

Please fill in the form in the grey spaces, by following the instructions in italic.

Requesting country:	<i>Georgia</i>
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Request title:	<i>“Technical assistance for assessing the feasibility of and building capacity in Ecosystem-based Adaptation (EbA) in Georgia’s mountain regions”</i>
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Contact information:		
<i>{Please fill in the table below with the requested information. The request proponent is the organization that the request originates from, if different from the National Designated Entity (NDE).}</i>		
	National Designated Entity	Request Applicant
Contact person:	<i>Mr. Grigol Lazriev</i>	
Position:	<i>Head, Head of the Climate Change Service</i>	
Organization:	<i>Ministry of Environment and Natural Resources Protection</i>	
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<p>Technology Needs Assessment (TNA):</p> <p><i>{Select one of the three boxes below:}</i></p> <p><input checked="" type="checkbox"/> <i>The requesting country has conducted a TNA in 2012:</i> http://unfccc.int/ttclear/misc/_StaticFiles/gnwoerk_static/TNR_CRE/e9067c6e3b97459989b2196f12155ad5/30147bf67c1c4b97afe057fbb149a2fc.pdf</p> <p><input type="checkbox"/> <i>The requesting country is currently conducting a TNA</i></p> <p><input type="checkbox"/> <i>The requesting country has never conducted a TNA</i></p> <p><i>{If the requesting country has completed a TNA, please indicate what climate technology priority this request directly relates to. Please indicate reference in TNA/TAP/Project Ideas.}</i></p> <p>Finalized in 2012, the Technology Needs Assessment (TNA) of Georgia states: “Based on general criteria ... land degradation caused by water erosion and <i>natural disasters in mountainous ecosystems were selected as highest priority sectors and ecosystems</i>”. Of the three priority sectors identified through the TNA, two of these (i.e. extreme geological events & land degradation) consider climate change impacts and adaptation technologies to increase the resilience of mountain ecosystems (the third priority sector being the Black Sea Coastal Zone). Natural hazards such as mudflows and landslides are also considered more characteristic for mountain ecosystems within the TNA. Chapter 6 (Part I – Assessment) on Technology Prioritization for Extreme Geological Events Sector (pp. 36-38) and Chapter 3 (Part II Action Plans on Extreme Geological Phenomena Sector) are dedicated to the protection of mountain ecosystems from climate change triggered natural disasters.</p>

It is clear that both water and wind erosion (see Part 1, Chapter 5 - Agriculture) and natural hazards (see Part 1, Chapter 6 - Geological Events) hamper mountain ecosystem functioning and put ecosystem services under threat, and generate a wider impact on several economic sectors. Moreover, natural hazards threaten not only ecosystems functions but also human security and physical infrastructure.

However, the TNA does not clearly evaluate the impact of natural hazards and erosion on ecosystems functioning and consequently services it provides to different economic sectors. Furthermore, the TNA does not measure possible financial impacts that are caused by not taking appropriate measures for protection of mountain ecosystems. Out of five project proposals as listed within the context of TNA, two are dedicated to increase of resilience of mountain ecosystems, particularly in the mountain region of Adjara. One proposal on agriculture is also covering improvement of irrigation systems in mountain region of Adjara.

CTCN Request Incubator Programme:

{Please indicate if this request was developed with support from the Request Incubator Programme:}

Yes

No

Geographical focus:

{Select below the most relevant geographical level for this request:}

Community-based

Sub-national

National

Multi-country

{If the request is related to the sub-national or multi-country level, please indicate here the areas concerned (provinces, states, countries, regions, etc.)}

The request will be carried out at municipal (sub-national) level, potentially mountain municipalities of Kakheti region, Adjara Autonomic Republic and Upper Svaneti (to be determined in close consultation with relevant national and local stakeholders), and at national level.

