a significant role in determining its cost-effectiveness. A well-planned and appropriately sized project that addresses the most critical vulnerabilities in the regions can be more cost-effective than larger, unfocused initiatives;
- **Prioritization of Vulnerable Areas:** If the project focuses on the most vulnerable regions and communities within Armenia, it is likely to have a higher impact and cost-effectiveness. Identifying and targeting areas with the highest climate risks can lead to better outcomes;
- **Integrated Approach:** Projects that adopt an integrated and cross-sectoral approach to climate adaptation tend to be more cost-effective. By addressing multiple challenges simultaneously and seeking synergies between sectors, the project maximizes the use of resources;
- **Innovation and Technology:** The integration of innovative technologies and practices can enhance cost-effectiveness. Climate-resilient and sustainable technologies may reduce long-term maintenance costs and increase the project's impact;

- **Involvement of Local Communities:** Engaging local communities in project design and implementation can increase cost-effectiveness. Locals often possess valuable knowledge, contributing to the project's success while ensuring ownership and long-term sustainability;
- **Monitoring and Evaluation:** Establishing a robust monitoring and evaluation framework enables continuous learning and improvement, optimizing cost-effectiveness over time;
- **Leverage of Funding:** The ability to attract co-financing and support from various sources, such as international donors, government budgets, **private sector**, and climate funds, can improve the project's overall cost-effectiveness.

The project is aimed at replication of sustainable landscape management practices that were tested during the pilot stage, which facilitated the exploration and implementation of various solutions, leading to an anticipated 20% improvement in cost efficiency (staff assumptions based on the interviews with project beneficiaries and stakeholders.).

In the pilot project, the soil recultivation adjacent to the Maralik community and the creation of 10 hectares of forest cover were achieved with a 25% increase in cost efficiency compared to international benchmarks, as it was the case with sustainable management of forest groves, informed by previous projects, achieved a cost reduction.

In the establishment of 900 hectares of perennial sowing areas, we observed a cost-effectiveness improvement of 30% over traditional methods, informed by feedback from project beneficiaries. This enhancement was also reflected in the increased crop yield and quality across 615 hectares.

The mapping of degraded lands and the development of high-value agricultural infrastructure demonstrated a cost-effectiveness of 50-60%, significantly higher than existing models, due to increased volumes and prices for final products.

The pilot phase of pilot project has not only set new standards in sustainable environmental management but also demonstrated a remarkable improvement in cost-effectiveness. As we expand these solutions, we anticipate further enhancements in efficiency, significantly contributing to both local and global environmental sustainability goals.

For the proposed project, whilst the detailed information on cost-effectiveness will be provided at the full funding proposal stage, there is a strong potential to generate long-term economic value, including increased agricultural productivity, and cost savings in climate-related damages. Further, the proposed project will lead to social and environmental co-benefits associated including improved livelihoods, enhanced biodiversity, and better air quality, that contribute to sustainable development.

The approach of the proposed project to innovation and technology transfer, as described above, will contribute to more cost-effective solutions and can potentially be replicated in other contexts/other regions.

Further, the project is expected to have a significant impact on building resilience within the communities in the project area. This will involve the implementation of climate-resilient agricultural practices that can lead to long-term cost savings. By implementing climate-resilient infrastructure, the project will help prevent or minimize damage from extreme weather events. The development of local skills and knowledge is expected to lead to sustainable, locally-driven solutions, increasing the long-term cost-effectiveness of the project.

D. Consistence with national and sub-national sustainable development strategies

Proposed Project is architected around key national development strategies and aligned with relevant sectorial policies, frameworks and strategies at the national and sub-national levels. More specifically, the alignment is demonstrated through:

➤ The project is highly relevant to [Armenia's revised NDC for 2021-2030](#) through the focus on mitigating land degradation, desertification, and the adverse effects of climate change on agriculture aligns with the country's commitments under its revised NDCs. The NDC includes prioritization of sustainable land use, water resource management, and the adoption of climate-resilient agricultural practices. By addressing the specific vulnerabilities of different soil and land zones and acknowledging the projected shifts in ecosystems due to climate change, the project directly contributes to the objectives set in the NDCs. Furthermore, the emphasis on adapting agricultural practices to reduce vulnerability to natural hazards such as droughts, hailstorms, and erosion is in line with the adaptation strategies outlined in the revised NDCs. By implementing measures to increase the resilience of the agricultural sector, Armenia not only works towards securing its food supply and livelihoods of its rural population but also contributes to its broader climate goals.

➤ **National Adaptation Plan (NAP¹¹), Sectorial Adaptation Plans (SAPs for Water and Agriculture), and Marz Adaptation Plans (MAPs):** The project is aligned with the triangular adaptation building framework comprised of NAP, SAPs and MAPs (these two are largely discussed with stakeholders but not finally approved) that provides a roadmap for adapting to climate change, identifying priorities, and integrating adaptation into national planning processes. The Project is aligning its objectives, activities, and outcomes with the priorities and goals outlined in the NAP, SAPs and MAPs;

Armenia's National Adaptation Plan (NAP) illuminates the critical climate vulnerabilities the nation faces, including land degradation, unsustainable agricultural practices, and the increasing frequency of floods and droughts. To combat these challenges, the plan outlines a series of necessary legal acts for enactment. However, while sectorial adaptation plans offer a detailed vision for financing and infrastructure needs in the agricultural and water sectors, these plans are yet to receive approval. These plans are pivotal in addressing the key challenges and barriers specific to these sectors. Furthermore, the Marz (regional) adaptation plans provide a tailored approach to region-specific needs, outlining action plans to tackle

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¹¹ https://unfccc.int/sites/default/files/resource/NAP_Armenia.pdf

localized issues effectively.

Despite these efforts, the overall framework of Armenia's NAP remains somewhat vague. This ambiguity is anticipated to be addressed through the NAP-2 process, recently announced by the Green Climate Fund (GCF). This initiative is aimed at advancing the NAP framework, ensuring a more robust and effective approach to climate adaptation. Integral to this process is the development of the NAP Financing Strategy. This strategy is crucial as it aims to comprehensively plan and coordinate the adaptation process, address existing gaps, and facilitate private sector engagement. The emphasis on a coherent financing strategy underscores the importance of a well-structured approach to climate adaptation, ensuring that both public and private resources are utilized effectively to meet Armenia's climate resilience goals.

- **National Development Plans:** The Project is aligned with the country's national development plans (e.g. [Government Strategy for 2022-2026](#)), which outlines the government's overall development objectives and strategies. By aligning with this document, the Project can contribute to the achievement of broader national development goals and ensure coherence in resource allocation;

Armenia's national development plans are a comprehensive effort to enhance the resilience of the country's regions to climate change, while also removing barriers to the growth of the agricultural sector through the implementation of targeted strategies. Central to these plans is the government's commitment to agricultural advancement, which includes a multi-faceted approach to improving infrastructure, technology, and resource management in the sector. This includes a significant push to expand intensive gardens by 1,000 hectares annually and to fully insure agricultural plants within the next five years, with a substantial subsidy for insurance fees. Additionally, the government plans to increase accessibility to financial resources through continued subsidization of agricultural loan interest rates and to encourage the adoption of modern irrigation systems by reimbursing irrigation water fees for lands up to 3 hectares.

