



Terms of Reference (ToR) Forest Landscape Restoration: implementation of field works

BACKGROUND INFORMATION

Climate change is increasing the frequency, intensity and magnitude of disasters, leading to a higher number of casualties as well as property and economic losses. Nature can provide cost-effective, no-regret solutions, which help increase community resilience beyond their capacity to absorb and recover from a single disaster, such as a flood or drought. IUCN has been at the forefront of developing the concept of [Nature-based Solutions](#) and has recently launched a [Global Standard for Nature-based Solutions](#). Evidence shows that beyond the positive impact on societies and improved management of disaster risks, Nature-based Solutions benefit habitats and biodiversity as well as support climate change mitigation and adaptation.

Countries in the Western Balkans are among the most vulnerable with respect to climate change impacts affecting numerous sectors and domains. Yet, while Nature-based Solutions are increasingly used and integrated into climate change policy and action planning globally, in particular, in relation to disaster risk reduction and community resilience, in the Western Balkans, the value derived from deploying Nature-based Solutions in response to societal challenges remains underexplored. The contributions of ecosystems and biodiversity towards climate change adaptation and disaster risk reduction have not been recognised or sufficiently reflected in relevant strategies and policies in the region. Policies and planning approaches are often fragmented or do not consider capacity gaps with regards to their implementation.

On a global scale Nature-based Solutions have been recognised to offer untapped potential to the achievement of the multiple national and international priorities on mitigating climate change, improving livelihoods, reducing desertification and conserving biodiversity. Integrating Nature-based Solutions into national climate change policy and planning is one way to promote and create a more holistic perspective that acknowledges the role of ecosystems and the services they provide. Also, it is critical that investments are mobilized for nature-based solutions through other mechanisms than public sector investments. Additionally, alignment with global and regional policy frameworks, including the Paris Agreement with NDCs as its delivery vehicle, the Sendai Framework, Agenda 2030, CBD and NAPs among others, supports the achievement of international commitments and reporting requirements. Overlaps between these frameworks as well as other activities, such as the work on UNCCD's land degradation neutrality should also be considered. Global post-2020 negotiations in particular offer opportunities for mainstreaming Nature-based Solutions into ongoing policy development and planning processes, such as updating and / or enhancing NDCs (including how to enhance climate resilience (adaptation), setting LDN targets, and defining the pathways to achieve the Post-2020 Global Biodiversity Framework.

In addition to global frameworks, the Western Balkan countries strive to align national policies with EU acquis. The recently adopted EU Green Deal, the EU Biodiversity Strategy, EU Strategy on Adaptation to Climate Change provide new opportunities for Nature-based Solutions actions. The Green Agenda for the Western Balkans currently under development will adapt the EU Green Deal and related strategies to the regional context and align goals with priorities of the Western Balkan countries. ADAPT aims to harness the potential of Nature-based Solutions for climate change adaptation and disaster risk reduction by capitalising on national, regional and global processes for policymaking and planning that facilitate effective implementation.

[ADAPT: Nature-based Solutions for resilient societies in the Western Balkans](#) is a project funded by the Swedish International Development Cooperation Agency (Sida) and implemented by IUCN. It aims to increase ecosystem and community resilience to climate change and environmental degradation in the Western Balkans. The project works at multiple levels and involves government agencies, research institutions and civil society, which offers opportunities for knowledge exchange, wider capacity building and institutional strengthening as well as the potential for scaling up.

The project will be implemented through the following three strategies:

1. Enhance knowledge and awareness of nature-based disaster risk reduction solutions among decision makers, natural resource managers and local communities with a specific focus on gender;
2. Integration of Nature-based Solutions and equitable climate-smart planning into adaptation and disaster reduction policy; and
3. Implementation of Nature-based Solutions for disaster risk reduction and their scale-up.

In order to demonstrate the value and multiple benefits of Nature-based Solutions, the project aims at implementing two pilot NbS field projects, one in Kraljevo municipality in Serbia and one in Elbasan municipality in Albania. Apart from the two pilot sites, the project will help prepare a tender dossier in North Macedonia and pre-feasibility studies for future NbS projects in selected pilot sites locations in the other three Western Balkans economies.

