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**Promotion and protection of all human rights, civil,
political, economic, social and cultural rights,
including the right to development**

Written statement* submitted by Global Institute for Water, Environment and Health, a non-governmental organization in special consultative status

The Secretary-General has received the following written statement which is circulated in accordance with Economic and Social Council resolution 1996/31.

[3 February 2023]

* Issued as received, in the language of submission only.



The Okhchuchay River Basin, Sources of Pollution, Impact, and Suggested Cooperation

Water Security is part of the global security where the rapid pollution of the environment, the depletion of drinking water resources and global warming caused by the brutal abuse of nature by humans pose a greater threat to the humanity and development agenda.

Environmental issues and global warming were some of the most important items on the agendas of the recent G-7 and G-20 leaders' summits.

The Okhchuchay river basin is facing very serious environmental, water supply and pollution problems. The waters, forests and natural resources of this region were used not illegally and brutally, causing serious harm to the environment and humanity.

The south caucasian region face a very serious environmental problems presented by the pollution of the transboundary Okchuchay River (Armenian: Voghji River). The Okchuchay, with a length of 84 kilometers (52 miles), rises in west Zangezur and flows into east Zangezur, which was liberated from occupation during the 44-day war.

The Okchuchay River Basin

The Okchuchay River passes through Armenia's two mining districts. One of them is the Zangezur Copper Molybdenum Combine (ZCMC), which is located upstream of the Okchuchay River in the territory of Kajaran city, in the southeast of Armenia. The second mining district, Kapan Polymetal, is located downstream of the Okchuchay River, 1.5 kilometers east of the town of Kapan in the southeast of Armenia. The Okchuchay River has become a source of pollution due to the flow of heavy metals out of Armenian factories over the past decade.

The length of the Okchuchay River, which is the left branch of the Araz River, is 83 km (the part flowing through the territory of Armenia is 46 km), the catchment area is 1175 km², the average annual water consumption is 10 m³/sec, the average annual volume is 315 mln/m³. It takes its source from Kapicik mountain (3285 m) of the Zangezur range. The major part of the river is located in the Syunik region of Armenia (the historical region of Azerbaijan called Zangezur), and its lower course flows through the territory of the Zangilan region, which was freed from the Armenian occupation, and flows into the Araz river.

The main part of Okchuchay flows through the territory of Armenia and flows into the Araz River, the second largest river of the South Caucasus. The Araz River also joins the largest river of the region, the Kura River. Araz River is the largest right tributary of Kur.

Assess the Ecological Situation and Sources of Pollution:

To determine the level of pollution in Okchuchay water, serious changes in the color of the water and a strong smell were observed during the monitoring conducted in the river. The analysis of water samples taken from the monitoring point near the border of the river with Armenia revealed an increase in the concentration of iron, manganese, molybdenum, ammonium and sulfates in the water. The analysis of the data transmitted from the new generation automatic hydrological stations installed in the transboundary rivers, including in Okchuchay in Shayifli village of Zangilan district, confirmed the increase in pollution.

Heavy metal pollution in Okchuchay is observed throughout the year. During the last monitoring, the reason for the change in the color and smell of the river was the sharp increase in the amount of ammonium and sulfate ions in Okchuchay. Thus, in Okchuchay, the amount of ammonium was 4-5 times higher than the norm, and the amount of sulfate was several times higher than the norm. This is due to the wide use of these chemicals in the mining industry.

The pollution of Okchuchay: Okchuchay is polluted by the waste of Gafan and Gajaran mountain mining industry. Discharge of water directly into the river without treatment causes the level of pollution to exceed the norm several times. The low quality of water in the river has a negative impact on its use for domestic and agricultural needs, and this situation leads to the destruction of the river ecosystem. It is known that the pollution of river water with heavy metals and salts occurs due to waste water formed as a result of the activities of mining and processing enterprises and discharged directly into the river basin. The location of one of the largest mining enterprises of Armenia - Gajaran Copper-Molybdenum Plant (Zangezour Copper-Molybdenum Combine) and Gafan ore processing plant in Syunik province, at the source of Okchuchay, gives reason to confirm the fact of its pollution due to these sources.