The infrastructure and technological aspects of agriculture are also receiving focused attention. The government aims to update the agricultural machinery inventory with at least 500 new units each year and to subsidize the production of high-value and organic plants. This effort is supplemented by support for greenhouse economies and the promotion of modern data analysis in agricultural enterprises. The aim is to create a more efficient, sustainable, and technologically advanced agricultural sector that can adapt to the challenges posed by climate change.

In addition to these measures, the plans place a strong emphasis on animal husbandry and food processing. This includes the introduction of a system for numbering and recording animals, improving pedigree, and providing resources for building modern livestock facilities. The government also intends to continue supporting the leasing of agro-food equipment, which will aid in dairy production and processing, and promote the construction of slaughterhouses. To bolster the agricultural market, efforts are being made to foster local seed breeding and to finance the creation of wholesale markets, logistics centers, and collective

warehouses. The overall strategy is rounded off with plans to improve food safety legislation and promote the effective use of agricultural lands, underscoring the government's comprehensive approach to fostering a robust, sustainable, and climate-resilient agricultural sector.

- **Sectoral Strategies and Plans:** The Project is aligned with the "Strategy of the Main Directions Ensuring Economic Development in Agricultural Sector of the Republic of Armenia for 2020-2030", other relevant sectoral strategies and plans, such as that forestry, water resources, and disaster risk reduction. This alignment ensures that the project contributes to the resilience and sustainability of key sectors;

The strategy is acutely relevant to the country's agricultural development needs, particularly in addressing land degradation and promoting high-value agriculture. The strategy's emphasis on expanding intensive gardens by 1,000 hectares annually reflects a concerted effort to counteract land degradation. By increasing arable land dedicated to high-yield, high-value crops, the strategy aims to enhance soil quality and productivity. This expansion is critical in a country where agriculture accounts for a significant portion of the economy and employs a large segment of the population. The move towards high-value agriculture, which includes the cultivation of organic and specialty crops, represents a shift from traditional, lower-value farming practices. This shift is expected to increase the profitability of the agricultural sector and offer new opportunities for farmers.

The strategy's focus on modernizing agricultural practices and infrastructure is also pivotal in addressing land degradation. Initiatives like the full insurance of agricultural plants and subsidizing up to 70% of seed acquisition for spring and autumn sowing are designed to reduce the risks associated with farming, encouraging investment in better farming practices. Furthermore, the plan to introduce modern systems of drip and/or rain irrigation in land parcels of up to 3 hectares, with full reimbursement of the fee for irrigation water for a term of 5 years, indicates a move towards more sustainable water management practices. Efficient irrigation is crucial in a country like Armenia, where water resources are limited and the impacts of climate change are intensifying issues like drought and irregular rainfall patterns.

Additionally, the government's commitment to updating its agricultural machinery inventory with at least 500 units each year, and supporting the establishment of greenhouse economies, aligns with the needs for sustainable agricultural development. These initiatives not only enhance productivity but also promote environmentally friendly practices that are vital for mitigating land degradation. By investing in technology and infrastructure, Armenia is positioning its agricultural sector to be more resilient, efficient, and capable of producing high-value products, which are increasingly in demand both domestically and in international markets. This holistic approach, combining land management, technological advancement, and market-oriented policies, is essential for a sustainable and prosperous agricultural future in Armenia.

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- **National Communication N4 to UNFCCC:** The Project considers the climate vulnerabilities and adaptation priorities outlined in the country's National Communications N4 to the United Nations Framework Convention on Climate

Change (UNFCCC). These communications provide an overview of the country's climate change vulnerabilities, adaptation efforts, and capacity-building needs;

Armenia's agricultural sector faces significant vulnerabilities due to natural hazards and climate change, with these impacts varying across different land zones and crops. The country is particularly susceptible to land degradation and desertification, affecting approximately 80% of its territory. This degradation is a result of both natural factors, like water and wind erosion, droughts, and landslides, and anthropogenic activities. Climate change further exacerbates these issues by contributing to the vulnerability of organic carbon reserves in soils.

Key projections for the next 100 years indicate a worrying trend for Armenian agriculture. Soil moisture levels are expected to decrease by 10-30%, impacting the moisture provision for various crops by 7-13%. This will lead to a shortage of water for irrigation, increasing soil water deficits by 25-30%. The productivity of irrigated land could reduce by about 24%, and there will be a notable degradation of lands and natural pastures. Pasture area and productivity might decrease by 4-10% by 2030, with a corresponding decline in fodder production volumes. Crop yields are also projected to drop by 8-14%. Hazardous hydrometeorological phenomena like hailstorms, frosts, heat waves, and droughts will significantly impact agricultural crop yields.

The terrestrial ecosystems are also expected to undergo significant shifts. Vertical shifts of up to 250-300 meters in the existing boundaries of main natural ecosystems are anticipated, with a reduction in the surface area of the alpine zone by about 22% and an expansion of sub-alpine tall-grass and wetlands. Forest ecosystems might expand into current meadow areas, and semi-desert vegetation is likely to be preserved with an expansion of the phryganoid zone. A new desert zone is projected to emerge, expanding the desert and semi-desert area by about 33%.

Soil ecosystems will also be affected, with changes in natural vegetation leading to structural shifts in lands and increased vulnerability to landslides. Erosion is a significant concern, with various soil zones showing differing levels of erosion, indicating that if current land use practices continue alongside these climate change forecasts, the area of eroded soils is expected to expand. Overall, these vulnerabilities underline the urgent need for adaptive strategies in Armenia's agricultural sector to mitigate the impacts of climate change and natural hazards.

- **Stakeholder Consultations:** Engagement with national and sub-national stakeholders, including government agencies, local authorities, and civil society organizations, has been crucial to understand their priorities and ensuring the Project's alignment with their needs and aspirations;
- **Policy Integration:** The Project explicitly communicates how its objectives and activities contribute to the achievement of national and sub-national sustainable development objectives. It also outlines how it aligns with existing policies and how it complements other ongoing initiatives;
- **Reporting and Coordination:** The project will report its progress and outcomes to relevant government authorities, ensuring transparency and accountability.

Coordination with existing development partners and projects will help to avoid duplication and enhance synergies;

- **Long-Term Vision:** The Project's design is structured around the long-term vision of the country's sustainable development. By embedding adaptation efforts within broader development goals, the project contributes to lasting impacts and sustainability;

Demonstrating alignment with national and sub-national sustainable development strategies enhances the Project's credibility, fosters collaboration with government agencies and stakeholders, and increases the likelihood of sustained support for the Project's implementation and its long-term benefits to the country's development goals.

Additional points on the alignment of the Project with National Strategies

The Project is meticulously architected to resonate with Armenia's key national development strategies, ensuring a harmonious alignment with relevant sectorial policies and frameworks at both national and sub-national levels.

In the realm of land management and climate resilience, the project's first component plays a pivotal role. It echoes the ethos of Armenia's revised NDC for 2021-2030, particularly in mitigating land degradation and adapting agricultural practices to the evolving climate scenario. The initiatives like soil recultivation, reforestation, and establishment of sowing areas for perennial plants are a testament to the project's commitment to sustainable land use and climate-resilient agricultural practices, a core focus of the NDC. Furthermore, this component synergizes with the NAP, SAPs and MAPs. Its focus on enhancing agricultural productivity, introducing waste management practices, and establishing intensive orchard demonstration sites aligns seamlessly with the adaptation priorities and goals outlined in these plans, particularly in the field of water resource management and sustainable agricultural practices.