Theme:

{Select below the most relevant theme(s) for this request:}

Adaptation to climate change

Mitigation to climate change

Combination of adaptation and mitigation to climate change

Sectors:

{Please indicate here the main sectors related to the request. e.g. energy, industry, transport, waste, agriculture/fisheries, forestry, water, ecosystem/biodiversity, coastal zones, health, education, infrastructure/human settlement, tourism, businesses, early warning/disaster reduction, institutional design and mandates, cross-sectorial}

Relevant sectors related to sustainable development of mountain regions include: tourism, energy, transport, agriculture, forestry, water, ecosystem/biodiversity, health, and infrastructure/human

settlement. A significant cross-sectoral emphasis is due to the nature of the ecosystem approach.

Problem statement (up to one page):

{Please describe here the difficulties and specific gaps of the country in relation to climate change, for which the country is seeking support from the CTCN. Please only provide information directly relevant to this request, and that justifies the need for CTCN technical assistance.}

Georgia is a developing country dominated by mountain ecosystems with a high vulnerability to climate change. The recently submitted Third National Communications through relevant studies covers a number of mountain municipalities such as mountain municipalities of Kakheti region, Adjara Autonomous Republic and Upper Svaneti entirely (Mestia municipality). All those municipalities are suffering from different climate exposures among which most perceptible are natural disasters such as landslides, debris-flows, mudflows, avalanches, etc. Most vulnerable regions to this kind of natural hazards are mountain regions and among them Kazbegi municipality (USAID 2015).

A catastrophic mudflow took place on 17th of May 2014, at the estuary of the Terek and Devdoraki-Amali rivers (Kazbegi municipality). The crumbling mass of around 1.5 million cubic meters rushed down the Terek river gorge, blocking the river and forming a 30 to 40 meter-high dam measuring 60 to 70 meters across. The disaster completely paralyzed the country's strategic infrastructure. The mudflow disabled 600 meters of the Georgian Military Highway, traffic was stopped at the Lars-Stepantsminda highway section, the main gas pipelines were damaged, leaving Armenia without gas supply from Russia, and a high voltage (110 kV) transmission line tower was also badly damaged. The mudflow destroyed various means of transport, isolating border guard bases; customs exit points and the patriarch's residence. There was also a tragic loss of life caused through this incident (<http://www.icdo.org/en/media/press-media/mudflow-disasters-georgia>).

In general, almost 70 % of the territory, home to some 57% of the population, is at risk from disasters. Mudflows pose a rise to 32% of the country, flooding and erosion (27%), landslides (24%) and avalanches (17%) (MoENRP 2015). Climate change is generally expected to exacerbate the frequency, intensity and severity of such events (Ahouissoussi et al. 2014). The increase in landslides, floods and mudflows is caused by a combination of factors, including an increase in anthropogenic pressures including population growth, removal of vegetation on hillsides and mountain slopes, construction on unstable soils, development of artificial waterways; increase in tectonic activity; and climate change through warmer temperatures and increased frequency of heavy precipitation (Georgia's 3rd National Communication to the UNFCCC, MoENRP 2015). As temperatures are expected to increase across the region, it is also likely that the areas prone to drought will increase and that droughts will become more intense (World Bank 2006).

Georgian mountain forest ecosystems are of great importance for mountain communities. The ability of trees to prevent soil erosion and reduce the risk of landslides is essential; a variety of ecosystem services are also provided which are vital for livelihoods and food security (e.g. clean water, forest products, biodiversity). Whilst under constant threat from deforestation (Ulander and Ter-Zakaryn 2012), they are also vulnerable to changes in temperature and precipitation. Evidence of impacts of climate change has been found on forests in all three areas investigated – Adjara, Mestia and Borjomi Municipality – that may reduce the critical ecosystem services provided by them, further exacerbated through introduction of new diseases (Adjara and Borjomi), increased frequency of drought and wildfires (Borjomi), and displacement of species due to warmer temperatures, and prolonged vegetation period (Mestia) (Georgia's 3rd National Communication to the UNFCCC, MoENRP 2015).