BRIEF OVERVIEW OF THE DEVELOPMENT STAGES OF THE SERBIAN PILOT SITE

In Serbia preliminary consultations with partners and stakeholders have led to the selection of the Municipality of Kraljevo as a suitable pilot site location from the ADAPT project development phase. It was highlighted Kraljevo has been particularly vulnerable to climate induced risks in recent years. A particular issue already underlined by the Municipality of Kraljevo, is the increased risk of floods due to degraded forests and erosion, which may also lead to landslides. The municipality is under exposure to climate risks and as such was listed in the Government's Decision Declaring Natural Disaster enacted in June 2018. The Ibar River and its tributaries, which originates in Montenegro and flows through Kraljevo, has been subject to consecutive floods in 2014, 2016, 2019 and 2020, creating losses by damaging people's goods and properties. All activities linked to ADAPT pilot project implementation is done in close cooperation with local authorities and interest groups, including women and youth representatives.

Furthermore, in Serbia, a Forest Landscape Restoration (FLR) opportunity assessment was carried out using the Restoration Opportunities Assessment Methodology ([ROAM](#)), to identify specific priority areas, within the Kraljevo municipality, to implement FLR. A multidisciplinary team of 5 experts undertook a series of environmental, socio-economic and gender baseline assessments and proposed restoration measures. These studies were finalised in November 2021 and looked more specifically into conservation and biodiversity status, they analysed degradation drivers and proposed options for net improvements to enhance biodiversity net-gains while improving also livelihoods.

In the process, several sites (i.e. Lojanik, Studenica, Goć and Gledić) were identified and analysed through a multi-criteria analysis and in the end the intervention area proposed -Gledićke mountain, was chosen based on best available 'science' and 'local knowledge' with constant stakeholder engagement. It is important to note that most forests in this area are privately owned.

The FLR actions proposed by the forestry and biodiversity experts for the proposed NbS project are the following:

- natural (assisted) forest regeneration,
- rehabilitation by planting, enrichment planting,

- bio-engineering measures to deal with torrential floods i.e. creation of loose stone check dams in gullies,
- restoration of silvo-pastoral systems by fencing an existing pasture and by providing a constant water source for livestock as well as potentially
- establishment of community tree nursery.

The ROAM application in the Municipality of Kraljevo was not intended to be a land-use planning exercise. However, the results and recommendations from the ROAM are a useful point of departure for land-use planning and were used to develop the project technical design. The ROAM assessment map and other outputs from the Municipality of Kraljevo point decision-makers and planners to restoration opportunities in the village of Gledić, and provides preliminary information on how to go about restoration of these areas, including the most cost-effective types of restoration.

The technical design for the FLR pilot mentioned above was finalised and approved by the ADAPT project partners and donor in October 2022. The Design is accompanied by a management and maintenance plan for the FLR pilot and a Monitoring and Evaluation Framework. These are key documents that offer useful information about the land ownership (cadastre analysis), proposed restoration measures, costs, benefits as well as roles and responsibilities for different stakeholders involved in the process.

The next phases in project implementation include i) signing unilateral statements with the private landowners on whose land the forestry restoration measures will be performed. IUCN is working with a legal advisor on this task. li) Perform all the field works according to the project technical design.

SCOPE OF WORK

The Consultant will work closely with the IUCN project management team, relevant IUCN units, project partners and experts and will be responsible for the tasks listed below.

