# HYDROPHIL

## Strong commitment to the Central Asian countries

Working for the water and environment sectors

# HYDROPHIL

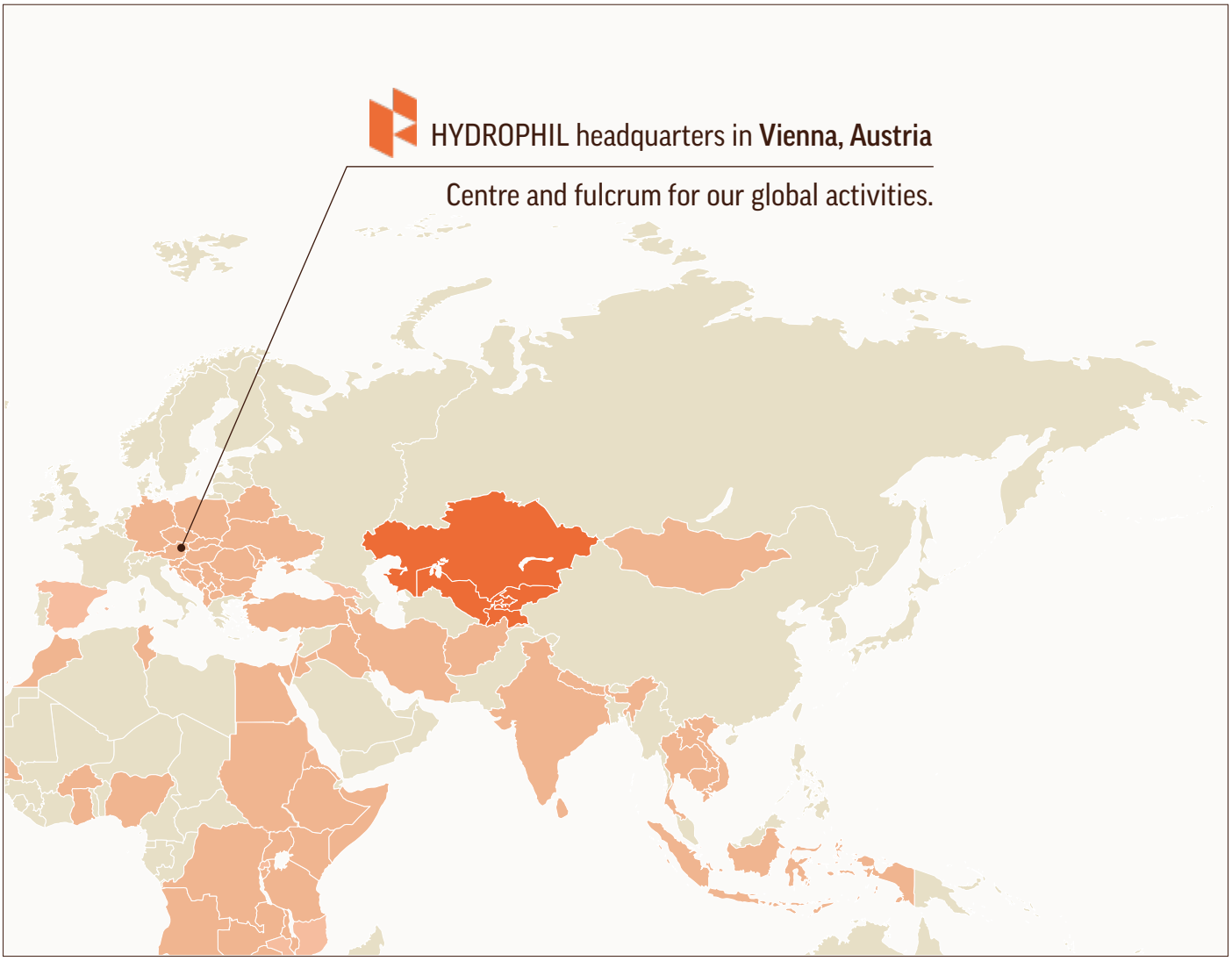
We aim to contribute to the positive long-term development of societies by fulfilling our clients' visions and finding solutions to their most pressing needs, challenges and concerns.