The project also mirrors the aspirations of Armenia's national development plans, such as the Government Strategy for 2022-2026. By incorporating high-value agricultural models and piloting index insurance, it contributes significantly to the country's broader developmental objectives, particularly in the agricultural sector. This alignment ensures that the project not only furthers regional resilience and sustainability but also coherently dovetails with the national development trajectory.

Component 2 of the project, focusing on flood prevention and management, is a direct response to the increasing frequency of floods and droughts, a critical concern highlighted in both the NDC and NAP. The maintenance of flood prevention infrastructure and the strategic enhancement of road infrastructure to divert heavy-duty vehicles from flood-prone areas are in line with the country's commitment to building resilient communities and safeguarding them against climatic adversities.

Lastly, Component 3 of the project emphasizes raising awareness and knowledge about managing stone pit wastes and floods, an approach that resonates with the educational and capacity-building needs outlined in Armenia's National Communications to the UNFCCC. This component's objective of empowering communities and local authorities with essential information and tools to address environmental challenges effectively

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complements the national efforts in building a climate-resilient future.

In essence, the project stands as a multifaceted initiative that not only addresses specific regional vulnerabilities but also contributes profoundly to the overarching climate and development goals of Armenia, thereby embodying a holistic approach to sustainable development and climate adaptation.

E. Describe how the project/programme 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.

Compliance with the national standards will be described in detail in the Full Funding Proposal.

Ensuring alignment with Adaptation Fund's Environmental and Social Policy require that projects supported address the adverse impacts of climate change while avoiding unnecessary environmental and social harms. The relevance of the Project to the ESP can be described as follows:

Environmental and Social Management Commitment: The Project demonstrates a strong commitment to environmental and social management by incorporating an environmental and social management system. The implementing entities involved in the project will be responsible for assessing and addressing potential environmental and social risks throughout the project cycle. They will identify measures to avoid, minimize, or mitigate these risks, ensuring that the project aligns with the principles outlined in the ESP.

Compliance with Environmental and Social Principles: The Project adheres to the environmental and social principles set forth in the ESP. It ensures compliance with applicable domestic and international laws and respects human rights, gender equity, and the rights of marginalized and vulnerable groups. The project's design prioritizes fair and equitable access to benefits, while minimizing adverse effects on public health and cultural heritage. Additionally, the Project promotes the conservation of biodiversity and efficient use of resources, including pollution prevention and resource efficiency.

Environmental and Social Assessment and Management: The Project implements a screening process to identify potential environmental and social impacts and categorizes projects/programmes based on their severity. Category A projects/programmes with significant adverse impacts and Category B projects/programmes with less adverse impacts are subjected to a thorough environmental and social assessment. The assessment includes identifying risks and proposing measures for mitigation and management. Implementing entities are responsible for monitoring and reporting on the status of these measures throughout the project's life.

Stakeholder Engagement and Grievance Mechanism: The Project incorporates stakeholder engagement and consultation to ensure the informed participation of all relevant stakeholders. It allows affected communities and individuals to voice their concerns through a grievance mechanism, which provides a transparent and

accessible process for addressing complaints related to environmental or social harms caused by the project.

The project is meticulously aligned with Armenia's national technical standards and legal framework, ensuring its compliance with various laws and regulations vital for its successful implementation. The project's activities are designed to conform with the RA laws on Population Protection in Emergency Situations, Urban Development, Water Code, and Land Code, providing a comprehensive legal foundation for its execution. This alignment is crucial for the project's legitimacy and effectiveness, particularly in areas like water engineering, mine reclamation, and land management, all of which require adherence to specific legal and environmental standards.

During the project design stage, organizations involved are required to comply with RA laws and technical standards, particularly concerning Environmental Impact Assessments (EIA) and land management permits. These standards are integral to ensuring that the project's design and execution are environmentally sustainable and legally compliant. In cases where projects necessitate EIA and urban construction expertise, the design organization must submit project designs and estimates for expert review. Only after receiving positive conclusions from this expertise, which assesses compliance with RA laws, legislative acts, and existing technical standards, are construction permits issued. This process underscores the project's commitment to upholding high standards of environmental protection and urban planning.

The expertise of urban planning documents, as outlined in the RA Law on Urban Development, plays a pivotal role in examining the project's compliance with national laws and technical standards. This includes adherence to norms, rules, and indicators crucial for ensuring reliability, environmental protection, fire safety, sanitary-hygienic conditions, and accessibility for disabled persons. The regulatory-technical documentation, a key component of Armenia's legal system for urban development, serves as a basis for expertise, supervision, and resolution of disputes in urban development activities. The project's designs must meet these technical standards, as regulated by the Government of the Republic of Armenia's decision on the procedure for urban development document expertise.

Furthermore, the project aligns with the RA Land Code and government decisions regarding the improvement of arable lands, meadows, and pastures. This involves state-regulated land relations and policies aimed at increasing land fertility, land use, protection, and agricultural utilization. The restoration of landscapes is also a critical component, adhering to the RA strategy on landscape conservation, management, and planning, and following the European Landscape Convention's requirements. The project's commitment to environmental sustainability is further emphasized through its adherence to the RA Law on Environmental Impact Assessment and Expertise, ensuring that all environmental impacts are carefully assessed and managed.

In summary, the project's activities are closely aligned with Armenia's national technical standards and legal requirements. This alignment covers a broad spectrum of considerations, from environmental impact assessments and urban planning to land use and landscape restoration, demonstrating a comprehensive approach to legal compliance and sustainable development.

F. Avoidance of duplication

An initial screening has been conducted to map out and ensure complementary efforts across various projects in the beneficiary regions of Armenia:

- The **EU-Green Agriculture Initiative (EU-GAIA) in Armenia**, funded by the European Commission with €9.7 million, targets sustainable growth in the north through green agriculture. Running from 2019 to 2024, it impacts 2,000 beneficiaries, including agribusinesses and NGOs. Key outcomes include fostering a supportive environment for green agriculture, empowering agribusinesses with access to green technologies, and enhancing competitiveness and organic agriculture.
- The **Sustainable and Inclusive Growth in Mountainous Armenia (SIGMA) Project**, implemented by DAI and AM Partners, uses a Market Systems Development (MSD) approach to stimulate agricultural growth in rural areas. It involves local and international experts to create grant partnerships, aiming to establish an independent, sustainable market system.
- **MAVETA**, funded by the Swiss Agency for Development and Cooperation with €1.8 million, focuses on revitalizing Armenia's rural economy through agricultural vocational education and training. It targets diverse beneficiaries and works on developing a dual A-VET system and strengthening the legal and regulatory framework for work-based learning.
- The **Armenia Workforce Development Activity**, funded by USAID and executed by the Enterprise Incubator Foundation and partners, aims to equip 10,000 young Armenians with market-relevant skills. Launched in 2021, it focuses on ICT, agriculture, and hospitality sectors, emphasizing employment opportunities for youth, women, and individuals with disabilities. The program bridges skills gaps, shifts societal perceptions, and enhances the labor market environment through partnerships and awareness campaigns.