TECHNICAL CHARACTERISTICS

Type of works and description	Zone as per FLR technical design	Surface area [ha]	Type & number of seedlings	Total number of seedlings
<p><u>I) Underplanting and enrichment planting in the shelter of existing and remaining trees, using manually constructed individual gradoni with manually prepared planting holes for 1,333 seedling/ha.</u></p> <p><u>Species composition:</u></p> <p>Zone 1 & 2 : Quercus frainetto – 40%, Quercus petraea – 40%, Sorbus aucuparia – 20%</p> <p>Zone 3 & 4 : Quercus frainetto – 20%, Quercus cerris – 20%, Quercus petraea – 40%, Prunus avium – 10%, Sorbus aucuparia – 10%</p> <p>Zone 11a to 12e : Quercus frainetto – 40%, Quercus petraea – 40%, Sorbus aucuparia – 20%</p> <p>Zone 13, 14, 15 : Quercus frainetto – 40%, Quercus petraea – 40%, Sorbus aucuparia – 20%</p>				
<p>1. Gradoni construction Design specifications: length: 1 to 2 m depending on microsite conditions, width: 0,7 to 0,9 m, gradient: reverse 30%.</p> <p>2. Ground preparation (clearing the undergrowth by hand only where gradoni structures will be built, cutting the undergrowth, collection and removal of residues, tarping of residue, collection and removal of inorganic waste)</p> <p>3. Preparation of land (collection and removal of remained tree veins and roots) for conduction of underplanting and enrichment planting</p> <p>4. Planting seedlings (marking the planting site, digging holes for planting within the gradoni structures, introducing humus, hydrogel, etc., unloading and spreading seedlings, trampling seedlings, plant tree seedlings in the middle of the gradoni, closer to the upper side of slope cut, filling in the hole with the finest soil directly around the seedling, geo-reference position</p>	1	0.25	Quercus frainetto – 133 pcs. Quercus petraea – 133 pcs. Sorbus aucuparia – 67 pcs.)	333 individual gradoni 0.25 ha x 1,333 seedling/ha = 333 pcs.
	2	1.1	Quercus frainetto 1,467 x 0.4 = 587 pcs. Quercus petraea 1,467 x 0.4 = 587 pcs. Sorbus aucuparia 1,467 x 0.2 = 293 pcs.	1,467 individual gradoni 1.1 ha x 1,333 seedling/ha = 1,467 pcs.
	3	1.38	Quercus frainetto 1,840 x 0.2 = 368 pcs. Quercus cerris 1,840 x 0.2 = 368 pcs. Quercus petraea 1,840 x 0.4 = 736 pcs. Prunus avium 1,840 x 0.1 = 184 pcs. Sorbus aucuparia 1,840 x 0.1 = 184 pcs.	1,840 individual gradoni 1.38 ha x 1,333 seedling/ha = 1,840 pcs.

of each planted seedling) in the amount of 1,333 seedling/ha.	4	2.78	Quercus frainetto $3,706 \times 0.2 = 742$ pcs. Quercus cerris $3,706 \times 0.2 = 742$ pcs. Quercus petraea $3,706 \times 0.4 = 1,484$ pcs. Prunus avium $3,706 \times 0,1 = 371$ pcs. Sorbus aucuparia $3,706 \times 0.1 = 371$ pcs.	3,706 individual gradoni $2.78 \text{ ha} \times 1,333$ seedling/ha = 3,706 pcs.
	11a to 12e	10.08	Quercus frainetto $13,437 \times 0.4 = 5,375$ pcs. Quercus petraea $13,437 \times 0.4 = 5,375$ pcs. Sorbus aucuparia $13,437 \times 0.2 = 2,687$ pcs.	13,437 individual gradoni $10.08 \text{ ha} \times 1,333$ seedling/ha = 13,437 pcs.
	13, 14, 15	1.5	Quercus frainetto $2,000 \times 0.4 = 800$ pcs. Quercus petraea $2,000 \times 0.4 = 800$ pcs. Sorbus aucuparia $2,000 \times 0.2 = 400$ pcs.	2,000 individual gradoni $1.5 \text{ ha} \times 1,333$ seedling/ha = 2,000 pcs.
In total:		17,09		
II) <u>Planting and enrichment planting in manually prepared planting holes for 575 seedlings/ha</u> <u>Species composition:</u> Zone 5 : Quercus frainetto – 40%, Quercus cerris – 20%, Quercus petraea – 20%, Prunus avium – 20%,				

<ol style="list-style-type: none"> 1. Ground preparation, (clearing the undergrowth by hand at the places where holes for the seedling will be planted, cutting the undergrowth whenever necessary, collection and removal of residues, tarping of residues, collection and removal of inorganic waste) 2. Preparation of land (collection and removal of remained tree veins and roots) for conduction of planting and enrichment planting 3. Planting seedlings (marking the planting site, digging holes for planting, cleaning holes for planting, introducing humus, hydrogel, etc., unloading and spreading seedlings, trampling seedlings, plant tree seedlings and geo-reference position of each planted seedling) in the amount of 575 seedling/ha. 4. Planting guidance: individual planting holes can be set randomly, according to microsite conditions. Planting below crowns of existing trees should be avoided. Tree species should be mixed individually. Minimum distance between two seedlings should be 1.5 m in all directions. 	5	0.94	<p>Quercus frainetto 575 x 0.4 = 230 pcs. Quercus cerris 575 x 0.2 = 115 pcs. Quercus petraea 575 x 0.2 = 115 pcs. Prunus avium 575 x 0,2 = 115 pcs.</p>	575 pcs.
In total:		0.94	<p>Quercus frainetto : 230 pcs. Quercus cerris : 115 pcs. Quercus petraea: 115 pcs. Prunus avium : 115 pcs.</p>	575 pcs.
TOTAL FOR RESTORATION IN ZONES 1 to 5 and 11a to 12e in 2023:		18,03	<p>Total Quercus frainetto seedlings: 8,235 Total Quercus cerris seedlings: 1,225 Total Quercus petraea seedlings: 9,230 Total Prunus avium seedlings: 670 Total Sorbus aucuparia seedlings: 4,002</p>	23,362 pcs.
<p>III) Natural Forest Rehabilitation. Assisted natural regeneration should be applied on 90 ha at least.</p>				