Improved living conditions and protection of the natural environment is the purpose of everything we do. We have a positive impact on the work of clients and society at large.

# Where we work

**Our team collaborates across continents** – Europe, Africa, Asia, and Latin America.

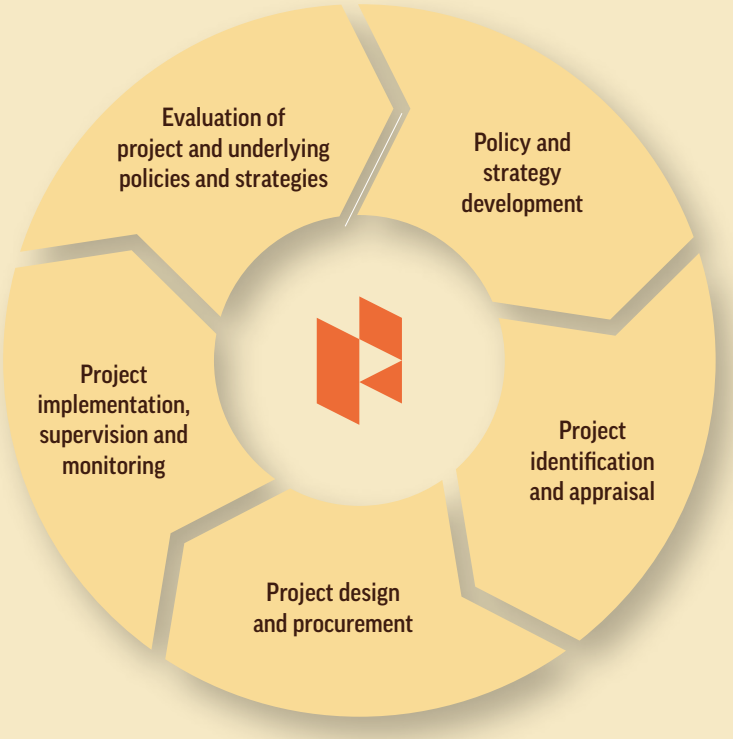
We cooperate with governments, municipalities, regional organizations, donor agencies, multilateral funding institutions, and the United Nations - to plan and implement programmes and projects that support the water, wastewater, and water-related environmental sectors.




▸ Afghanistan ▸ Albania ▸ Angola ▸ Armenia ▸ Austria ▸ Belarus ▸ Bosnia-Herzegovina ▸ Brazil ▸ Bulgaria ▸ Burkina Faso ▸ Burundi
▸ Cambodia ▸ Cape Verde ▸ Croatia ▸ Czech Republic ▸ Democratic Republic of Congo ▸ Egypt ▸ Eritrea ▸ Ethiopia ▸ Georgia
▸ Germany ▸ Ghana ▸ Guatemala ▸ Hungary ▸ India ▸ Indonesia ▸ Iraq ▸ Iran ▸ Israel ▸ Jordan ▸ Kazakhstan ▸ Kenya ▸ Kosovo
▸ Kyrgyzstan ▸ Laos ▸ Lebanon ▸ Lesotho ▸ North Macedonia ▸ Malawi ▸ Moldova ▸ Mongolia ▸ Montenegro ▸ Morocco
▸ Mozambique ▸ Nepal ▸ Nicaragua ▸ Nigeria ▸ Palestine ▸ Poland ▸ Romania ▸ Rwanda ▸ Senegal ▸ Serbia ▸ Slovakia ▸ Slovenia
▸ Somalia ▸ South Africa ▸ Spain ▸ Sri Lanka ▸ Sudan ▸ Tajikistan ▸ Thailand ▸ Tunisia ▸ Turkey ▸ Uganda ▸ Ukraine
▸ Tanzania ▸ Uzbekistan ▸ Vietnam ▸ Zambia ▸ Zimbabwe

# Our services

The **project cycle** is the framework used to design, prepare, implement, and supervise projects and programmes. HYDROPHIL supports its clients during the entire cycle from the development of underlying policies and strategies to the evaluation of specific development interventions.