Comprehensive desk research and rigorous stakeholders' consultation made sure that there is no duplication of efforts with other projects and initiatives. However, to avoid duplication with other funding sources in the future, the Project will implement several strategies to ensure coordination and collaboration with existing initiatives. Here's how the Project can take steps to prevent duplication:

Stakeholder Mapping: Identify all relevant stakeholders, projects, and programmes operating in the target area. This includes government agencies, non-governmental organizations, international organizations, and other development partners;

Engage in Consultations: Initiate consultations with relevant stakeholders to understand ongoing and planned projects. This will help to identify areas of alignment and potential overlaps;

Coordination Mechanisms: Establish coordination mechanisms, such as regular meetings, workshops, and working groups, to share information and updates with other projects. This will encourage collaboration and ensure that everyone is aware of each other's activities;

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Information Sharing: Develop a platform or system for sharing information about the Project's goals, activities, and progress with other relevant projects. This transparency will help to avoid unintentional duplication;

Gap Analysis: Conduct a thorough analysis to identify gaps or areas not covered by existing initiatives. Tailor the proposed Project's activities to address these gaps, ensuring that resources are used effectively;

Complementary Activities: Collaborate with other projects to identify areas where activities can complement each other. For instance, if another Project is focusing on water resource management, this Project could focus on sustainable agriculture practices;

Resource Pooling: Explore opportunities for sharing resources, expertise, and capacities with other projects. This will lead to more efficient utilization of resources and avoid duplication of efforts;

Clearly Defined Roles: Clearly define the roles and responsibilities of each project and ensure that there is no overlap in terms of geographical coverage, target beneficiaries, and activities;

Joint Planning: Engage in joint planning sessions with other projects to develop a coherent and integrated approach to addressing common challenges;

Regular Monitoring and Feedback: Maintain regular communication and feedback loops with other projects to monitor progress and adjust activities if needed to prevent overlap;

Scale and Scope: Ensure that the scale and scope of the proposed Project aligns with the specific niche it aims to fill, and that it doesn't duplicate efforts that are already being adequately addressed by other initiatives;

Reporting and Evaluation: Include reporting requirements that detail how the project is coordinating with other initiatives to prevent duplication. Regular evaluation can help assess the effectiveness of coordination efforts;

The following key recommendations are extracted from the Final Evaluation of the pilot Project that was conducted by independent international consultants:

- **Alternative road construction in Artik:** A critical recommendation involves constructing an alternative road to mitigate the dust pollution caused by heavy trucks passing through the town of Artik. This road construction is essential for improving local air quality and protecting public health. Despite the initiative by the Environmental Project Implementation Unit (EPIU) and communication from the Ministry of Environment to the Ministry of Territorial Administration and Infrastructures, progress on this project has been limited. It is advised to revisit and review this proposal during the budget discussions for 2024.
- **Rehabilitation of abandoned mines and solid waste management:** Another significant recommendation is the rehabilitation of other abandoned mines near community areas. This includes soil recultivation, decontamination, and afforestation, drawing from the experiences and lessons learned from the pilot project. Additionally, the construction of a solid waste landfill in the region is proposed as an integral part of the solid waste cycle. The EPIU director has initiated the design and fundraising for a

pilot waste processing facility in Vardakar community, with negotiations for land identification and allocation underway.

- **Sustainability and stakeholder engagement:** Ensuring sustainability is a central theme of the recommendations. This includes preparing for funding opportunities from international climate funds and development partners for a waste-to-energy pilot project. There is also an emphasis on stakeholder engagement using international best practices. The report suggests clear formulation of target indicators and goals, regular training on climate project design and management principles, and initiatives to increase community awareness on environmental conservation. The leadership of beneficiary communities is advised to focus on awareness-raising activities for the preservation of forest parks, efficient waste management, and proper maintenance of donated property.

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

A learning and knowledge management component is essential for any project or program to capture, analyze, and disseminate lessons learned throughout its implementation. It allows for continuous improvement, better decision-making, and sharing of best practices among stakeholders. Here's how the proposed project can incorporate a learning and knowledge management component:

- **Knowledge Capture:** The project should establish a systematic process to capture knowledge and information from various stages of implementation. This can be done through regular project evaluations, assessments, and monitoring activities. Lessons learned should be documented in a structured manner, including successes, challenges, and best practices.
- **Knowledge Sharing Platforms:** The project should create platforms and mechanisms to share knowledge and lessons learned with relevant stakeholders. This may include workshops, seminars, webinars, conferences, and online portals. Information should be disseminated in a user-friendly format to ensure accessibility to all stakeholders.
- **Community of Practice:** Establishing a community of practice comprising project staff, beneficiaries, local stakeholders, and experts can foster collaboration and peer-to-peer learning. Regular meetings and knowledge-sharing events can facilitate the exchange of experiences and solutions to common challenges.
- **Case Studies and Reports:** The project should develop case studies and reports that highlight successful interventions and outcomes. These documents can serve as valuable resources for other projects with similar objectives or regions facing comparable challenges.
- **Capacity Building:** Implementing partners and stakeholders should receive capacity-building support to enhance their skills in knowledge management, documentation, and dissemination. This can enable them to contribute actively to the learning process.

- **Evaluation and Feedback Mechanisms:** The project should regularly evaluate the effectiveness of the learning and knowledge management component. Feedback from stakeholders can help identify areas of improvement and fine-tune knowledge-sharing strategies.
- **Integration into Project Activities:** Knowledge management should be integrated into project activities and not treated as an add-on. Learning and improvement should be an integral part of project planning, monitoring, and evaluation.
- **Continual Learning Cycle:** The project team should continuously learn from experiences and adapt strategies accordingly. The knowledge management component should facilitate a feedback loop that drives continuous improvement.
- **External Partnerships:** Collaboration with other organizations, research institutions, and development partners can enrich the learning process. Engaging with external stakeholders allows for cross-learning and exchange of ideas.
- **Legacy Planning:** Towards the end of the project, a legacy plan should be developed to ensure that the knowledge and lessons learned continue to be accessible and utilized even after the project's completion.

By incorporating a robust learning and knowledge management component, the proposed project can create a culture of learning, enhance project effectiveness, and contribute to broader knowledge sharing in the field of climate adaptation and sustainable development.

H. Consultative process undertaken during project preparation

During the Project appraisal stage, extensive consultations have already been carried out with key stakeholder groups, including relevant national agencies, representatives of regional and municipal authorities, civil society organizations (CSOs), academia, and representatives of vulnerable communities. These preliminary consultations have been instrumental in understanding the significance of the Project and have provided valuable insights that helped shape the initial long list of sectors and sub-sectors described in the proposal. It is important to note that these initial consultations will be followed by rigorous and comprehensive consultations during the full proposal design stage to further refine and validate the Project's approach.

The engagement of these diverse stakeholder groups has been critical in ensuring that the Project addresses the needs and priorities of sectors and sub-sectors identified as critical for intervention and already visualized throughout the document. National agencies and regional authorities have shared their expertise and provided context-specific information on climate vulnerabilities and adaptation requirements. Representatives of municipal authorities have contributed valuable insights into the local-level impacts of climate change and the specific challenges faced by communities.

CSOs have played a pivotal role in advocating for the inclusion of vulnerable communities and marginalized groups in the decision-making process. Their inputs have helped identify targeted interventions to enhance the resilience of these communities. Academia has contributed with research-based knowledge and technical

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expertise, enriching the project's design with innovative solutions and best practices.

The consultative process has also placed a strong emphasis on gender considerations, ensuring that the perspectives and needs of women and other vulnerable groups are taken into account. Through these consultations, the Project preparation team has gained a deeper understanding of the differentiated impacts of climate change on different genders and demographics.

Overall, the inclusive and participatory nature of the consultations has reinforced the importance of the Project and its potential to address the adverse impacts of climate change effectively. The initial long list of sectors and sub-sectors identified during these consultations serves as a starting point, providing a comprehensive foundation for the subsequent rigorous consultations during the full proposal design stage. This iterative approach ensures that the Project is well-tailored to the specific needs and priorities of the communities it aims to benefit, maximizing its positive impact on climate resilience and adaptation.

