Mountain Partnership

Food and Agriculture Organization of the United Nations

SAPIENZA UNIVERSITÀ DI ROMA

ITALIAN AGENCY FOR DEVELOPMENT COOPERATION

Summary report

First training on Land Degradation assessment for the project "Sustainable management of natural resources in mountain areas" (GCP/GLO/052/ITA) conducted by FAO with the support of the University of Rome "La Sapienza"

27 January – 03 February 2024, Bishkek, Kyrgyzstan

Summary

From 27 January to 3 February, the first training on remoteness and land degradation assessment (using the UNCCD methodology) in Bishkek, Kyrgyzstan, was conducted by the Food and Agriculture Organization of the United Nations (FAO) with the support of the University "La Sapienza" in the framework of the project "Sustainable management of natural resources in mountain areas" (GCP/GLO/052/ITA). The aim of the training was to provide effective and innovative tools to identify vulnerable mountain areas to local institutions, fostering the achievement of the UN 2030 Agenda goals. In this first activity in Kyrgyzstan, results were excellent: the participants showed interest in these topics, with a high level of interaction.

Introduction of the "Sustainable management of natural resources in mountain areas" project

This training was part of the capacity development programme of the FAO project "Sustainable management of natural resources in mountain areas" (GCP/GLO/052/ITA), it was conducted by a FAO Mountain Partnership Secretariat expert with the support of the University of Rome "La Sapienza". Objective of the training was supporting the estimation of national-level indicators for environmental and socio-economic vulnerability in Kyrgyzstan, with a focus on mountain areas in particular.

The "Sustainable Management of Natural Resources in Mountain Areas" aims at enhancing the livelihoods of rural communities through sustainable management of natural resources, particularly in mountainous regions. Participating countries and institutions include Albania, Kyrgyzstan, Montenegro, Pakistan, and the Kabul University of Afghanistan. Financial support for the project is provided by the Government of Italy through the Directorate General for Development Cooperation of the Ministry of Foreign Affairs and International Cooperation. The University of Rome "La Sapienza" serves as the main implementing partner, overseeing national-level capacity development activities and providing guidance and support to each participating country.

The initiative has three main objectives: to enhance the institutional and technical capacities of the participant countries in managing natural resources, to raise international awareness of the challenges faced by mountain communities due to changing environmental and socioeconomic conditions, and to promote and strengthen ecosystem services to support rural livelihoods and sustainably manage natural resources. The project primarily focuses on capacity development, employing appropriate methodologies to analyse environmental and socioeconomic conditions and identify effective approaches to address their challenges. These activities are organized into three phases: national-level analysis of key environmental and socio-economic conditions and potential threats to livelihoods, provincial and local-level analysis of socioeconomic context and risks faced by mountain communities, and review of implementation options through stakeholder consultation.

Logistic arrangement and participants

The first national training on mountain vulnerability (see the training agenda in Annex I) was held in Bishkek at the Evropa Hotel from 30 January to 2 February 2024. The finalization of the logistical arrangement was completed on 29 November, during the first day of the mission.

The training was attended by 20 participants (the full list is reported in Annex II) from the Ministry of Agriculture, the Center for Climate Finance, the Ministry of Natural Resources, Ecology and Technical Supervision and the National Academy of Sciences. Facilitators in this training were Fabio Grita and Francesco Buttarrazzi, from the Mountain Partnership Secretariat of FAO and "La Sapienza" University of Rome respectively.

Training activities

The training started with a theoretical introduction aimed at providing an overview of the United Nations 2030 Agenda goals, and then covered remote sensing theory in general. Afterwards, the participants were assisted in the installation of the necessary software for the practical session.

Following a theoretical section on the UNCCD approach toward Land Degradation monitoring, the participants were presented with a series of practical exercises on the topic using the QGIS plug-in Trends.Earth. Produced as part of the project "Enabling the use of global data sources to assess and monitor land degradation at multiple scales", funded by the Global Environment Facility, Trends.Earth is used to estimate and monitor land degradation and drought.