Within the project cycle, we provide the **following services:**

- Policy and strategy development support
- Studies
- Due diligence
- Engineering design
- Procurement support
- Construction site supervision
- Technical assistance and capacity building
- Monitoring and evaluation

# Our fields of operation

We provide engineering and advisory services in **nine distinct areas** of the water and environment sector.

- Water Supply Infrastructure ▷
- Wastewater & Urban Drainage Infrastructure ▷
- WASH - Water, Sanitation and Hygiene ▷
- Institutional and Corporate Development ▷
- Climate Change Adaptation ▷
- Environmental and Social Management ▷
- Irrigation and Agriculture ▷
- Natural Hazards ▷
- Water Resources Management ▷

# Our strong commitment to Central Asia

**HYDROPHIL has been working in Central Asia, including Kyrgyzstan, Tajikistan, Uzbekistan and Kazakhstan since 2005.**
We have been providing engineering and advisory services in the following projects (selection):

## Kyrgyzstan

- **Rehabilitation and Extension of the Water Supply and Wastewater Systems in South Kyrgyzstan:** Engineering Design, Procurement and Supervision of Works
  - in the City of Isfana
  - in the Local Government Authorities of Myrza-Ake, Don-Bulak, and Kurshab
  - in the City of Kerben
- **Kyzyl-Kiya Water Project:** Engineering Design, Procurement and Contract Supervision
- **Mailuu-Suu Water Project:** GIS-Based Water Supply & Wastewater Asset Management System
- **Kara-Suu Water Project:** Hydraulic Model and Supervision of Works
- **Bishkek and Osh:** Sanitation Assessment and Recommendations for Urban Upgrading in Low-Income Peri-Urban Settlements
- **Water Management Improvement Project:** Design of a Hydro-Meteorological Network Rehabilitation

## Tajikistan

- **Rural Water Supply and Sanitation Project:** Development of the National Water Supply and Sanitation Program
- **Kairakkum 126 MW Hydro Power Plant:** Feasibility Study on its Rehabilitation and Environmental & Safety Assessment

## Kazakhstan

- **Modernisation of Astana Water Supply System and Wastewater Treatment Plant**
- **Infrastructure Regulation and Tariff Policy Development**

## Uzbekistan

- **Preparing Urban Development and Improvement Projects 1:** Institutional Capacity Building for Tashkent Province Sewerage System Development Project

## Regional Activity

- **Land and Water Use in Mountainous Regions Affected by Climate Change**

# Kyrgyzstan

## REHABITITATION OF THE WATER SUPPLY SYSTEM IN THE CITY OF ISFANA

**Assignment location:** Isfana City in the Kyrgyz Republik
**Client:** Municipal Enterprise Isfana Taza Suu, Isfana City
**Origin of funding:** European Bank for Reconstruction and Development (EBRD) and Union' s Investment Facility for Central Asia (EU IFCA)
**Period:** 05/2021 - 11/2023

Rehabilitation of the Water Supply and Wastewater Systems, with a primary focus on replacing critical water supply networks, modernising household metering, and operational and maintenance equipment in the City of Isfana.

