Date: April 20, 2023

Nisan 20, 5783

To: Mr. Pedro Arrojo-Agudo, Special Rapporteur on the Human Rights to Safe Drinking Water and Sanitation

Subject: **The State of Israel's Submission to Special Rapporteur on the human rights to safe drinking water and sanitation to inform the thematic report on "fulfilling the human rights of those living in poverty and restoring the health of aquatic ecosystems: two converging challenges"**

The State of Israel is honored to submit information to the Special Rapporteur on the human rights to safe drinking water and sanitation, for his report on "fulfilling the human rights of those living in poverty and restoring the health of aquatic ecosystems: two converging challenges", to be presented at the 54th session of the United Nations Human Rights Council, in September 2023. Hereinafter is the State's information as provided by the relevant authorities, pursuant to the questions listed by the Special Rapporteur.

Throughout history, the flow of running water, such as streams and rivers, was the basis for the development of human culture, facilitating irrigated agriculture, mills, transportation and trade, which allowed populated centers to prosper and become cities and empires. Today, clean and flowing streams are of utmost importance, supporting a variety of services such as the supply of clean water for drinking and agriculture, "green" energy, water purification, groundwater enrichment, control of flood damages and food supply. Additionally, streams and rivers are major attractions for leisure, recreation and sports activities. However, the utilization of water for human needs on the one hand and the flow of low quality water on the other hand, have led to the deterioration of inland water bodies in many places around the world, and especially in areas subject to water shortages such as Israel. Sewage pollution, the drying up of streams and intervention in natural flow for drainage purposes significantly damaged the biological diversity and ecological function of natural bodies of water, making polluted streams an environmental nuisance, a source of odor hazards, diseases and a threat to groundwater quality. Therefore, in recent decades a process of restoration and public reclaiming of streams is ongoing.

Assuring the quality of water resources is a prerequisite for the fulfillment of human rights to safe drinking water and sanitation. Therefore, Israel routinely employs pollution prevention measures, such as monitoring and remediation of polluted water bodies. For example, the *Directive on Industrial Wastewater Standards* regulates a long list of components which use is prohibited or restricted to a certain level, in order to safeguard natural water resources from industrial pollution. This Directive imposes steep fining on polluting industries that fail to comply with its limitations, rendering polluting unprofitable.

Since Israel's natural water resources are relatively scarce, the Water Authority (Operational Department) is charged with its responsible management, in combination with continues development of alternative water sources such as desalted seawater, brackish water and reclaimed water. This, both in order to ensure optimal conditions for quantitative and qualitative reliable water supply to the entirety of the population and to conserve and restore natural water sources.

Stream and river rehabilitation in Israel largely depends on the continued removal of polluting sources and the allocation of fresh water to sustain biodiversity, services (residential and touristic) and economic development. In 2018, a Government Resolution on river rehabilitation and allocation of water to nature was adopted. River rehabilitation Master Plans have been established for over 80% of perennial rivers in Israel. Between the years 1994 and 2018, the number of polluting sources decreased substantially (form 240 to 62) leading to a significant reduction in pollution loads (such as organic carbon, nitrogen and phosphorus).

Over the last three decades, Israel is in the midst of a continuous process of improvement in the condition of streams and rivers, which is expected to last for at least another decade. The establishment of a National Directorate for River Restoration, which was accompanied by appropriate legislation, reinforced the acknowledgment of nature's rights as a legitimate water consumer. These and other actions to restore streams and rivers have led to a certain improvement in the condition of some of the water bodies in Israel. Such actions include, as abovementioned, the reduction of polluting sources, the improvement of quality of the effluents discharged into the streams, the diversion of spring water for the benefit of nature, structural rehabilitation and the restoration of meanders alongside the implementation of sustainable methods for flood protection and regulation. The cooperation between relevant stakeholders is crucial for the success of this process, and they include mainly the Ministry of Environmental Protection (hereinafter: the Ministry) (charged with monitoring and supervision); the Water Authority (responsible for water allocation and wastewater treatment); the Nature and Parks Authority (tasked with biodiversity protection), and others.