<p>1. Assisted natural regeneration (ANR): assisted natural regeneration includes a range of silvicultural measures at a given site, depending on stand and site conditions. Area around the selected trees should be kept clear of weeds and competitors. If browsing is a problem, the area should be fenced, or an individual shelter should be applied.</p> <p>2. Steps to perform ANR: 1) marking regenerants, 2) liberating regenerants, 3) vegetation control, 4) controlling disturbances, and 5) maintenance and protection.</p>	8 to 12	The whole area identified for ANR is 166 ha		Perform ANR on at least 90 ha
In total:				90 ha
<u>Loose-Stone Check Dams using locally available stone material</u>				
<p>1. Number of check dams: it is estimated to build 20 Loose-Stone Check Dams of a small size in zone 3.</p>	3	20 loose stone check dams	n/a	n/a
<p>2. Construction: check dams should be placed in a gully, perpendicular to the water flow. The distance between two check dams should be equal to triple the check dam height, however this can be adjusted to the gully size and shape. If the gully is small in depth and width the check dams can be built in a larger distance. The best mixture of stones is the following:</p> <ul style="list-style-type: none"> - 25% of stones of 10-14 cm size - 20% of stones of 15-19 cm size - 25% of stones of 20-30 cm size - 30% of stones of 31-45 cm size <p>3. Final check: during the survey check if good interlocking of stones is ensured. There should be no slope either in transverse or in longitudinal direction, except a little reverse slope against the direction of flow of the gully.</p>	4	35 loose stone check dams	n/a	n/a
In total:		55		

<u>Establishing a Silvopastoral system by fencing pasture and parts of existing natural forest, and by providing a constant water source for livestock.</u>				
<p>1. Branch fence specifications: the branch fence will surround the existing pasture, intruding a few meters into the existing forest to provide a protective buffer zone and shelter for cattle.</p> <ul style="list-style-type: none"> - Length: 1,090 m - Width: 0.4 to 0.5 m - Height: 0.9-1.0 m - Distance between poles in double rows: 1.5 – 2 m <p>2. Branch fence construction: prepare poles (1.15 to 1.25 m) made of black locust (<i>Robinia pseudoacacia</i>). Poles should be sharpened and slightly burned at the end that will be buried in the ground. Place the poles in the ground. Fill the space between the double rows of poles with branches collected at the location.</p>	6	1 fence	n/a	n/a
<p>1. Concrete water reservoir specifications:</p> <ul style="list-style-type: none"> - Volume: 12 m³ - Length: 3 m - Width: 2 m - Height: 2 m <p>2. Concrete water reservoir construction: The concrete reservoir should be built in place of an existing plastic water tank. A specialized construction company should be engaged to build the concrete water reservoir.</p>	7	1 concrete water reservoir	n/a	n/a
In total:		2		
<p><i>The tasks and deliverables presented above have been prepared in accordance with the current project work plan and logframe. Tasks, deliverables and timeframes may be adjusted in accordance with adaptive project management and updated yearly work plan and logframe.</i></p>				

METHOD OF IMPLEMENTING CONTROL AND ENSURING THE QUALITY OF SERVICES

Determination of performed services

After the completed works (herewith "services"), the quantity and quality of the completed works is checked by the person(s) appointed by the Client. Determining the performed services will be done by counting, measuring or other appropriate methods, with the presence of the Service Provider (Contractor) or an authorized person of the Service Provider (whom the contractor is obliged to appoint in writing before the start of the services), in accordance with the rules of the forestry profession, valid standards and the objectives of the ADAPT project, which "Records" of performed services are created.

All communication between the Client and the Service Provider will be done in English and/or Serbian (depending on needs), as per protocol established after contract signature.

The service provider or the authorized person of the Service Provider is obliged to notify IUCN and the private landowners on whose land they will implement forestry measures at least 3 calendar days in advance whenever they plan to perform such works and therefore access their land.

The service provider or the authorized person of the Service Provider is obliged to sign the "record" of the performed services in terms of confirmation of the type, quantity and quality of the performed services, on a monthly basis.