**Overall tasks:**

- Preparation of designs and technical specifications
- Support the cities/municipality in tendering and negotiatingthe works contracts
- Assisting the client with compliance & reporting obligations
- Supervising construction works
- Implementing of the Environmental and Social Action

**Project specifics:**

- Rehabilitation of water intakes „Tegirman“ and „Koptarkhana“
- Rehabilitation of 4 existing reservoirs
- New reservoir 1,400 m³
- Rehabilitation of existing water supply network – 21.3 km
- New water supply network – 13.7 km

Images: HYDROPHIL/O. Gurli

## REHABILITATION OF THE WATER SUPPLY AND WASTEWATER SYSTEMS IN THE LOCAL GOVERNMENT AUTHORITIES OF MYRZA-AKE, DONBULAK, AND KURSHAB

**Assignment location:** Local Government Authorities of Myrza-Ake, Don-Bulak, and Kurshab in the Kyrgyz Republik
**Client:** Water Supply and Wastewater Management Agency of the Uzgen Region
**Origin of funding:** European Bank for Reconstruction and Development (EBRD) and Union's Investment Facility for Central Asia (EU IFCA)
**Period:** 05/2021 - 11/2023

**Overall tasks:**

- Preparation of designs and technical specifications
- Support the cities/municipality in tendering and negotiating the works contracts
- Assisting the client with compliance & reporting obligations
- Supervising construction works
- Implementing of the Environmental and Social Action

**Project specifics:**

- Rehabilitation of existing boreholes and adding new borehole
- Three (3) new reservoirs (2,500 m³, 1,000 m³ and water tower) and rehabilitation of existing reservoir
- New transport pipeline (DN 225 – DN 160) – 7.5 km
- New distribution network – 12 km

Images: Stock.com, greir

# Kyrgyzstan

## REHABITITATION OF THE WATER SUPPLY SYSTEM IN THE CITY OF KERBEN

**Assignment location:** Kerben City in the Kyrgyz Republic
**Client:** Municipal Enterprise Kerben Suukanal, Kerben City
**Origin of funding:** European Bank for Reconstruction and Development (EBRD) and Union's Investment Facility for Central Asia (EU IFCA)
**Period:** 05/2021 - 11/2023

**Overall tasks:**

- Preparation of designs and technical specifications
- Support the cities/municipality in tendering and negotiating the works contracts
- Assisting the client with compliance & reporting obligations
- Supervising construction works
- Implementing of the Environmental and Social Action

**Project specifics:**

- New river intake and sedimentation basin
- New transport pipeline – 17.5 km
- Rehabilitation of distribution network – 20 km
- New distribution network – 20 km
- Rehabilitation and extension of existing sewers – 2.3 km
- Wastewater treatment plant

Images: HYDROPHIL/A. Stoisits

## KYZYL-KIYA WATER PROJECT: ENGINEERING DESIGN, PROCUREMENT AND CONTRACT SUPERVISION

**Assignment location:** Kyzyl-Kiya City in the Kyrgyz Republic
**Client:** ME Kyzyl-Kiya Suukanal
**Origin of funding:** European Bank for Reconstruction and Development (EBRD)
**Period:** 05/2017- 07/2023

Facilitation of priority investment implementation including preparation of designs and tender documents, procurement, construction supervision and contract administration. The investments included:

- Rehabilitation of two ground water wells (70 $m^3/h$)
- Replacement of four pumps on river intake (450 $m^3/h$)
- Upgrade of water treatment plant, replacement of filter sand and backwash pumps (200 $m^3/h$)
- Construction of clean water reservoirs (2 x 500 $m^3$)
- Replacement of 32.5 km existing urban water network mains (DN110 - DN350)
- Tendering and procurement of maintenance machinery and vehicless

Images: HYDROPHIL/A. Stoisits

# Kyrgyzstan

## MAILUU-SUU WATER PROJECT: GIS-BASED WATER SUPPLY & WASTEWATER ASSET MANAGEMENT SYSTEM

**Assignment location:** Mailuu-Suu City in the Kyrgyz Republic
**Client:** Mailuu-Suu Municipal Enterprise Gorvodokanal, Mailuu-Suu City
**Origin of funding:** European Bank for Reconstruction and Development (EBRD) and Union's Investment Facility for Central Asia (EU IFCA)
**Period:** 11/2019 - 09/2021

Established a complete and up-to-date record of relevant data on Vodokanal properties, plant and equipment and then developed an Electronic Assets Management System integrated with a GIS platform capturing key Vodokanal water assets, including plants and networks.

