

Terms of Reference

for

Overlay mapping: biodiversity versus over and under grazed areas

Project name:	Conservation of biodiversity in mountain grazing areas of Shara
Location:	Skopje and Shara region, Republic of Macedonia
Description of the agreement:	GIS expert
Period of duration of agreement/services:	2 months after signing the Agreement
Application Deadline:	01.08.2018

Introduction:

Shara Mountain has a rich diversity of geological and geomorphological forms, glacial lakes and mountain streams, which support a large variety of endemic, rare and relict biodiversity species, as well as autochthonous livestock breeds, that inhabit diverse habitats. Sustains a characteristic and diverse landscape which has been shaped through the millennia of traditional grazing and forest use.

It stands out in the category of highest evaluated landscape areas in the country with high mountain pastures on carbonate and silicate substrates, as well as landscape of hill pastures on granite stones and hilly rural landscape.

There is a growing trend in abandoning traditional farming practices due to depopulation and migrations from mountain villages to lowland areas - cities or abroad, during the last few decades. The remaining traditional farming is further challenged by the lack of infrastructure (including roads and access to electricity, water and sanitation), competition for labor with the growing commercial and industrial sectors of the Polog Region, as well as the insufficient governmental support targeted to animal husbandry in economically deprived rural mountainous regions. This lack of practice caused disappearance of pastures and meadows along with an array of valuable biodiversity. It further results in loss of plant species, habitat size reduction of several birds of prey, and desertion of grazing areas for the hoofed animals; in turn, it reduces populations of bird and large carnivore species.

Location of the project:

The Shar Planina (Shar Mountains) is located between the Gostivar and Tetovo valleys, with Mavrovo Lake to the south and the Mal Korab mountain range to the west. The Shar range extends as far west as Albania and as far north and northwest as the Kosovo border. It covers roughly 1,600 kilometers (994 miles). Its highest point is Titov Vrv at 2,747m (9,012 ft). The project activities will be localized on pastures in this region.



Background:

Majority of pastures in Shara Mountain are managed by the Public Enterprise (PE) on Pastures. A comprehensive strategy on pasture development is not in place. There are annual investment plans intended to improve road infrastructure and auxiliary services required by both the farmers and herds, but limited funds have been invested so far in these improvements. There is no cadaster plan of pastures, nor is there any information about the actual quality (nutritional value) of pastures in use.

Expected results of the project:

The proposed Project is intended to reconcile biodiversity conservation and economic development. The ultimate goal of the Project is to restore biodiversity of Shara Mountain pastures, generate new employment and opportunities.

The proposed “Pasture Management Plan” and the “Guidance and Toolkit on Sustainable Pasture Management” are intended to optimize pasture growth and utilization and restore the pasture ecosystems. A pilot investment program will be implemented to demonstrate sustainable pasture management practices. Especially the cleanup programme in conjunction with improvement of plant composition may positively impact both quality of pastures and biodiversity restoration.

To support the economic viability of the traditional farming and restore biodiversity, the project proposes product branding and enrichment of agri-eco-tourism offers.

The proposed awareness programme will be linked to sensitization of the local community on the need for biodiversity conservation in mountain pastures and enhance management effectiveness of pastures.

Specific Objectives of the Project:

1. Strengthen capacity on sustainable pasture management
2. Demonstrate sustainable pasture practices
3. Improve local livelihoods
4. Communication, education and public awareness raising
5. Capacity building programme for pasture management
6. Successful Project Management and implementation

Scope of work

All the above mentioned objectives of this project require a detailed report on the overlay mapping. In this regard, the expert will have the following responsibilities:

- Create a GIS database of outputs of the baseline surveys and studies.
- Collect and review of the existing topographical maps, aerial photos, orthophoto etc. and identify the features to be captured and collect data on field as per the necessity of the preparation of GIS based Base map.
- Digitize available and relevant cadastral maps and superimpose to the Base Map with their attribute information.
- Prepare a Biodiversity and Resource Profile consisting of GIS maps and data tables as obtained from biodiversity surveys/studies.
- Preparation and delivery of GIS points of different habitats of Shara Mountain
- Collecting data on distribution of pastures along this mountain based on the biodiversity map in pasture habitats delivered by the biodiversity expert.
- Identification of overgrazed and under grazed pastures
- Overlay mapping: biodiversity in grazed versus un-grazed pastures
- Review of the degree of degradation of pasture habitats
- Overview on the pasture abundance/size and condition over the past years in comparison to the current state
- Delivery of photos of specific pastures, relevant plant or livestock species, grazing areas.