The need for sustainable economic and social development of the country is high, in particular for its vulnerable mountain regions and communities. There is a pressing need to increase climate resilience of mountain ecosystems and services, and integrate climate change adaptation considerations into the planning phase of activities and economically important mountain sectors (e.g. tourism). Yet, climate

change adaptation considerations have not yet been adequately incorporated into relevant strategies/programmes, both at the national and local level, especially for economically important sectors. Although ecosystem based adaptation (EbA) is a priority for Georgia (see alignment with national priorities), no significant efforts have been made to introduce EbA approaches and undertake concrete activities in Georgia. This is predefined by limited understanding of the need for and benefits of EbA approaches.

The proposed request for technical assistance will seek to promote a shift from currently limited sector-based adaptation efforts to a more holistic EbA approach. This will be done through: the identification of key stakeholders to which awareness raising and capacity building on EbA will be targeted; the identification of locations and options/methodologies for EbA to address existing vulnerabilities in mountain ecosystems; the development of an EbA approach in full collaboration with local institutions and stakeholders to ensure proof of concept, and finally, the development of training materials which will facilitate the upscaling of EbA efforts in Georgia's mountains (and perhaps other ecosystems). Through this technical assistance, the exchange of experiences and knowledge transfer from other mountain regions and relevant programmes will be facilitated (e.g. UNEP's global mountain flagship programme in Uganda, Nepal and Peru). This technical assistance will also provide baseline knowledge and assess the feasibility of EbA approach necessary for the development of a full-fledged programme/project on EbA in Georgia's mountains using existing climate change-related financial mechanisms. An example of such a programme/project, which is being developed under the Green Climate Fund (GCF), is the "Safeguarding climate-resilient local tourism and related infrastructure in mountain regions through ecosystem-based adaptation" project.

Past and ongoing efforts (*up to half a page*):

{Please describe here past and on-going processes, projects and initiatives implemented in the country to tackle the difficulties and gaps explained above. Explain why CTCN technical assistance is needed to complement these efforts, and how the assistance can link or build on this previous work.}

A number of projects and activities on adaptation to climate change have been implemented in Georgia, most recent ones include the following: "Climate resilient flood and flash flood management" (UNDP/CAF), "Support of climate-adapted agriculture and rehabilitation of windbreaks in East Georgia" (GiZ), but these project have been only utilizing ecosystems-based approaches to a limited extent.

Most comprehensive assessments (National Communications to UNFCCC, baseline assessment done before elaboration of Second Strategy on Biodiversity Protection, etc.) conducted on climate change impact on ecosystems are mostly referring to biodiversity and forests protection, but do not consider ecosystems functioning as a whole. Moreover, the assessments do not cover analysis of sustainability of ecosystems services under threat of climate change, and therefore do not investigate into potential hampering of ecosystems' services provision for different economic sectors.

Therefore, taking into account abovementioned considerations and the fact that the deployment of ecosystem-based approaches start from almost zero, the technical assistance request seeks in particular for the following assistance to be provided through CTCN:

1. Raise awareness of ecosystem-based climate change adaptation approach (including benefits) versus sectoral adaptation approach to key stakeholders in the region (based in particular on transfer of experience and knowledge gained in other mountain regions).
2. Provide targeted capacity/training building on EbA approaches (tools & methods) and assistance in development of a methodological tool for assessing and evaluating mountain ecosystems services provided to different economic sectors, especially those that are crucial for economic development in mountain regions (tourism and agriculture) and ones that are of key priority for country development also for the low-land areas (hydropower).

EbA in mountain regions with the view of supporting the Currently, developments for a GCF project

proposal entitled “Safeguarding climate-resilient local tourism and related infrastructure in mountain regions through ecosystem-based adaptation”, supported by UNEP are underway.