On the part of the Client, the "record" of the performed services in terms of confirmation of the type, quantity and quality of the performed services is signed by an Independent Supervisor appointed by the Client and the ADAPT project coordinator.

The selected contractor is obliged to keep the business documentation related to the implementation of the Contract resulting from this Public Procurement and make it available in the event of a possible audit. The selected contractor is obliged to keep this documentation for NO LESS THAN 5 YEARS after the end of this Agreement.

Record of performed services

The minutes are compiled by type of services and/or by area on the last working day of the month, based on all daily records of performed services for the month in which the Minutes are compiled.

The record contains the type of service, area, quantity and value of services performed, and is signed by:

- Independent supervisor (forestry expert) appointed by the Client
- ADAPT project coordinator
- Authorized person of the Service Provider

About the authorized person of the Service Provider: the record should be drawn up and signed in 3 copies, of which 1 copy is retained by the Client, and two copies are retained by the Service Provider. The Minutes represent a recapitulation of all completed works for a certain type of service for the month for which the Minutes are drawn up.

Based on the record, the Service Provider issues an invoice, where the Record is an attachment to the invoice.

Dynamics of providing services

The monthly dynamics of the provision of services is determined by the Client in accordance with the rules of the forestry profession, the applicable standards and the goals of the ADAPT project at the beginning of each current month for the following month, in writing in three copies, one copy of which is handed over to the Service Provider, i.e. to a person authorized by the contractor; with the Contractor's signature the service provider confirms that it is familiar with the place of work and the established dynamics by the Client, and two copies are kept by the Client.

The Service Provider is obliged to act in accordance with the monthly dynamics established by the Client.

In case of objective circumstances that could not be foreseen (weather, organizational, technical or other circumstances), the Client reserves the right to change the established monthly dynamics of the performance of services, about which he is obliged to inform the Service Provider no later than the day before the day on which they are performing services.

START DATE OF CONTRACT APPLICATION, DURATION OF CONTRACT AND POSSIBILITY OF EXTENSION, PLACE OF PERFORMANCE OF SERVICES

START DATE OF THE CONTRACT which will be concluded on the basis of this Public Procurement, cannot be before the completion of the selection of the most favourable bidder on the basis of this Public Procurement.

In accordance with the goals and dynamics of the implementation of the ADAPT project, the aforementioned works, which are the subject of this Public Procurement, must be started in the spring of 2023. Ideally, the Service Provider will execute the majority of foreseen activities i.e. gradoni construction, establishing of the silvopastoral system (fencing pasture and construction of concrete water reservoir), as well as the assisted natural regeneration measures during the spring-summer season (April to end of June). Planting should take place in the planting season (late September to end November) which secures the highest possible survival rate for seedlings.

Note: The designated representative designated by the Client has the obligation to state in writing the date of commencement of services under the Contract concluded in this Public Procurement, together with the representative of the selected bidder.

DURATION OF CONTRACT, the duration of this assignment will last over the period from the signing of the contract to **30 December 2023** to allow for enough time for all steps in the execution of the pilot project to take place.

EXTENSION OF THE AGREEMENT - the duration of the Agreement may be extended longer than the specified period, due to the occurrence of objective circumstances that could not be foreseen or force majeure, in the case when the contracted quantities of services have not been fully performed, without changing the total value of the Agreement in accordance with the Law on Public procurements.

PLACE OF PERFORMANCE OF SERVICES

NAME AND PLACE OF PERFORMANCE OF THE SERVICE	Quantity [ha]	Tentative timeframe
Forest landscape restoration works: - gradoni construction - planting seedlings	18,03	April to end of June & October/November
Assisted Natural Regeneration (ANR)	Min. 90 ha	April to end of June
Establishing a silvopastoral system by fencing pasture and parts of existing natural forest, and by providing a constant water source for livestock.	As per technical specification of the FLR technical design	April to end of June

AVAILABLE RESOURCES

1. Technical design Gledic pilot (internal report, available at request)
2. Management and Maintenance Guidance Note, Gledic pilot (internal report, available at request)
3. Monitoring and Evaluation Framework, Gledic pilot (internal report, available at request)
4. Restoration Opportunities Assessment Report (internal report, available at request)
5. [IUCN Global Standard for Nature-based Solutions](#)
6. [ADAPT project](#)
7. [Environmental and Social Management System | IUCN](#)
8. [IUCN Monitoring and Evaluation Policy](#)
9. [Green Agenda for the Western Balkans](#)