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Workshop G

Restoration of lake Gilli - results so far and perspectives

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Lake Gilli is situated in the southeastern part of lake Sevan basin at the mouth of Masrik river. It used to be a wetland complex with a water surface of about 1,000 hectares and a nesting area for more than 100 species of migratory waterbirds. The remnants of the lake remain the largest highland nesting area for waterfowl in Armenia and host about 25 species of waterbirds and related species. The area hosts the largest colony of the Armenian gull, an endemic species. Thanks to its geographical position and microclimate, lake Gilli acquired national and international significance.

In 1960, the government of the former Soviet Republic of Armenia decided to drain lake Gilli and turn its land into agricultural plots. River Masrik, the water source of lake Gilli, was channeled away from the lake directly into lake Sevan. The result was a drastic decrease in the lake's area. However, the lake was not completely drained. The particular type of soil and a water table close to the surface helped to preserve some small sections of this wetland and its associated biodiversity¹.

After the drying of lake Gilli, the area was used for agricultural purposes, mainly wheat and barley cultivation. It was expected that the layer of silt formed at the bottom of the lake would allow for high yields. Historical records show that farmers did obtain high yields in the first years after the draining of the lake. The fertile layer of soil, however, was gradually eroded and at present relatively acceptable yields can be achieved only under conditions of irrigation and sufficient chemical inputs. Conditions that are mostly beyond the economic reach of the local populations. In addition to crops, some areas are also used as pastures for sheep and cattle. However, the productivity of these pastures is low.

The initiative NGO group “Khazer” is engaged in information activities and preparing scientific arguments for the restoration of lake Gilli for the last five years. The association has drafted a project proposal “The restoration of the Lake Gilli”, which serves as a basis for the development of Project Development Facility (PDF-A) proposal submitted for funding by the Global Environment Facility (GEF). Funds were allocated by GEF in 2000 and the Ministry of Nature Protection is the executing agency of a project implemented in close cooperation with the NGO “Khazer”. The latter is responsible for the involvement of the stakeholder community and monitoring of the project activities. The NGO conducted several awareness rising activities in the neighbouring communities, involving scientists and specialists to provide proper advocacy services especially to the landowners and conducted questionnaire-based surveys.

¹ Approximately 10% of the original lake area remains.

Khazer established a scientific and technical board to ensure the coordinated revision and proper justification of the proposed measures concerning the rehabilitation of the lake. Three alternative options were considered, and one was selected that can ensure the restoration of the initial ecosystem with minimum impact on the agricultural activities of the farmers in the surroundings.

On October 14th 2004 a quadripartite Memorandum of Understanding on the joint commitment to restore lake Gilli was signed between the UNDP resident representative, UN resident coordinator in Armenia, the Minister of Nature Protection of Armenia, and the head of the Norakert community. The Memorandum will be an integral part of the proposal to be submitted to GEF, requesting medium size project funding.

The NGO Khazer is engaged in advocating the importance of the restoration of the degraded ecosystems as part of its nature conservation policies. Currently, Khazer in cooperation with the Ardenis Community is investigating the ecological state of lake Ardenis and is proposing measures for its conservation. The lake is a site of a global importance from the viewpoint of environmental protection. It presents a unique natural ecosystem - a wide variety of crop species – bekmania and zingeria (of scientific interest, having only 4 chromosomes), a great amount of algae and other plants specific for high mountainous humid areas. The rare water lily (*Nenuphar luteum*) is conserved here. It was considered extinct until 2001. The lake serves as a habitat for a number of waterfowl. The red-necked grebe (*Podiceps griseigena*) only survives here since the drainage of lake Gilly. The uniqueness of the lake is also demonstrated by other rare species such as the corncrake (*Crex crex*) in the nearby meadows.

Before 2003, streams used to flow into the lake. This provided sufficient oxygen to maintain the ecosystem functioning serving as a basis for the lake's biodiversity. In 2003, in order to provide the Ardenis villagers with drinking water, the main springs on the plateau upstream of the village, including the spring that supplied the lake, were diverted to provide the village with piped water. This resulted in the deprivation of the lake of its only stable water supply. As a result, the water level of the lake decreased and the shore vegetation was drying up. This will obviously lead to the collapse of its ecosystems, the extinction of the water-related species and the transformation of this alpine lake from a carbon dioxide absorbent to a methane-producing bog. This shows the project's importance in relation to the Conventions on Biodiversity (CBD) and on Climate Change (UNFCCC).

Thus, the main focus of the project is the restoration of the spring water supply, the stabilization of the water level and the prevention of water pollution by cattle. It is supposed that the project will be implemented and followed up by the local community.

Area of former lake Gilli (1930)



