EASTERN PARTNERSHIP Civil Society Forum

Funded by the European Union

National Endowment for Democracy
Supporting freedom around the world

Press release

Assessment of ecosystem services of river basins - an opportunity to assess the true impact of hydropower on the environment

Chisinau, House of Press, January 12, 2021, 16.00 - 17.00.

Hydropower remains an important component of the energy systems of the Eastern Partnership countries. In addition to the shunting capacities required to cover the peak loads, hydropower, in the context of the growth of renewable energy, is considered as balancing capacity, the demand for which is sharply increasing. Small hydropower plants are considered as a solution to the problem of power supply to remote mountain regions.

But will our rivers withstand the increasing pressure of hydropower in the face of climate change and decreasing water availability? How to assess the impact of hydropower on river ecosystems and related ecosystems? What rivers' ecosystem services are being lost and degraded by hydropower, and who is losing from it? How to assess the loss of ecosystem services and to ensure their restoration? The answers to these questions were looked for by the experts of the project *"Ecosystem Services and Hydropower: piloting the European instruments in the river basins of the Eastern Partnership countries"*, which was carried out with the financial support of the European Union in frames of the Regranting-2020 scheme of the Eastern Partnership Civil Society Forum.

In his welcoming speech, the project coordinator, Executive Director of the International Association of River Keepers "Eco-TIRAS", **Ilya Trombitsky**, noted that the assessment of ecosystem services should become the main tool that should be used to objectively assess the consequences of the impact of hydropower projects on river and near-water ecosystems, because for decision makers and for the population it is not at all obvious that the profit received from the energy production of river water is the result of the loss of those services that were used by the country as a whole and by individuals. Such assessments are especially important in cases where the river is trans-boundary, and hence the income received in one country becomes less received in another. However, methodological difficulties in assessing the value of ecosystem services, including those related to the deficiency of monitoring data often are gainful to those who would not like to take into account the obvious loss of these services. Our project, which is now being completed, takes a step forward towards a more objective assessment of the impact of hydropower on the quantity and quality of ecosystem services provided by rivers. The project' results presented today are the outputs of cooperation of NGO partners from four Eastern Partnership countries, and their achievement became possible thanks to the two-year support of the Re-granting 2020 scheme of the Eastern Partnership Civil Society Forum with the financial support of the European Union in the framework of supporting the civil society in the region, for which we express our gratitude.

Olga Cazanteva, an expert from the International Association of River Keepers "Eco-Tiras", noted that hydropower plays a significant role in ensuring the energy security of countries, being an important part of national energy systems. However, hydrotechnical construction, carried out to meet growing energy needs, leads not only to positive, but also to negative consequences, which are often so significant that they cause irreparable damage to aquatic ecosystems and their ecosystem services. It is important to assess ecosystem services, i.e. the benefits that people receive from ecosystems, from an economic point of view, since the main reason for the degradation of ecosystems is the underestimation of their real economic value. The introduction of accounting for the value of ecosystem services in business planning is rapidly developing in the world. Within the

European Union, territorial modelling and mapping of ecosystem services for *local business planning* have acquired the greatest interest. The *process of realizing the importance* of economic assessment of biodiversity and ecosystem services is still under way in Moldova. The application in practice of the concept of ecosystem services is largely hampered by the lack of adequate methods for assessing their value, as well as the complexity of information support associated with the absence of a monitoring system for ecosystem services in Moldova and extremely incomplete and technologically outdated monitoring of the natural ecosystems and components of biological diversity. However, the experience of assessing ecosystem services, implemented within the framework of the project, confirms the feasibility of using this concept to solve environmental and economic problems of the development of hydro-construction, including such as economic substantiation of alternatives for the territorial development and substantiation of additional costs for environmental protection measures, which, together with the environmental, have a large economic effect.

For many decades, hydropower industry has been exploiting the rivers of Ukraine, while it was believed that water is a renewable resource, and the impact on the state of river ecosystems was not assessed – noted **Ruslan Havrilyuk**, Head of the National Ecological Centre of Ukraine. Rivers have been exploited to generate electricity, which is one of the ecosystem services, and river ecosystems have degraded to the point that all other ecosystem services have been lost or significantly decreased. It is important to understand that every day we use the ecosystem services provided by the environment, including rivers. In this way, we act as driving forces of negative changes in ecosystems, affecting ecosystem services. And if the permissible level of the use of ecosystem services is exceeded, their stable state is violated, we get the situation that we have now with the Dnieper River or in the lower reaches of the Southern Bug, where the rivers have turned into cascades of lakes, and in the lower part of the stream - into salt-sea waters. And it is unlikely that the hydropower industry is now ready to finance the restoration of the ecosystems of our rivers, the return of lost ecosystem services. To stop the merciless exploitation of rivers for the sake of kilowatts, to ensure equitable access to ecosystem services and, at the same time, their sustainable use, it is proposed to introduce proven methodologies for assessing ecosystem services. To do this, it is necessary to apply European approaches, which provide for several main stages: identification and mapping of ecosystems, assessment of their condition, identification and assessment of ecosystem services, summary assessment of ecosystems. To define ecosystems, the MAES typology is used, and for ecosystem services - the CICES V5.1 classification, according to which ecosystem services are divided into resource ones, regulating ones and supporting ones, cultural ones, which are biotic and abiotic in nature. For assessing ecosystem services, a number of software products was developed, the application of which requires detailed data on the state of ecosystems.

