

BioFacts

Land-use change from pasture to hay meadow

Ehen, Ismayilli, Azerbaijan

In cooperation with the Ministry of Ecology and Natural Resources and the Ismayilli District Administration, the “Integrated Biodiversity Management, South Caucasus” programme, implemented by Gesellschaft für Internationale Zusammenarbeit (GIZ), introduced sustainable land use management in Ehen, Ismayilli. The objective of the interventions is to prevent erosion processes and to protect biodiversity (animals and plants).



Soil erosion

Soil erosion is a process driven by water runoff and wind. During heavy rainfalls or wind the upper layer of the soil is removed and transported to a new location. The result is a loss of fertile soils which reduces e.g. agricultural production. Soil erosion can be triggered by natural and/or human-induced factors such as, deforestation, overgrazing, off road driving or other activities which destroy the protective vegetation cover.

Erosion of pastures

Overgrazing is the continuous extensive use of pastures by livestock without a sustainable management system in place. The vegetation cannot recover under the pressure of the grazing livestock and the topsoil is exposed. In many parts of the South Caucasus and in the surroundings of Ehen, the soil consists of soft silt and clay which is particularly susceptible to erosion processes. Adding the anthropogenic pressure and the soil consistency, as well as the steepness of the slopes, erosion can occur quickly and has large impacts. One way to combat erosion is changing the land use from pasture to hay meadow. The land use change will help to recover and rehabilitate the vegetation cover and prevent further erosional processes. As the land remains fertile, it can support a continuous and sustainable income generation.



Objective of the land use change

The objective of the land use change is to recover the vegetation growth and therewith improve the soil functions by stopping overgrazing. As the land would no longer be available as pasture, the affected community will need another source as income. Therefore, another objective is to create new or additional sources of income.



Measure 1: Agreeing on land use change and erosion control measures

The community, including all relevant land users, must agree on the protection of an eroded area and decide how it can be used in the future. It is important to involve all stakeholders (farmers, beekeepers, wild gatherers, women, etc.) in the decision-making process in order to avoid land use conflicts.

Once an agreement on the land use change has been reached, the land should be fenced to prevent animals from entering it.

Depending on the erosion status and the land condition, further rehabilitation measures may be implemented. Terraces can stabilize steep slopes, trees can be used to put a hold to landslides and hay residuals support the growth of vegetation on exposed soil.

Measure 2: Integrated land use concept

It is important to understand that changing the land use of an area and preserving it, does not mean losing income. The conversion of a pasture into a meadow can benefit all land users. In addition to minimising the risks of landslides and floods, sustainable land management is an important investment for the future. As soon as the land is eroded, it no longer generates income and the loss of the fertile topsoil means that no vegetation will grow for decades. By using a piece of land as a meadow, livestock farmers can benefit from high-quality hay, beekeepers receive additional income through pollination and flowering, wild gatherers benefit from the multitude of different plants and orchards can be used to collect nuts or fruit. A well-managed meadow also increases its aesthetic value and can lead to improved tourism.



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