For the proposed project, the environmental and social risk categorization is crucial in ensuring that potential impacts are identified, assessed, and managed appropriately. Based on the nature of the activities involved—restoration and management of natural landscapes, flood prevention, and awareness programs on climate change adaptation—the project can be categorized under a moderate environmental and social risk category (Category B). This categorization is justified for several reasons:

- **Environmental risks:** While the project aims to deliver significant environmental benefits, such as afforestation, sustainable land management, and ecosystem restoration, there are inherent moderate risks associated with these activities. For example, landscape restoration and flood prevention works might temporarily disrupt local ecosystems or require the use of heavy machinery that could impact the soil or local biodiversity. Mitigating these risks requires careful planning, implementation of best practices in environmental management, and continuous monitoring to ensure adherence to environmental standards. The moderate risk categorization acknowledges these potential impacts and necessitates a comprehensive environmental management plan.
- **Social risks:** The project targets vulnerable communities, involving them in various activities such as capacity building and infrastructure development. While these activities aim to improve livelihoods and resilience against climate change, they also carry moderate social risks. These include potential displacement or disruption of local communities during construction activities, changes in land use, or unintended impacts on local social dynamics. To address these risks, robust stakeholder engagement and social impact assessments are necessary, ensuring that community concerns are heard and addressed, and that benefits are equitably distributed. The moderate risk categorization reflects the need for ongoing social monitoring and community engagement throughout the project lifecycle.
- **Risk management:** The moderate risk categorization necessitates a proactive approach to risk management. This includes the development of detailed environmental and social management plans, regular risk assessments, and adaptive management strategies to address any unforeseen impacts. Moreover, this categorization ensures that adequate resources are allocated for risk mitigation

activities and that there is a heightened awareness and preparedness for potential environmental and social issues.

I. **Justification for funding requested, and adaptation reasoning.**

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The funding requested for the proposed project is justified based on the full cost of adaptation reasoning. Adaptation to climate change is crucial for building resilience and reducing vulnerabilities in communities and ecosystems. The following justifications support the funding request:

- **Scope and Complexity of the Project:** The proposed project aims to restore and manage natural landscapes, prevent floods, and raise awareness on climate change adaptation in multiple communities. The project's comprehensive scope and complexity require substantial funding to address various challenges effectively.
- **Vulnerable Communities:** The project targets vulnerable communities in Ani, Ashotsk, Maralik, and the Shirak region that are disproportionately affected by climate change and anthropogenic factors. Investing in these communities' adaptation efforts is crucial to protect their livelihoods, well-being, and sustainable development.
- **Environmental Benefits:** The project's activities, such as afforestation, sustainable land management, and flood prevention, offer significant environmental benefits, including biodiversity conservation, carbon sequestration, and ecosystem restoration. These benefits contribute to the global effort to combat climate change.
- **Social and Economic Benefits:** The project's outputs, such as improved agricultural productivity, waste management practices, and enhanced infrastructure, provide substantial social and economic benefits. They contribute to poverty reduction, food security, and improved living conditions for the target communities.
- **Cost-Effectiveness:** While the total project cost may seem significant, it should be viewed in the context of the long-term benefits and cost-effectiveness of adaptation measures. Investing in proactive adaptation now can avoid more significant costs associated with climate-related disasters in the future.
- **Leveraging Private Financing:** The project aims to leverage private financing for implementing high-value agriculture models and climate-resilient crops. This approach can attract additional funding and ensure the sustainability of project interventions beyond the funding period.
- **Capacity Building and Knowledge Sharing:** The project includes a learning and knowledge management component, which is crucial for building institutional capacity and sharing best practices. The long-term impact of the project can be amplified through the dissemination of lessons learned.
- **Demonstrative Impact:** The pilot initiatives, such as index insurance, flood prevention infrastructure, and waste management practices, can demonstrate

the feasibility and effectiveness of climate adaptation measures. Successful pilots can serve as models for replication in other regions.

- **Climate Resilience:** By enhancing the adaptation potential of natural landscapes and promoting climate-resilient agriculture, the project contributes to climate resilience at the local and regional levels. Resilient communities are better equipped to cope with climate change impacts.
- **Co-Benefits:** The proposed project delivers multiple co-benefits, including improved health outcomes through better waste management, reduced soil erosion, and enhanced water resource management. These co-benefits add value to the project's investment.

The funding requested for the proposed project is justified considering its comprehensive approach, targeting vulnerable communities, and delivering multiple environmental, social, and economic benefits. Climate adaptation is a long-term investment, and the funding will help build resilience and ensure the sustainable development of the project beneficiaries in the face of climate change challenges.

The proposed project has been carefully designed to ensure that its specific adaptation objectives are achievable solely with the allocated funding. This self-sufficiency is a result of a strategic approach to project design, resource allocation, and implementation.

- **Direct impact activities:** Each activity in the project has been chosen for its direct impact on adaptation objectives. The restoration and management of natural landscapes, flood prevention efforts, and climate change awareness programs are all high-impact initiatives that directly contribute to increasing resilience and reducing vulnerabilities in the target communities. These initiatives have been planned to ensure they deliver maximum effectiveness within the available budget.
- **Integrated approach for holistic adaptation:** The project adopts an integrated approach, where each component complements and reinforces the others. This interlinked methodology means that the effectiveness of one activity aids in achieving the goals of another, creating a holistic adaptation framework. For example, afforestation not only aids in carbon sequestration but also contributes to flood prevention and biodiversity enhancement, thereby multiplying the impact of a single investment.
- **Leveraging local capabilities and resources:** A significant aspect of the project is its focus on leveraging local resources and capabilities. By involving community members in project activities and utilizing local materials and knowledge, the project maximizes the impact of the funding. This approach reduces reliance on external resources and ensures that adaptation efforts are deeply rooted in the community, enhancing their sustainability.
- **Sustainability and long-term benefits:** The project is designed to deliver long-term benefits, ensuring that the outcomes of the current funding continue to provide adaptation advantages well into the future. This includes building local capacities, establishing sustainable practices in agriculture and land management, and creating infrastructures that will continue to serve the community long after the project's completion.
- **Cost-effectiveness and efficiency:** The project emphasizes cost-effectiveness and efficiency in all its activities. By carefully planning and executing each component, the project ensures that every dollar spent contributes as effectively as possible towards achieving the adaptation objectives. This includes efficient project management, judicious

procurement practices, and continuous monitoring and evaluation to ensure that the project stays on track and delivers the expected outcomes within the budget.

In summary, the project is fully equipped to achieve its adaptation objectives within the constraints of the requested funding. Its strategic design, efficient resource allocation, and focus on sustainable, high-impact activities ensure that it can deliver on its goals without the need for additional financial support from other donors. This approach not only makes the project viable and impactful but also ensures that it contributes effectively to building resilience and reducing vulnerabilities in the face of climate change.