Assistance requested (*up to one page*):

{Please describe here the scope and nature of the technical assistance requested from the CTCN and how this could help address the problem stated above and add value vis-à-vis the past and on-going efforts. Please note that the CTCN facilitates technical assistance and is not a project financing mechanism}

1. Identify needs and gaps for implementation of EbA measures in Georgia’s mountain regions:

Assistance requested:

- Identify appropriate stakeholders (regional, national and local level) and undertake stakeholder consultation including identification of institutional capacities;
- Assess the vulnerability of Georgia’s mountain ecosystems and communities to climate change and undertake analysis of the opportunities (and potential barriers) in terms of climate change ecosystem-based adaptation including climate change scenarios for targeted pilot site;
- Identifying candidate areas/ecosystems/communities where ecosystem-based adaptation measures could be implemented. Such candidate areas/ecosystems/communities could then be considered as targets under other assistance programmes (e.g. Green Climate Fund)

2. Knowledge-sharing, capacity building/training and awareness raising

Assistance requested:

- Support capacity-building actions on ecosystem based adaptation, through transfer of knowledge and experience on EbA in mountain regions (Pan-European region and beyond) through: Organizing training workshop(s) bringing together relevant local and national stakeholders as well as expertise from other mountain regions (e.g. through UNEP’s global mountain EbA programme);
- Support to production of EbA guidance tool “cookbook/toolkit” for local stakeholders in specific mountain regions. Toolkit to include best-practice case studies from other mountain regions, results from gap analysis, as well as policy recommendations;
- The toolkit will also include the methodology of financial losses calculation in rural areas from potential natural disasters and other extreme events triggered by climate change for both local and national authorities. At this stage, governmental bodies do not have common and comprehensive “toolkit” for calculation of financial losses. This will a) have impact on national and municipal budget planning; b) prevents insurance companies from promotion of evidence based insurance packages, and c) in general, hampers proper planning of activities related with adaptation to climate change. Support co-development of GCF project proposal “Safeguarding climate-resilient local tourism and related infrastructure in mountain regions through ecosystem-based adaptation”, supported by UNEP are underway”

Expected benefits (up to half a page):

{Please outline here the medium and long-term impacts that will result from the CTCN technical assistance, including how the assistance will contribute to mitigate and/or adapt to climate change.}

Medium-term impacts:

- Enhanced understanding of ecosystem-based adaptation in vulnerable mountain regions of Georgia; the need of strengthened action towards climate change adaptation;
- Incorporation of EbA approaches into relevant development agendas
- Strengthened capacity (within government institutions) on the application of EbA tools
- Increased knowledge base necessary for the development of longer-term actions and activities e.g. through instruments such as the Green Climate Fund (GCF).

Long-term impacts:

Multiple benefits of adopting EbA approaches for the mountain regions and the communities depending on them include:

- Sustainable water management that also ensures other societal benefits including improved ecosystems for recreation, tourism, culture, energy provision etc.
- Disaster risk reduction through the buffering services provided by ecosystems
- Biodiversity conservation
- Contribution to increased food security
- Increased resilience of mountain ecosystems and local populations living in this areas
- Safeguarding long-term investments (e.g. in the tourism sector/energy infrastructure)

Post-technical assistance plans (up to half a page):

{Please describe here how the results of the CTCN technical assistance will be concretely used by the applicant and national stakeholders, to pursue their efforts of resolving the problems stated above after the completion of the CTCN intervention (list specific follow-up actions that will be undertaken).}

The Constitution and new mountain law (2014) recently adopted by the Georgian Parliament, and a number of development strategies and studies of mountain regions, recognize the need for economic and social development in mountain regions. According to the data of the Ministry of Health and Social Protection, poverty is more common in mountain regions of the country.

Some of these strategies (see Alignment with national priorities) do recognize incorporating climate change adaptation considerations for mountain ecosystems. If successful, the proposed technical assistance under the CTCN and the developed tools/methodologies could be replicated in other parts of the country (mountain regions in particular) contributing to the implementation of different national strategies of Georgia. Furthermore, the approach can be employed for increasing the resilience of priority economic sectors (such as tourism) to climate change. Increasing this resilience is crucial given that most of the national strategies name tourism development as a key economic sector worthy of further development in mountain regions (tourism represents a major part of the Georgian economic income and a significant increase is forecasted. For example, the direct contribution of Travel & Tourism to GDP in 2013 was GEL 1,660.5mn (6.2% of GDP); it is forecasted to rise up to 23.9% in 2024.