Proposals for the implementation of the ecosystem approach to hydropower, developed by public organizations of the four Eastern Partnership countries within the framework of the project "Ecosystem approach to hydropower: promoting the implementation of European requirements for the development of hydropower in the Eastern Partnership countries" in the form of the Final Kiev Resolution of 04.10.19, approved by the Ministry of Environment of the Republic of Armenia, and the readiness was expressed to contribute to the development and implementation of management tools for ecosystem services in hydropower industry. **Aram Gabrielyan**, Environmental and Cultural NGO “Khazer”: *The order of the Government of the Republic of Armenia of 2013 to develop a draft law on ecosystem services by the end of 2015 has not yet been fulfilled. The results of the study on ecosystem services in the pilot basin of the Argichi river in the basin of Lake Sevan showed that that the operation of the small HPP "Argichi" (installed capacity of 9.8 MW) on this river caused catastrophic damage to the ichthyofauna, consisting of 6 species of fish, and at the same time led to the loss of other ecosystem services that were widely used by the population of eight settlements located in the river basin before SHPP operation started in 2013. At the same time, active construction small hydropower plants under the small hydropower development program (the number of operating small hydropower plants has reached 188, and 23 more construction licenses have been issued) continues, as a result of which the natural river ecosystems in Armenia are practically lost.*

Calculation of ecosystem services and their practical implementation in the form of compensation for ecosystem losses due to the activities of hydropower entities should serve as a means for the restoration of river ecosystems and subsequent support of the potential of ecosystem services."

The main water artery of Azerbaijan - the Kura River, on which a cascade of hydroelectric power plants has been built since the 1950s - has also undergone a crushing impact of hydropower industry. **Elchin Sultanov**, Director of the Azerbaijan Ornithological Society: *The result of the construction of a cascade of hydroelectric power plants on the Kura River is the shallowing of lakes on downstream, fed by flood waters. Thus, the Lake Agigabul has practically dried up and, despite a special decree of the President of the republic, has not yet been restored. The Lake Sarysu is noticeably shallower and instead of 300 thousand water-marsh birds, here now hardly 10-20 thousand spend the winter.*

The Carpathian region is attractive for the hydropower business due to natural conditions and green tariff - notes the biologist **Oksana Stankevich-Volosyanchuk**, NGO "Ecosphere" (Uzhgorod). But, since the Eastern Carpathians are low mountains, they are characterized by a small height difference, there are hydroelectric power plants with a backwater derivation. Thus, the dam regulates the natural flow of water, changing the natural hydrological regime of the river. In the downstream, part of the water from the river bed is directed to a diversion canal or pipe. For example, on the river Uzh back in the 30s last century after the dam on the river Uzh a bypass canal and two hydroelectric power plants have been built. In recent years, in conditions of a decrease in water content, this has led to a catastrophic shallowing of the river bed in the downstream during the low-water period - all the water is directed to the canal for the needs of power generation. The influence of other hydraulic bodies on the ecosystems of the Uzha valley is also noticeable: dams built along the river, which protect the settlements of the Uzh river valley from floods. The quality of the water in the river, biodiversity, in particular the benthic hydrofauna, ichthyofauna and avifauna have suffered. Even the partial embankment of the banks of Uzh made it impossible for the river to spread during floods. As a result of the almost complete regulation of the river in the region of Uzhgorod, the river lost its self-purifying ability, which caused the loss of the recreational functions of the Uzh river within the city. Within the framework of the project, for the first time the mapping of ecosystems was carried out, as well as a pilot assessment of ecosystem services in the Ukrainian part of the basin, which made it possible in the future to begin the implementation of the ecosystem approach in the decision-making process.

The press conference was held by the International Association of River Keepers "Eco-TIRAS" together with partners from Azerbaijan, Armenia and Ukraine in the framework of the project "Ecosystem Services and Hydropower: piloting the European instruments in the river basins of the Eastern Partnership countries".

The project is being implemented thanks to the Regranting-2020 scheme of the Eastern Partnership Civil Society Forum with the financial support of the European Union as part of supporting the civil society in the region. Its content is the sole responsibility of the International Environmental Association of River Keepers Eco-TIRAS and of the project partners and does not necessarily reflect the views of the European Union.