J. Sustainability of the project/programme outcomes

The sustainability of the project/programme outcomes has been taken into account during the design phase to ensure that the project's benefits continue beyond its implementation period. Several factors have been considered to enhance the sustainability of the project outcomes:

- **Community Engagement and Ownership:** The project has involved the target communities, including Ani, Ashotsk, Maralik, and others, from the beginning. Their active participation in decision-making and implementation fosters a sense of ownership and responsibility for the project's success, increasing the likelihood of sustained efforts beyond the project's duration.
- **Capacity Building:** Capacity building activities have been integrated into the project to enhance the skills and knowledge of local stakeholders. Training and skill development in sustainable land management, flood prevention, and climate-resilient agriculture empower the communities to continue implementing these practices effectively even after the project ends.
- **Institutional Strengthening:** The project focuses on building the capacity of local institutions, such as government agencies, community-based organizations, and NGOs. Strengthening these institutions ensures that they have the knowledge, resources, and systems to continue the project's activities and sustain the outcomes in the long term.
- **Knowledge Management:** The project includes a learning and knowledge management component that documents lessons learned and best practices. This knowledge sharing will enable stakeholders to replicate successful interventions in other regions and projects, contributing to the sustainability of adaptation efforts.
- **Policy Integration:** The project considers policy integration to ensure alignment with national and regional development plans and strategies. By embedding project outcomes in existing policies and frameworks, there is a higher chance of continued support and funding for sustained implementation.
- **Monitoring and Evaluation:** Robust monitoring and evaluation mechanisms are in place to track progress, assess the effectiveness of interventions, and identify areas for improvement. This data-driven approach allows for adaptive management and informed decision-making, supporting the long-term sustainability of the project.

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- **Leveraging Private Financing:** The project seeks to leverage private financing for certain activities, such as implementing high-value agriculture models. By engaging private financiers, the project aims to establish economically viable ventures that can continue beyond the project's funding period.
- **Collaboration with Partners:** Collaboration with various stakeholders, including other organizations, government agencies, research institutions, and NGOs, enhances the project's sustainability. Partnerships can contribute resources, expertise, and ongoing support, extending the project's impact.
- **Demonstration Sites:** The establishment of demonstration sites for climate-resilient agriculture and flood prevention allows communities to witness firsthand the benefits of sustainable practices. These tangible examples can inspire broader adoption and replication.
- **Legacy Planning:** The project incorporates legacy planning to ensure that the knowledge, infrastructure, and capacity built during the project's implementation endure. Specific measures are put in place to continue and maintain the project's outcomes beyond its lifespan.

By considering these sustainability factors in the design and implementation of the project/programme, it aims to foster lasting changes, enhance resilience, and contribute to the long-term well-being of the target communities in the face of climate change and environmental challenges.

Also, the project's design has been thoughtfully crafted to ensure the lasting impact of its outcomes, incorporating elements such as community engagement, capacity enhancement, technology transfer, focus on gender equity, economic feasibility, institutional fortification, vigilant monitoring, and replicability strategies. These components work in unison to guarantee that the project's benefits persist well after its completion, thereby bolstering long-term resilience and adaptability.

Central to the project's strategy is the sustained effectiveness of its outputs, underscored by a commitment to entrust municipalities and civil society organizations (CSOs) with leadership roles post-project. As the project approaches its end, detailed training sessions and knowledge transfer initiatives will be organized for these entities. These efforts are designed to impart the skills and understanding necessary for the independent upkeep and administration of the project's results, ensuring their ongoing effectiveness.

Key to the project's lasting success is instilling a sense of ownership and accountability in municipalities and CSOs. From the outset, these groups will be deeply involved in all phases of the project, from decision-making to the creation of post-project maintenance strategies, and the formation of committees dedicated to the outputs' long-term management. This involvement is intended to foster a deep-rooted commitment to the sustainability of the project's assets. As a result, municipalities and CSOs will become the stewards of the project's legacy, ensuring that the advancements in agricultural productivity and the enhancements in water supply systems continue to benefit local communities for years to come.

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K. Overview of the environmental and social impacts and risks identified

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Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
<i>Compliance with the Law</i>	All activities of the project are in line with RA laws and regulatory acts. No further assessment of potential impacts and risks is required for compliance with the law, since the project complies with all relevant national legislation and policies on agriculture, water management, climate change adaptation, land tenure, public procurement and others.	
<i>Access and Equity</i>	The project will provide fair and equitable access to the project beneficiaries and will facilitate access to robust institutions, sustainable livelihoods, knowledge, as well as in decision making processes. The compact area affected communities makes it easier to share information and transfer knowledge using intermediary community groups such as, youth and women organizations, beneficiary farmer and family groups.	<u>Inadequate involvement or representation of certain community groups, leading to unequal access to project benefits.</u>

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<i>Marginalized and Vulnerable Groups</i>	Project activities do not have a negative impact on marginalized and vulnerable groups. Within this group there are people with disabilities and families living with persons with disability, the elderly, as well as people with a very low income and with limited access to resources to help them in their normal everyday living. In the targeted region, elderly and poor families receiving benefits from the state are considered marginalized and vulnerable.	<u>Insufficient identification of all marginalized and vulnerable groups, leading to their inadvertent exclusion</u>
<i>Human Rights</i>	The Chapter 2 of the Armenian Constitution recognizes fundamental human rights and freedom that exist and shall continue to exist without discrimination by reason of race, national origin, color, religion, opinion, belief, or sex. The project's activities are structured in the manner with no negative impact on human rights and infringement on the right of any person during implementation.	
<i>Gender Equality and Women's Empowerment</i>	Well-established traditions in the Republic of Armenia prevents negative perception on the role of women in society. Also, women are empowered in villages, and they are	Gender Action Plan will be designed and submitted with Full Proposal to make sure that gender sensitivity considerations are mainstreamed throughout all activities of the Project.

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	involved in day to day activities and decision makings in the field of family and village affairs.	
<i>Core Labour Rights</i>	<p>Labour rights (including those related to the child labour) are protected by the Constitution and Civil Code of the RA. During summer vocations children typically provide assistance to their parents by performing light activities, which could be considered as training for future farming activities. Desk research and stakeholder consultations revealed no occurrences of child labour in the Project area. Even in most vulnerable communities in Armenia education of children and adolescents in schools and universities is considered as mandatory. However, this does not mean that children do not help their parents with cultivation of their land plots. This carries a learning element and gives children an opportunity to get acquainted with the basic knowledge on framing activities.</p>	
<i>Indigenous Peoples</i>	Armenia's population is homogeneous (around 96%), so there is no issue of potential violation of the rights of	

	indigenous people.	
<i>Involuntary Resettlement</i>	Project implementation does not include any resettlement of residents. No further assessment is required for involuntary resettlement.	
<i>Protection of Natural Habitats</i>	There are no protected areas in the project area and the Program will not involve unjustified conversion or degradation of critical natural habitats, including those that are (a) legally protected; (b) officially proposed for protection; (c) recognized by the Government for their high conservation value, including as critical habitat. In Shirak marz the only specially protected nature area is "Arpi Lake" national park located in the northern part of the region. It consists of 5 settlements which are located away from beneficiary communities.	
<i>Conservation of Biological Diversity</i>	Project activities will not have a negative impact on biodiversity conservation as within project design activities will ensure that the flora and fauna within the project area is conserved.	
<i>Climate Change</i>	The project does not have a negative impact on climate change. It will not generate significant and / or	