For decades, the assessment of the condition of streams in Israel was mainly based on continuous chemical monitoring of the quality of the water flowing in the streams. Streams are sampled twice a year (spring and fall) as part of a multi-year plan, in order to maintain a sequence of data indicative of the water quality flowing in them. The water is sampled in circa 90 preselected sampling stations in 17 streams, to reflect the state of the water in a certain place at a fixed point in time. This monitoring provides valuable information on states of pollution, and informs changes in water quality over time and pollutants that might endanger human health. Twelve (12) main parameters are tested by the Nature and Parks Authority for the Ministry, including suspended solids (TSS 105OC), biological oxygen demand (BOD), chemical oxygen demand (COD), chloride (Cl), Kjeldahl nitrogen (TKN), ammonium (NH4), nitrite (NO2), nitrate ( NO3), total nitrogen (TN), total phosphorus (TP), fecal coliforms (FECAL COLI), and total organic carbon (TOC). Additional parameters are tested at need.

However, monitoring based entirely on chemical water quality has several disadvantages. As mentioned, in most cases, such testing is only indicative of conditions at a certain place and point in time, and does not identify additional environmental effects such as drought, invasive species or physical changes. It does not examine the effect of leisure activities, agricultural or the positive effects of rehabilitation, and does not account for effects of substance interplay or of concentrations below the detection threshold (micro-pollutants, hormones and drugs). Therefore, the chemical monitoring is supplemented with ecological monitoring, which allows the examination of long-term trends, both local and global, such as influences of climate change on local ecosystems, invasive species and progress of rehabilitation processes.

Towards that purpose, in 2015, a National Center for Aquatic Ecology was established through the cooperation of multiple stakeholders, including the Ministry, the Nature and Parks Authority and Tel-Aviv University. The center is charged with monitoring and providing ecological data on aquatic ecosystems in Israel and aims, in accordance with the *Water Framework Directive* methodology, to conduct hydrobiological monitoring of all aquatic ecosystems in Israel, in order to assess their ecological functioning and improve sustainable management. The Center implements a monitoring methodology which relies on the principles of the *European Water Framework Directive* (2000/60/EC), and is based on the comparison between different groups of organisms (algae, plants, invertebrates, fish) sampled from streams or other bodies of water. Samples are gathered from streams absent of human disturbance (or under as little disturbance as possible), and compared to samples gathered from similar bodies of water (types) that are influenced by human activity. The more similar the indicators are, the better the ecological condition.

The efforts described above are implemented in accordance with the *Policy Document for the Long-Term Master Plan for the National Water Sector*, developed and issued by the Water Authority Council in 2012. Israel's main water policy directives, as specified in the *Policy Document*, refer to **national goals**, including agricultural and industrial development and inter-regional cooperation. Further, the policy aims to promote **social fairness and support the periphery**, acknowledging the principle of equality in provision of water and sewage services and accommodating disadvantaged groups by supporting, *inter alia,* projects in geographical and social periphery that require identification and implementation of special management mechanism. Another policy directive refers to **water sector's management under uncertain conditions of water security**. Considering Israel's geographical environment, the national water sector must prepare for scenarios of decline in the supply and quality of natural water. The **management of natural water sources** include rehabilitation and preservation of strategic assets, by the designation of natural rehabilitation zones, which as such includes operating rules for each natural water source. This includes the sustainable management of annual allocations and extraction of water from renewable natural sources. Additionally, **management of sewage and treated wastewater** systems, including reclamation systems should all be cost-based and meet national targets, based on criteria of reliability, efficiency and spatial fairness alongside the strengthening of **urban water systems**. The importance of **water quality** is recognized, particularly the quality of natural sources of water used for drinking, as well as the importance of **consumption and demand management**. **Agriculture** is considered socially and environmentally important to both Israel and its rural communities, thus warranting preservation via appropriate water allocation. Regarding environmental preservation, since the 2003 amendment to the *Water Law 5719-1959*, **nature** is recognized as a "consumer" of no lesser importance than other consumption sectors under the law. Thus, water dependent ecosystems are rehabilitated and preserved, including by the increase of water allocation for nature.