- Prepare a detailed technical terminal report describing activities, results, findings and recommendations.
- Draw a Methodology on delivery of the abovementioned tasks
- Time schedule of deliverables within the expected timeframe
- Perform any other tasks as required.

Methodology and Approaches:

The scope of this task requires the use of a wide variety of methods, tools, techniques and equipment. It is expected: on site work and using proven and standardized methodology for mapping biodiversity in pasture habitats.

The following approaches need to be strictly adhered to:

- The GIS expert shall work in a close interaction with project team;
- The GIS expert shall work in a close interaction with biodiversity expert and pasture expert;
- The GIS expert shall conduct preliminary meeting/ interaction with key stakeholders: Public Enterprise for Pastures, local communities living in the mountainous regions of Shara (local farmers), Local businesses, Agency for promotion and support of Tourism and tour operators, CSOs and general public, to create an understanding for the preparation of GIS base map.

Working Schedule – Timeframe:

This consultancy should be completed in a 2 months after signing the Assignment.

Step	Deliverables	Timeline	Total duration of activity
1.	<u>Field/Interim Report:</u> Field/Interim report should contain the detailed methodology of the assigned task, data collected from field and the analysis of collected data.	5 working days	2 months
2.	<u>Draft Final Report:</u> Draft final report should contain all the major work completed during the preparation of GIS based Base map of proposed area	5 working days	2 months

Required Qualifications and Experience:

The expert involved in this assignment should have the following qualifications, skills and competences:

- A university degree in Geo-informatics engineering or science/ Geometric Engineering/ or Geography, Agriculture, Remote Sensing, Cartography Natural Resources Science, Forestry, Landscape design; or other thematic area relevant for this assignment. Please provide documentation accordingly.
- Proficient with the usage variety GIS software and Remote sensing;
- Minimum 2 years of experience in projects related working knowledge in preparing GIS

- based Base maps;
- Knowledge on pasture habitats, monitoring agriculture, ecosystem services analysis, land use change analysis and/or other relevant studies.
- Experience in monitoring agriculture and geospatial-based projects and programmes.
- Experience in spatial data handling, analysis, GIS and cartography.
- Knowledge about the technical aspects of geographical data management and utilization;
- Knowledge about data processing, evaluation and organizing the collection, storage, usage of geographic data and visualization;
- Ability to solve GIS-specific problems and convey GIS information to non-GIS people;
- Good interpersonal communication and coordination skills;
- Available during the term of the contract.

Payment Terms:

- Initial payment of 40% on acceptance of inception report and work plan.
- Interim Payment of 40% on approval of Mid-Term Reports.
- Final payment of 20% on approval of Final reports.

Evaluation criteria:

All applications will evaluate based on the following criteria:

Criteria	Points
<u>CV, Reference letter,</u> including the years of relevant expertise; experience and skills required for this consultancy.	30 points max
<u>Work methodology, Technical approach,</u> demonstrating and explaining an understanding of the scope of work	30 points max
<u>Financial offer</u>	40 points max
Total	100

How to apply:

To apply, please send an e-mail with your CV, Reference letter, letter of interest, work methodology along with the financial offer for the engagement to the e-mail address: info@mkm.mk using the subject line: "Overlay Mapping expert vacancy".

Deadline for submissions of documents is 1st August, 2018 (Wednesday), 17.00 a.m. We encourage applicants to submit the application well before the deadline date.

If you need help, or have queries, please contact: info@mkm.mk or aleksandra.s@mkm.mk. Only the e-mails sent during three (3) days upon the announcement of the vacancy will be replied to.