**Objectives:**

- Develop, supply and create the Mailuu Suu Water & Wastewater GIS at the Vodokanal.
- Build in-house capacity by providing detailed hands-on and classroom training to Vodokanal staff.

**Project specifics and tasks:**

- Primary and Secondary Data Collection, Asset Inventory and System Survey for the water supply and wastewater system of Mailuu-Suu
- Development of strategic asset management system and GIS integration
- Installation of hard- and software at Vodokanal
- Capacity building and knowledge transfer

**Achievement and Purpose:**

- With a proper GIS and asset management system in place, Vodokanal's water and wastewater services infrastructure can be better managed and maintained.

Images: iStock.com/wei

## KARA-SUU WATER PROJECT: HYDRAULIC MODEL AND SUPERVISION OF WORKS

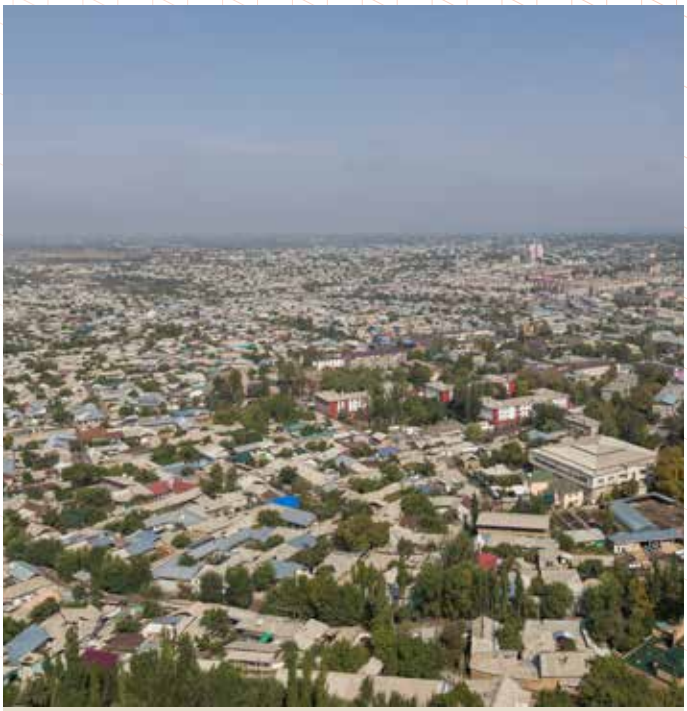
**Assignment location:** Kara-Suu City in the Kyrgyz Republic
**Client:** Kara-Suu City
**Origin of funding:** European Bank for Reconstruction and Development (EBRD) and Union's Investment Facility for Central Asia (EU IFCA)
**Period:** 11/2016 - 10/2023

Providing support to the Kara-Suu Water Company in rehabilitating the Water Supply and improving the Wastewater System:

- Elaboration of the Conceptional Design of Water Supply and Sewerage Networks
- Establishment of the Hydraulic Model and dimensioning of the Water Supply and Sewerage Networks
- Input to the development of the Detail Designs
- Support in the supervision of the construction contract

Images: HYDROPHIL/A.Stoisits

# Kyrgyzstan



## URBAN UPGRADING OF SANITATION IN LOW-INCOME PERI-URBAN SETTLEMENTS IN BISHKEK AND OSH

**Assignment location:** Capital City of Bishkek and City of Osh, Kyrgyz Republic
**Client and origin of funding:** The World Bank
**Period**: 2006

- Assessment of the environmental conditions, coverage, quality of sanitation infrastructure and services in the Novostroykas of Bishkek and Osh which lack access to basic infrastructure and municipal services
- Survey and analysis of existing wastewater treatment facilities
- Consultation with relevant government agencies, NGOs and community groups
- Evaluation of the influence of various future scenarios
- Identify priority interventions and formulate appropriate improvement strategies
- Development of an intervention strategy

Images: iStock.com/olli0815

## WATER MANAGEMENT IMPROVEMENT PROJECT: DESIGN OF A HYDRO-METEOROLOGICAL NETWORK REHABILITATION

**Assignment location:** Kyrgyz Republic, national
**Client and origin of funding:** Food and Agriculture Organisation (FAO)
**Period**: 2006

Diagnostic review and planning the rehabilitation and modernisation of Kyrgyzstan's hydro-meteorological data collection system.