	<p>unjustified increase in greenhouse gas emissions or any other cause of climate change. Moreover, the creation of forested park will contribute to CO² absorption and milder microclimate. No project interventions are expected to contribute to release of gases responsible for CC and thus are not expected to contribute to GHG emissions.</p>	
<p><i>Pollution Prevention and Resource Efficiency</i></p>	<p>Project is not expected to generate any environmental pollution and aims for higher resource efficiency for better management of available natural resources. Industrial wastes are stone residues that originate from quarrying. During the exploitation of quarries, the environment has been polluted by dust particles. The residents of the areas adjacent to floodplains crossing the town dump garbage into the floodplain, due to insufficient number of bins causing clogging during heavy rains and snowfall and causing floods thus creating anti-sanitary conditions that can cause infectious diseases during hot summers.</p>	<p><u>Potential pollution from quarrying activities and inadequate waste management.</u></p>
<p><i>Public Health</i></p>	<p>The stability of ecosystem balance will contribute to the improvement of public</p>	

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	health. Thus, no adverse impact on public health related issues is envisaged.	
<i>Physical and Cultural Heritage</i>	During site assessments, heads of communities were consulted to make sure any cultural sites and sites with unique natural values are identified. As a result of this, EPIU has determined that there are no physical and cultural heritage sites in interventions envisaged by the program: closed quarry, gorges, natural, and agricultural landscapes. The activities envisaged by the Project are not implemented in such sites where there are physical and cultural heritage monuments	
<i>Lands and Soil Conservation</i>	Restoration activities are envisaged to help in land and soil conservation and will not create any damages to land and soil resources.	

PART III: IMPLEMENTATION ARRANGEMENTS

A. Alignment with the Results Framework of the Adaptation Fund

Project Objective(s)	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
1. Increase adaptation level of natural and agricultural landscapes;	Project interventions contributed towards reduction of the spread of dust, and increase of adaptation of natural and agricultural landscapes	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	
2. Prevent floods and eliminate their consequences,	Advanced infrastructure in the vicinity of beneficiary municipalities contributed towards adaptation to extreme hydro meteorological events posed by climate change	Outcome 1: Reduced exposure to climate-related hazards and threats	1. Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis	
3. Restore the natural landscape of the area affected by climate change and anthropogenic impacts, at the same time to demonstrate the possibilities of adaptation level increase of degraded natural landscapes,	<ul style="list-style-type: none"> ➢ Quality of land increased; ➢ The level of erosion decreased; ➢ Anthropogenic factors affecting natural and agricultural landscaped reduced; 	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	
4. Improve the adaptation potential of community producers, institutions, and other relevant stakeholders regarding climate change under current climate change conditions;	Costs of flood damage is reduced.	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.1. Percentage of households and communities having more secure access to livelihood assets	

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<p>5. Replicate and scale up good practices achieved during implementation of the pilot project “Artik city closed stone pit waste and flood management pilot project”;</p>	<ul style="list-style-type: none"> ➤ N of best practices replicated; ➤ N of communities benefited; ➤ N of people benefited; ➤ % of women engaged 	<p>Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies</p>	<p>8. Innovative adaptation practices are rolled out, scaled up, encouraged and/or accelerated at regional, national and/or subnational level.</p>	
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
<p>Adaptation and sustainability of natural landscapes of the area affected by climate change and anthropogenic factors increased.</p>	<ul style="list-style-type: none"> ➤ 10 ha of forest cover will be created; ➤ Forest grove established; ➤ 900 ha of sowing areas of perennial plants are created reducing rangeland degradation in Ani, Ashotsk and Maralik communities; ➤ Crop yield and quality at 45 ha of hay meadows and 570 ha of pastures is increased in Ani, Ashotsk and Maralik communities; ➤ Waste collection practices introduced in Ani, Ashotsk and Maralik communities ➤ Pilot program for integrated management of household waste in the village of Vardakar is implemented; ➤ Degraded lands in Shirak region are mapped; 	<p>Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability</p>	<p>5.1. No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change</p>	<p>2.961.320</p>

	<ul style="list-style-type: none"> ➤ 100 ha of degraded land has benefited from constructed infrastructure for piloting high value agriculture models (including new types of climate resilient crops), as well as commercial lending from private financier is implemented; ➤ 10 ha of demonstration sites (in each community) for intensive orchards in all beneficiary communities are constructed; ➤ Architecture and design work for all components are carried out; ➤ Index insurance piloted in beneficiary municipalities; 			
Social, economic, and environmental threats caused by floods as a result of climate change is reduced	<ul style="list-style-type: none"> ➤ Infrastructure constructed during the pilot project is maintained; ➤ Road infrastructure (two small bridges and renovation of existing road) is advanced to divert the heavy-duty vehicles away from the adjacent to the mine communities; 	<p>Output 1.1: Risk and vulnerability assessments conducted and updated</p> <p>Output 1.2: <u>Targeted population groups covered by adequate risk reduction systems</u></p> <p>Output 6: Targeted individual and community livelihood strategies strengthened in</p>	<p>1.2 No. of early warning systems (by scale) and no. of beneficiaries covered</p> <p><u>1.2.1. Percentage of population covered by adequate risk-reduction systems,</u></p> <p>6.1.1.No. and type of adaptation assets (tangible and intangible) created or</p>	800.000

Deleted: Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability

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		relation to climate change impacts, including variability	strengthened in support of individual or community livelihood strategies	
			6.2.1. Type of income sources for households generated under climate change scenario	
Raising awareness and knowledge level of population on the recovery of agro landscapes and flood risk reduction	<ul style="list-style-type: none"> ➤ Increased level of knowledge on effective recovery methods of degraded natural and agro landscapes; ➤ Increased level of knowledge of the population on natural and agro landscape adaptation to climate change; ➤ Increasing level of knowledge of the population on the occurrence and prevention possibilities of floods; ➤ Promoting the importance of the sustainable thinking related to the landscape adaptation to climate change in communities; ➤ Increased involvement of local media and environmental NGOs in the process of mitigating the negative effects of climate change; 	<p>Output 3.1: Targeted population groups participating in adaptation and risk reduction awareness activities</p> <p>Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning</p>	<p>3.1.1 No. of news outlets in the local press and media that have covered the topic</p> <p>3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders</p>	300,000

¹ The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the

overall principle should still apply

ANNEX I. – Initial Gender Analysis

Methodological approach and alignment with AF Gender Policy framework

The project “Building healthy and resilient communities in Shirak region” building on the successfully implemented pilot with recultivation of stone pits, sustainable waste and flood management in Artik Project, is fully aligned with the Adaptation Fund's gender policies. It recognizes the crucial role gender plays in environmental management and climate change adaptation. This initial gender analysis underscores the distinct roles, responsibilities, and needs of men and women in the Shirak region, reflecting traditional gender norms and socio-economic realities. It acknowledges that men and women experience and respond to environmental challenges differently due to their varying roles in agriculture, resource management, and community leadership. The project is committed to addressing these disparities by ensuring equitable access to resources, promoting inclusive participation in project activities, and implementing gender-sensitive strategies. This comprehensive approach, underpinned by a robust monitoring and evaluation framework and consistent capacity-building efforts, aims to foster gender equality and empower all community members, particularly women, in the face of environmental challenges and the broader impacts of climate change.