Therefore, tourism development stands high on the priorities of the Georgian government. The Government of Georgia is also planning to develop Georgia's winter tourism potential through several new investments in skiing infrastructure in Georgia's winter resorts. Mountain regions, such as

Kazbegi, Svaneti, Adjara, etc. offer great further tourism development prospects. These regions provide an opportunity to see spectacular mountain landscapes and unique cultural heritage (some are UNESCO heritage-listed), and significant parts of protected areas are located in mountain regions. For some mountain regions, such as Upper Svaneti, tourism represents a major source of income for the local population.

Considering the above and the fact that Georgia is in the process of elaborating a Tourism Development Strategy, the EbA approach can be utilized as a key approach for development and review of the policy paper as well. Moreover, ecosystem-based adaptation can become a major tool of the future National Adaptation Plan that is currently under elaboration (next 1-2 years). Such an approach can be beneficial not only for national wide application, but also for cooperation with bordering countries of the Caucasus region within the context of a shared ecosystem.

Key stakeholders:

{Please list in the table below the main stakeholders who will be involved in the implementation of the requested CTCN technical assistance, and what their role will be in supporting the assistance (for example, government agencies and ministries, academic institutions and universities, private sector, community organizations, civil society, etc.). Please indicate what organization(s) will be the main/lead counterpart(s) of CTCN experts at national level, in addition to the NDE.}

Stakeholder	Role to support the implementation of the assistance
Ministry of Environment and Natural Resources Protection and relevant subordinated agencies Ministry of Economic and Sustainable Development and relevant subordinated agencies Ministry of Agriculture and relevant subordinated agencies Ministry of Regional Development and relevant subordinated agencies Agency of Protected Areas	Guidance towards implementation, formal approval of project results, experience and data provision, further steps planning
Local Self-governance and relevant subordinated agencies (mountain municipalities)	Involvement in planning
Non-governmental organizations	Experience exchange

Alignment with national priorities (up to half a page):

{Please demonstrate here that the technical assistance requested is consistent with documented national priorities (examples of relevant national priorities include: national development plans, poverty reduction plans, technology needs assessments (TNAs), LEDS, NAMAs, TAPs, NAPs, sectorial strategies and plans, etc.). For each document mentioned, please indicate where the priorities specifically relevant to this request can be found (chapter, page number, etc.).}

The Constitution, the new Law on Development of Mountain Regions (to be adopted 1 Jan 2016) and different development strategies recognize economic, social, and even sustainable development of mountain regions and its peculiarity. The new mountain law in particular aims at providing economic and social benefits for populations residing in mountains, and in maintaining and/or increasing

mountain populations. The Georgia-EU Association Agreement requires the country to promote climate change adaptation measures through policy and action. This includes strategic planning and developing measures to mitigate and adapt to climate change. Climate change adaptation is currently not sufficiently promoted in a strategic way at the national level and there are no systematic policy approaches for its promotion. However, most development strategies recognize the need to mainstream climate adaptation into development sectors. Among those strategy papers, the following do consider importance of ecosystem based approaches:

- The Program of Government of Georgia (2015) states that the National Adaptation Plan for Economic Sectors and Ecosystems will be elaborated
- The National Biodiversity Strategy and National Forest Concept for Georgia recognize mountain ecosystems as one of most vulnerable ecosystems in the country

This requests for assistance also addresses the country's existing climate priorities which are gaining more support at the national, local levels including the following:

- Socio-economic Development Strategy 20/20 of Georgia
- State Strategy for Regional Development of Georgia (2010-2017)
- Agricultural Development Strategy
- In Georgian INDC draft document highlands/mountain regions are mentioned in the contexts of extreme natural events aggravating by climate change.
- National Environmental Action Program (NEAP - 2) encourages study of Adjara and Upper Svaneti (Mestia) mountain municipalities and of climate impacts on glaciers (impacts of their transformation and impact on water resources) of Georgia;

Moreover, the National Communications to UNFCCC frequently underline mountain regions and its eco-systems as some of the most vulnerable. This request furthermore builds on the TNA conducted (see relevant section above).