The World Bank-financed Water Management Improvement Project supported developing the institutional, technical, and regulatory conditions for sustainable and efficient water resources management in Kyrgyzstan. In this context, a reliable hydro- meteorological data collection system was an essential requirement. Water allocation decisions, including transboundary management, directly depend on a sound knowledge of resources available, including dependable forecasts.

Images: HYDROPHIL/R.Seidelmann

# Tajikistan

## RURAL WATER SUPPLY AND SANITATION PROJECT: DEVELOPMENT OF THE NATIONAL WATER SUPPLY AND SANITATION PROGRAM

**Assignment location:** Tajikistan, national
**Client:** Municipal Infrastructure Development Project Management Unit (MIDPMU) – Rural Water Supply and Sanitation Project (RWSSP), Dushanbe City, Republic of Tajikistan
**Origin of funding:** The World Bank Group
**Period:** 10/2021 - 04/2023

Providing technical assistance for the development of a „national vision" for the Water Supply and Sanitation sector of Tajikistan. The focus is on the sector's development in achieving targets focused on universal access to safely managed water supply and sanitation ser- vices.

**The focus of the project:**

- Pillar 1: Upgrading the institutional framework
- Pillar 2: Increasing coverage with a safely managed water supply and sanitation services
- Pillar 3: Promoting and ensuring efficiency of WSS services
- Pillar 4: Optimizing financing of the WSS sector
- Pillar 5: Ensuring coordination and accountability in the sector

Images: iStock.com/LUKASZ-NOWAK1

## KAIRAKKUM HYDRO POWER PLANT (126 MW) - REHABILITATION FEASIBILITY STUDY AND ENVIRONMENTAL & SAFETY ASSESSMENT

**Assignment location:** Town of Kayrakkum in Sughd Province, Tajikistan
**Client:** Open Stock Holding Power Company Barki Tojik, Tajikistan
**Origin of funding:** European Bank for Reconstruction and Development (EBRD)
**Period:** 11/2012 - 04/2014

Feasibility Study, including Environmental and Social Impact Assessment (ESIA) for upgrading of Kairakkum dam. The multipurpose scheme for energy production and irrigation has a reservoir area of 513 km² with a gross storage capacity of ca. 3,400 m³. The dam consists of an earth and rockfill dam (length ca. 1,200 m) and a concrete dam (length ca. 130 m).

- Assessment of the overall plant, dam, and reservoir condition
- Assessment of current and future hydrology, climate change risks
- Workplan on required actions towards the investment project scoping
- Identification of suppliers, cost estimates, tender and implementation processes
- Complete ESIA
- Numerical model covering irrigation demand, energy generation, evaporation

Images: HYDROPHIL/R. Seidelmann

# Kazakhstan

## MODERNISATION OF ASTANA WATER SUPPLY SYSTEM AND WASTEWATER TREATMENT PLANT

**Assignment location:** Capital City of Nur-Sultan, Kazakhstan
**Beneficiary:** Astana Su Arnasy
**Client and origin of funding:** European Bank for Reconstruction and Development (EBRD)
**Period:** 04/2018 - 06/2018

Preparation of a feasibility study for the water company Astana Su Arnasy:

- Baseline study (socio-economic data, organisational/institutional review, key performance indicators)
- Development of the financial model, affordability, and tariff setting
- Technical assessment - water supply, treatment and distribution, wastewater collection, and treatment
- Long term investment plan and institutional development options for water supply (total volume ca. 139 M EUR) and wastewater (total volume ca. 126 M EUR) with particular focus on the modernisation and expansion of the wastewater and sludge treatment
- Priority investment programme (4.6 M EUR) including rehabilitation and upgrade of the WWTP screening plant, aerated sand and grease trap, encasement of primary sedimentation tanks, improvements on the secondary sedimentation and the rehabilitation of sewage system (total length 5.5 km), procurement and implementation strategy
- Environmental and social assessment

Images: iStock.com/amesy

## INFRASTRUCTURE REGULATION AND TARIFF POLICY DEVELOPMENT AND IMPLEMENTATION FOR WATER PILOT PROJECT

**Assignment location:** Kazakhstan, entire county
**Client and origin of funding:** European Bank for Reconstruction and Development (EBRD)
**Period:** 10/2016 – 06/2019

Support to the Government of Kazakhstan in implementing a modernized legal, institutional and methodological framework for economic regulation of the country's water supply and wastewater infrastructure:

- Elaborated an incentive-based tariff and tariff-related procedures for the water sector
- Agreed on methods and processes with the stakeholders and applied the new approach to a pilot water company
- Assisted the water regulator in documenting the new tariff system
- Developing the implementation plan of the tariff reform for both the pilot company and water regulator
- Developed key performance indicators

Images: iiStock.com/Dutko

# Uzbekistan

## PREPARING URBAN DEVELOPMENT AND IMPROVEMENT PROJETCS - INSTITUTIONAL CAPACITY BUILDING FOR TASHKENT PROVINCE; SEWERAGE SYSTEM DEVELOPMENT PROJECT

**Assignment location:** Tashkent Province, Uzbekistan
**Client:** Asian Development Bank (ADB)
**Origin of funding:** Asian Development Bank (ADB)
**Period:** 07/2019 - 03/2020

Conducted an institutional assessment and developed a capacity building plan to support the strengthening of TPS' capacity.

**The focus of the project:**

- Corporate development
- Established service standards and an advanced wastewater inspection and monitoring system
- Improved wastewater Operation and Maintenance capabilities
- Piloted public-private partnership initiative for Operation and Maintenance of wastewater treatment plants and sewerage networks
- Introduced mechanism for community-based decision-making processes

Images: iStock.com/Lukas Bischoff

# Regional Activity

## LAND AND WATER USE IN MOUNTAINOUS REGIONS AFFECTED BY CLIMATE CHANGE

**Assignment location:** Kyrgyzstan, Tajikistan, Afghanistan, Iran, Iraq
**Client and origin of funding:** Food and Agriculture Organization of the United Nations (FAO)
**Period:** 12/2006 - 05/2007

Conceptualization for a suitable development program in selected pilot watersheds for required water and land use changes due to climatic change impacts:

- Analysis of hydro-meteorological data and climate models for the region
- Detailed description of the selected pilot watersheds to be studied
- Review of studies and research results regarding extent and effects of climate change on water availability and crop production in the watersheds
- Comparison of irrigation water availability and crop water requirements
- Identification of necessary climate change adaptation measures

Images: iStock.com/anorthco

**We are passionate about our business.**
Our success would be impossible without the hard work and dedication of our staff.

# We go where you are.

HYDROPHIL relies on the professional know-how and country-specific experience of its employees. We work closely together with local market leaders who have a particularly high level of expertise in their country.

# HYDROPHIL

HYDROPHIL GmbH
Mariahilfer Str. 84 M/31
1070 Vienna, Austria
T +43 1 996 98 00

hydrophil.at

**EDITOR:** HYDROPHIL GmbH **CONTACT:** Mariahilfer Strasse 84, 1070 Vienna, Austria, T: +43 1 996 98 00, www.hydrophil.at, info@hydrophil.at
**COMMUNICATION AND EDITOR:** Dipl.-Ing. Dr. Gerald Eder **TEXT:** Dipl.-Ing. Martin Edthofer and Anastasia Forget (MSc) **DESIGN:** holzer.work

**STATUS: OCTOBER 2021**