Regular monitoring carried out in Okchuchay (laboratory analysis of water and bottom sediment samples and visual observations) by the Ministry of Ecology and Natural Resources,

analysis of the monitoring results was provided to international accredited and certified foreign laboratory - "Germany Dusseldorf SGS Institute Fresenius" LLC laboratory.

According to the monitoring results, high concentrations of pollutants in Okchuchay were determined mainly at a selected point near the border with Armenia in upstream. during the monitoring carried out by ETSN, the mass death of 227 goldfish and 330 sherbit fish, included in the "Red Book" of Azerbaijan, was observed in the part of the Zangilan district of Okchuchay passing through the villages of Shayifli and Jahangirbeyli. It is believed that the reason for the death of fish is due to the presence of iron, copper, nickel, molybdenum, and other heavy metals in the water of the river.

The amount of nickel is seven times higher than the norm, iron four times and copper-molybdenum compound two times higher. According to an evaluation by the U.N. Economic and Social Council (ECOSOC) dating back to 2007, the ecological and chemical status of the Okchuchay River system is not satisfactory for aquatic life .

Impact on the Environment and Human Health:

The impact of the intensive pollution of Okchuchay with toxic waste on the environment can be summarized as follows:

- Impacts on the water of the river - sharp changes in quantity and quality indicators, unusability, water scarcity, pollution, erosion, deterioration of fertility of coastal lands as well as irrigated lands, food safety problems;
- Impacts on the fauna and flora, biodiversity of the river - degradation of rare and endangered species, biological resources, unique river ecosystem, disruption of the natural regeneration process in the river, destruction of fauna species using river water, thus impacts on the biodiversity of the region;
- Effects on human health - health problems such as disorders of the gastrointestinal tract, destructive processes in the kidneys and bone tissue, and cardiovascular and nervous systems as a result of water use.

Threat to the Biological Security

Water pollution has altered the river's ecosystem; many fish species have been killed and some have disappeared altogether. The metals discharged into the Okchuchay pollute not only the river itself but also other nearby rivers.

Data from Armenia's Ministry of Ecology proves this. According to data, the Okchuchay is one of Armenia's most polluted rivers and has been classified as Class 5 in terms of pollution, the highest possible level. Research by Armenian experts (A. V. Gabrielyan, G. A. Shahnazaryan and S. H. Minasyan, 2018) found that the root causes of the river's pollution were lack of management and planning, poor operating experience and inadequate waste management.

Results and Recommendations

Drinking water supply is an issue that occupies the global agenda. “Good management of this limited and valuable resource is essential for the well-being of people and nature.”

The Okchuchay is an important domestic and irrigation resource of the eastern Zangezur economic region of Azerbaijan. It is an important water source for the development of this region after its liberation.

From legal aspects; Armenia signed the Protocol on Water and Health, part of the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention), on June 17, 1999. Since signing the protocol in 1999, Armenia has twice initiated the process of ratifying the protocol.

The nations have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environments of other states or of areas beyond the limits of national jurisdiction. This implies consultations between neighboring countries, instead of compensation payments by upstream countries to downstream countries for the damage caused. Therefore, Armenia has consciously avoided signing the convention, thus failing to take responsibility for, but on the contrary benefitting from, the issue of pollution of the environment and water resources.

Global Institute for Water, Environment and Health (GIWEH) appeals to international organizations to give more attention to the ecological crisis of the river to prevent pollution and to support the peace and justice agenda in the region.

Global Institute for Water, Environment and Health (GIWEH) calls for a strong international reaction to protect the ecosystem and biological assets in the region and encourage the countries of the region for more cooperation in integrated water resources management to face the main challenges presented in climate change impact, population growth and use the water as a tool for peace and fruitful cooperation based on economical win-win situation for a safe future.
