

# Climate Change and Protected Areas - Vulnerability Assessment of the Sudochoye Lake System Ramsar Site

## Context

Despite playing a crucial role in providing essential ecosystem services, supporting biodiversity, and contributing to climate resilience and human wellbeing, wetlands worldwide have experienced a decline in condition over the past few decades. Factors such as conversion for intensive agriculture, infrastructure development, pollution, invasive species, drainage, and the exacerbated effects of climate change have left wetlands, including peatlands, in a distressed state. This degradation has often transformed them into net emitters of greenhouse gases, compromising their vital ecological functions that are essential for sustaining plant and animal life, as well as the communities reliant on these environments.



Being previously part of the Aral Sea, Sudochoye lake system is now a separated leftover that receives its water inflow mainly from Amu Darya River and some irrigation canals. It's rich but very specialized biodiversity features dense reedbeds, shrubs, salt marshes and saxaul (*Haloxylon ammodendron*) plantations, as well as some nationally threatened animals, such as the Asiatic caracal (*Caracal caracal schmitzi*), goitered gazelle (*Gazella subgutturosa*) and bulatmai barbel (*Luciobarbus capito*). Besides that, Sudochoye serves as a stopover and breeding area for birds on their migration route along the Central Asian flyway. Furthermore, approximately 26,5% of the ornithological fauna of Uzbekistan was monitored at Sudochoye lake system in 2019.

Only recently in October 2023, Sudochoye lake system was designated as a Ramsar Wetland of International importance – increasing Uzbekistan's Ramsar sites to four. The Ramsar Convention on Wetlands of International Importance is one of the oldest

Project title	Policy Dialogue and Knowledge Management on Climate Protection Strategies (DIAPOL-CE)
Commissioned by	Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV)
Political partner	Ministry of Ecology, Environmental Protection and Climate Change (MoEEPCC) of Uzbekistan
Countries	Georgia, Mongolia, Oman, Rwanda, Senegal, Uganda, and other selected countries
Overall term	03/2014 – 06/2025

international treaties and since 1971 committed to the preservation and sustainable use of natural resources.

## Main Objective

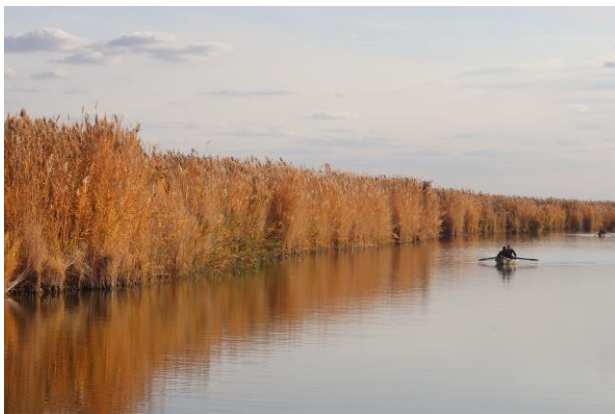
DIAPOL-CE intends to cooperate with the Ministry of Ecology, Environmental Protection and Climate Change (MoEEPCC) in Uzbekistan with a project focusing on the Sudochoye Lake System. The need to adapt to climate change has not been systematically reflected in the management of Uzbekistan's protected areas. The project aims to support the Uzbek partner in providing a climate change vulnerability assessment (CCVA) of Sudochoye Lake System to analyse potential negative effects climate change may cause to protected areas, and wetlands.

## Approach

The project will aid Uzbekistan in achieving adaptation measures aligned with the NDC development until 2030. DIAPOL-CE's assistance is expected to impact adaptation in various ways, including improving water management (enhancing the utilization of water resources and preventing further salinization and land degradation), fostering climate adaptation at the social level (raising awareness and providing better access to climate change information for all population groups), addressing the Aral Sea disaster (safeguarding the fragile ecological balance in the Aral Sea region, combating desertification, promoting efficient and sustainable water resource use, and conserving and restoring biodiversity), as

well as ecosystem adaptation (preserving, restoring, and maintaining ecological balance in protected areas).

DIAPOL-CE will support innovation/digitalization, e.g., through equipment, elaboration of a visitor concept, etc., and contributes with a study taking into consideration potential risks of climate change towards protected areas/ habitats. The elaboration of such a study will contribute to data collection, foster evidence-based policy making, and provides the link to policy dialogue both on local and national level. Furthermore, data collection and data analytics also meets the requirements of the Uzbek Government to establish and feed a web-based Platform that shall be used as a knowledge management system to combat climate change effectively in the Central Asian region. Data collection in the target region Sudochoye will help to identify high-impact areas for nature-based solutions, the costs incurred, the climate benefits and credits developed and helps empower policymakers and conservationists to prioritize nature-based solutions for wetlands for maximum carbon capture and storage.



## Importance of wetlands, Ramsar objectives, and climate change

Ramsar sites offer a diverse array of services encompassing climate change mitigation (carbon dioxide storage), biodiversity conservation, energy production, water supply, agriculture, food security, economic development, and protection from natural disasters. Additionally, they function as recreational areas with tourist potential and contribute to the cultural and spiritual

wellbeing of communities. Nevertheless, these sites face threats from rising temperatures and prolonged drought periods.

Several scientific reports indicate that climate change exacerbate the degradation and loss of wetlands, which will further reduce the mitigation and adaptation capacity of wetlands. Since the conservation and wise use of wetlands have the potential to slow or halt this degradation, the designation of Ramsar sites, together with their effective management, as well as that of other wetlands, can in some regions play a vital role in carbon sequestration and storage, and therefore in the mitigation of climate change.

As per Uzbekistan's Third National Communication to UNFCCC, the impacts of climate change are progressively affecting the country, although not uniformly. Due to its diverse geography, size, and location, different regions of Uzbekistan will experience varied effects from climate change. Notably, Uzbekistan and Central Asia are undergoing a faster warming trend than the global average, potentially intensifying impacts on human health, livelihoods, hydrological resources, and ecosystems. This trend could also result in severe water shortages along Uzbekistan's most important rivers, the Amu Darya and Syr Darya.

Climate change poses a potential threat to protected areas, with a notable absence of a comprehensive vulnerability assessment for wetlands in Uzbekistan. The country's Third National Communication to the UNFCCC acknowledges that wetlands may face an unstable water balance and possible degradation due to drought periods, emphasizing the heightened responsibility for the Sudochoye lake system. Surprisingly, Birdlife International designated Sudochoye as an Important Bird & Biodiversity Area in Danger as early as 2020, highlighting its ecological significance and the urgency of conservation efforts.

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