The main point of the exercises was to practically evaluate what is observable in the field and what is measurable by satellite technologies, with a focus on the importance of data. During the training, it has been highlighted the significance of high-resolution data and the interpretation of outputs, detailed through specific examples, and it has been explained what adjustments in the software settings are necessary to address the underestimation of degradation in high mountain environments. The participants followed each step that was shown, especially in the construction of the maps related to the estimation of physical remoteness, and took an active part in the fine-tuning of the settings by providing useful information based on their knowledge of the country.

During the training, the following vulnerability indicator were covered:

- estimation of land degradation using the UNCCD methodology for the national reporting of the Strategic Objective 1 (SDG indicator 15.3.1);
- estimation of physical remoteness from goods and services, such as health centers, food shops, schools, etc.

The participants (Annex II) performed the data analyses using the QGIS software application and geospatial internationally available data. A QGIS plug-in named Trends.Earth was used to estimate land degradation.

The feedback received from the participants was positive (see Annex III), and they highlighted areas for improvement, such as the need to perform the analysis using higher resolution data to improve the quality and reliability of the results, and to enable the utilization of national data.

Objectives achieved and conclusions

The first national training on Mountain Vulnerabiliy Assessment has been completed with the participation of key national institutions. A project team is now formed, and its members will be trained in the assessment of other vulnerability indicators and will contribute to all other project activities.

It is recommended to maintain close contacts with the training attendees to strengthen their team-building sentiment and ensure their full commitment throughout the duration of the project. Comments and suggestions provided during the training should be taken into consideration for improving the methodology and the efficiency of future training sessions.

The training was officially closed by the Ambassador Nurlan Aitmurzaev, Special Envoy of the President of the Kyrgyz Republic on Mountain Issues, who stated the importance of this project for strengthening national capacity in the assessment of key mountain indicators to identify vulnerable areas and for advocating the mountain agenda, internationally.

A press release was published during the last day of the training and published in the FAO site and in many national websites, including the one of the President of the Kyrgyz Republic.

Follow up:

- Identify data that could be used for estimating the vulnerability indicators at sub-national level. These data should have higher spatial resolution, and higher level of accuracy and completeness.
- Organize and conduct training session on the remaining indicators (e.g., drought assessment, climate variability and socio-economic threats).

Annex I: Training Agenda

1st National Training on
Mountain Vulnerability Assessment

This training is part of the capacity development program of the FAO project "Sustainable management of natural resources in mountain areas" (GCP/GLO/052/ITA) and it is conducted by FAO with the support of the University of Rome "La Sapienza". More specifically, it deals with the estimation of national-level indicators for environmental and socio-economic vulnerability of the focus countries, and their mountain areas in particular.
The workshop focuses on the use of data and geospatial tools to estimate land degradation at national level, based on UNCCD methodology; it also introduces a methodology to estimate the degree of remoteness, based on a methodology developed by the World Bank. The training will generate maps and statistics representing levels of intensity (or severity) of the analysed indicators, allowing the participants to identify villages and communities potentially vulnerable to negative conditions identified through the data analyses.
The tentative agenda of the training is as follows:

Day 1

Morning session
Welcome statement and self-introduction of the participants
Objectives of the training
Introduction to the UNCCD methodology to estimate land degradation;
Basic concepts of land cover changes and trends;
Methods to estimate land degradation using land cover changes (i.e., land degradation drivers, land cover classification and class change matrix, etc.);
Data and software tools.