Development of the request (*up to half a page*):

{Please explain here how the request was developed at the national level and the process used by the NDE to approve the request before submitting it (who initiated the process, who were the stakeholders involved and what were their roles, and describe any consultations or other meetings that took place to develop and select this request, etc.)}

This request has been developed following a series of consultation rounds organized with different experts (local, governmental, international level) working on climate change adaptation and sustainable mountain development in Georgia's mountain region and the wider Caucasus.

The request builds in particular on the findings of the recently UNEP published "Outlook on climate change adaptation in the Caucasus mountains" that was validated by governmental experts including through a consultation workshop held in Tbilisi, September 2015. The request also follows the recently submitted Third National Communication to the UNFCCC, which stressed the importance of climate change adaptation and highlighted the high vulnerabilities of mountain regions to climate change. The request has also been developed through ongoing consultations for the preparation of future priorities for Georgia in the Green Climate Fund, where ecosystem-based adaptation approach in mountain regions remains high on the agenda action.

Expected timeframe:

{Please propose here a duration period for the assistance requested.}

Duration: About 1-2 years

Tentative Start Date: October 2016

Background documents:

{Please list here relevant documents that will help the CTCN understand the context of the request and national priorities. For each document, provide weblinks if available, to attach to the submission form while submitting the request. Please note that all documents listed/provided should be mentioned in this request in the relevant question(s), and that their linkages with the request should be clearly indicated.}

Technology Needs Assessment (TNA):

http://unfccc.int/ttclear/misc/_StaticFiles/gnwoerk_static/TNR_CRE/e9067c6e3b97459989b2196f12155ad5/30147bf67c1c4b97afe057fbb149a2fc.pdf

3rd National Communication to the UNFCCC, MoENRP 2015:

XXX

The Program of Government of Georgia (2015):

http://gov.ge/files/41_50258_481988_StrongDemocraticUnitedGeorgia1.pdf

The National Biodiversity Strategy (2014): <https://www.cbd.int/doc/world/ge/ge-nbsap-v2-en.pdf>

National Forest Concept for Georgia:

<http://w3.cenn.org/wssl/uploads/home/National%20forest%20policy%20for%20georgia%20%28ENG%29.pdf>

Socio-economic Development Strategy 20/20 of Georgia: <http://www.adb.org/sites/default/files/linked-documents/cps-geo-2014-2018-sd-01.pdf>

Agricultural Development Strategy (2015):

http://moa.gov.ge/fileman/Uploads/STRATEGIA_ENG_print.pdf

Georgian INDC:

http://www4.unfccc.int/submissions/INDC/Published%20Documents/Georgia/1/INDC_of_Georgia.pdf

Monitoring and impact of the assistance:

{Read carefully and tick the boxes below.}

By signing this request, I affirm that processes are in place in the country to monitor and evaluate the assistance provided by the CTCN. I understand that these processes will be explicitly identified in the Response Plan in collaboration with the CTC, and that they will be used in the country to monitor the implementation of the CTCN assistance.

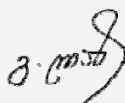
I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country.

Signature:

NDE name: Grigol Lazriev, Head of the Climate Change Service; Ministry of Environment and Natural Resources Protection

Date: 10 June 2016

Signature:



THE COMPLETED FORM SHALL BE SENT TO THE CTCN@UNEP.ORG

Need help? The CTCN team is available to answer questions and guide you through the process of submitting a request. The CTCN team welcomes suggestions to improve this form.

>>> Contact the CTCN team at ctcn@unep.org