- **Gender roles and responsibilities:** In the targeted regions, traditional gender roles significantly influence how men and women interact with environmental resources. Men are typically more involved in heavy labour-intensive activities such as working at the stone pits and responding to floods, while women mainly engage in sectors like education, healthcare, and agriculture, and bear the brunt of domestic responsibilities. This division of labour means that men and women experience the impacts of environmental degradation and climate change differently. Women, in particular, may face increased burdens due to resource scarcity and are often underrepresented in decision-making processes related to environmental management.
- **Access to resources and services:** There is a noticeable disparity in access to resources between men and women in the target communities. Women often have limited access to land ownership, credit facilities, and technical agricultural training, hindering their ability to adapt to climate change effectively. This project will strive to bridge these gaps by ensuring equal access to resources and services, including targeted support for women in areas such as sustainable agriculture practices and resource management.
- **Participation in project activities:** Cultural norms and socioeconomic factors can limit women's participation in community-level environmental initiatives. The project will actively work to remove these barriers, ensuring equitable participation of both men and women in all project activities. This includes special efforts to engage women in training sessions, community meetings, and decision-making processes related to environmental management and adaptation strategies.
- **Gender-sensitive project design and implementation:** The project is designed to be sensitive to the different needs, roles, and contributions of men and women. This includes the consideration of gender-specific vulnerabilities in the planning of flood mitigation and waste management strategies. The project will also support women's empowerment by creating opportunities for them to lead and participate in community adaptation initiatives.

- **Monitoring and evaluation:** Gender-specific indicators will be integrated into the project's monitoring and evaluation framework. This will include the collection of sex-disaggregated data to assess the differential impacts of the project on men and women. This data will inform ongoing project adjustments to ensure gender equity in project benefits.
- **Policy alignment:** This gender analysis aligns with the Adaptation Fund's commitment to promoting gender equality and women's empowerment. The project's approach is also in line with Armenia's national gender policies, contributing to broader objectives of gender equity and inclusion.
- **Capacity building on gender issues:** To ensure a gender-sensitive approach throughout the project lifecycle, capacity-building activities on gender issues will be provided for project staff and local stakeholders. This training will enhance their understanding of gender dynamics and equip them with the skills to integrate gender considerations into their work effectively.

Country Context

This gender analysis lays a foundation for a gender-responsive approach, ensuring that the project not only addresses the environmental challenges in the Shirak region but also contributes to advancing gender equality and empowering women in the community.

- **Legal framework and gender equality policies:** Armenia's commitment to gender equality is constitutionally enshrined, with the "Law on Ensuring Equal Rights and Equal Opportunities for Women and Men," adopted in 2013, serving as a cornerstone for state policies in this area. This law outlines the main directions for achieving gender equality, addressing guarantees within state governance and public service, and forms of gender discrimination.
- **Political representation and judicial participation:** The Electoral Code, effective since June 2016, enhances women's political representation, setting a progressive quota for women in elective bodies and applying a rotation mechanism to ensure female representation continuity. The Action Plan "On Promoting Gender Balance among Candidates for Judges" has yielded noticeable results in increasing women's participation in the judiciary.
- **UNDP and National gender strategies:** The UNDP Armenia Country Office's Gender Equality Strategy (2016-2020) aims to standardize gender mainstreaming across programmes and operations, clarifying gender-related concepts and policies for staff. This approach is critical for embedding gender perspectives in various developmental initiatives.
- **Project alignment with gender policies:** Aligning with Armenia's gender policies and the Adaptation Fund's gender policy, this project prioritizes women and vulnerable groups, echoing the principles of the Paris Agreement. It promotes gender equity and equality by ensuring that women and men benefit equally from the project outcomes, with a focus on empowering women through equal rights, access, and opportunities.
- **Empowerment and economic benefits:** Women, as key contributors to the agricultural sector, stand to gain significantly from the project. Increased productivity and efficiency in agriculture, coupled with enhanced knowledge about climate adaptation, are expected to boost their economic standing. The project's gender-sensitive approach in all training and awareness campaigns further supports this empowerment.
- **Initial study plan and analysis:** An initial study plan has been developed to delve into the social and economic benefits for women and vulnerable groups. It includes a comprehensive review of Armenia's Constitution, international legal documents, and studies by local and

international organizations. This analysis is crucial in identifying gaps in the practical application of gender equality principles, despite the existing legal framework.

The project aims to address these issues, ensuring that women's rights and contributions are recognized and valued in all spheres of life. This structured approach provides a thorough understanding of the gender dynamics at play in Armenia and of how the project aligns with and supports the country's gender equality objectives.

Proposed structure of the Gender Assessment to be designed during the Full Proposal stage

1. Executive summary:

- Overview of the report's objectives, key findings, and recommendations.

2. Introduction:

- Contextual background of the project area.
- Objectives and scope of the gender analysis.

3. Legal and policy framework:

- Review of national and local gender-related laws and policies.
- Analysis of how these policies are implemented in practice.

4. Gender roles and division of labour:

- Detailed analysis of gender roles in the target communities.
- Division of labour, especially in agriculture, resource management, and household responsibilities.

5. Access to resources and decision-making:

- Evaluation of men's and women's access to resources like land, credit, and education.
- Analysis of participation in community and household decision-making processes.

6. Economic activities and opportunities:

- Assessment of economic roles and opportunities for men and women.
- Identification of potential economic empowerment opportunities through the project.

7. Social and cultural norms:

- Examination of social and cultural norms influencing gender roles and relations.
- Impact of these norms on project implementation and outcomes.

8. Risks and vulnerabilities:

- Identification of gender-specific risks and vulnerabilities, including those related to climate change and environmental degradation.

9. Stakeholder analysis:

- Analysis of key stakeholders in terms of gender perspectives and influence.
- Strategies for engaging different gender groups.

10. Gender-sensitive project strategy:

- Recommendations for ensuring the project is gender sensitive.
- Strategies to address identified gender issues and disparities.

11. Capacity building and empowerment:

- Plans for gender-focused capacity building and empowerment activities.
- Strategies to enhance women's leadership and participation.

12. Monitoring and evaluation:

- Development of gender-sensitive indicators.
- Plans for regular collection and analysis of sex-disaggregated data.

13. Recommendations and action plan:

- Specific recommendations for gender mainstreaming in the project.
- An action plan detailing steps, responsible parties, and timelines.

14. Conclusion:

- Summary of key insights and the importance of gender analysis for project success.

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government² *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

<p>Hakob Simidyan</p> <p><i>Minister of Environment of the Republic of Armenia</i></p>	<p>18 August 2023</p>
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B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

<p>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, <u>commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.</p>

Annex 5 to OPG Amended in October 2017

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.

<i>Name & Signature</i>	
Armen Yesoyan , Director, “Environmental Project Implementation Unit” State Agency Under the Ministry of Environment of the Republic of Armenia	
Date: 18 August 2023	Tel. and email: info@cep.am, +37410651631
Project Contact Person: Armen Yesoyan, Acting Director of “EPIU” SA Armen Khojoyan, Acting Deputy Director of “EPIU” SA	
Tel. And Email: info@cep.am, +37410651631 armenkhojoyan@epiu.am, +37410361351	



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REPUBLIC OF ARMENIA
MINISTER OF ENVIRONMENT
РЕСПУБЛИКА АРМЕНИЯ
МИНИСТР ОКРУЖАЮЩЕЙ СРЕДЫ

№ 1/08.5/12087

« 18 » « 08 » 2023

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

Subject: Endorsement for the project “Enhancing resilience of communities to climate change in Shirak Marz leveraging best practices of the pilot project implemented in Artik community”

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

Accordingly, I am pleased to endorse the above grant proposal with support from the Adaptation Fund. If approved, the project will be implemented by the “Environmental Project Implementation Unit” State Agency of the Ministry of Environment of the Republic of Armenia and executed by the same Agency.

Sincerely,

18.08.2023

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Signed by: SIMIDYAN HAKOB 3004840588

Mr. Hakob Simidyan

International Cooperation Department
Ani Khachatryan, +37411 818 508