Afternoon session
Basic configuration of Trends.Earth plugin
Production of Land Cover Change and Land Productivity Dynamics maps

Day 2

Morning session
Finalization of Land Cover Change and Land Productivity Dynamics maps
Visualization and symbology editing for the raster layers produced
Classification of Land Productivity trends for each AOI and calculation of land surface under each class
Identification of areas vulnerable to land degradation
Discussion

Afternoon session

Introduction to the World Bank methodology to estimate remoteness
Loading of sample datasets
Create a surface representing travel speed at pixel level

Day 3

Morning session
Create layers of key services (e.g., health centers, food shops, schools, etc.)
Estimate average travel distance (in Km) and time (in hours) from any location to the identified key services

Afternoon session
Estimate distance allocation map identifying, for each cell, the closest service to reach
Calculate remoteness statistics and identify most critical areas

Day 4

Morning session
Finalization of training topics and general review of the results
Discussion on potential uses of the data and the methods
Questions and answers session

Afternoon session
Presentation of the training results to the staff of the Mountain Partnership focal point institution and other national agencies as appropriate
Conclusions and final remarks

Annex II: Participants in the Training on Mountain Vulnerability

Dalbaev Taalaibek Abaskanovich – Head of the Department of Water and Land Resources
Berenov Bakyt Tolobekovich – Deputy head of the Department of Land Resources
Abdyrasulov Erkinbek Askarbekovich – Main specialist of the Department of Water Resources
Sasykbaeva Zhanyl Orozalievna – Main specialist of the Department of Land Resources
Dabaev Kanatbek Kubanychbekovich - specialist of the Department of Flora
Baktybekov Daniel Baktybekovich – Specialist of the Department of International Cooperation under the Ministry of Natural Resources, Ecology and Technical Supervision
Karabaev Aybek Nurdinovich is an expert on agriculture at the Center for Climate Finance
Barkybayeva Marta Zhokonovna – Head of the Department of desk work of the Forest Management Department of the Forest Service under the Ministry of Agriculture
Kazak uluu Bekbolot – Chief Specialist of the Department of Digitalization and Public Services of the Forest Service under the Ministry of Agriculture
Asyrankulova Perizat – specialist of the department of desk work of the Forestry Management of the Forest Service under the Ministry of Agriculture

Donobaeva Gulayim Chynybekovna – Head of the Laboratory of Mountain Ecosystems of the Institute of Water Problems and Hydropower of the National Academy of Sciences
Mambetalieva Aisada Abdyldaevna – Researcher at the Laboratory of Mountain Ecosystems of the Institute of Water Problems and Hydropower of the National Academy of Sciences
Orozakunov Bakytbek Orozakunovich - leading specialist of the Forestry Department of the Ministry of Agriculture
Surakmatov Adis - leading specialist of the Department of Land Policy and Inspection of the Department of Natural Resources of the Ministry of Agriculture
Abdiev Almaz Saparovich - Director of the State Enterprise "Kyrgyzgiprozem" at the Land Resources Service under the Ministry of Agriculture
Aliev Mayrambek Shayykovich - Head of the Department for the Development of Forest Ecosystems of the Forest Service under the Ministry of Agriculture
Chynaliev Mukhtar Turdubekovich - Head of the horticulture sector of the Department of the real sector of the Ministry of Agriculture
Gulnara Abzootovna Kenenbayeva - Head of the International Cooperation Department
Mambetaliev Kumar Abylkasymovich - Head of the Bioresources Department
Aizada Zhantaevna Barieva - Head of the Climate Policy Department

Annex III: Training evaluation

Below are the answers of the participants who agreed to answer the questions regarding the conduction of the training.

Evaluation of the training					
Programme	***Very Good***	***Adequate***	***Too complicated***	***Too easy***	***Not enough***
Topics covered during the training	11				
Theoretic sessions	10	1			
Practical sessions	10	1			
Training material	***Very Good***	***Adequate***	***Too many***	***Not enough***	
Handouts given during the training	10		1		
Guidelines for the exercises	10	1			
Organisation of the training	***Very Good***	***Good***	***Not very good***	***Unsatisfatory***	
Logistic organisation	9	2			
Utility of the training	***Yes, I will use it regularly***	***Yes, I will use it sometimes***	***No***		
Will you use the information produced during the training?	11				