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## **Central Asia Nexus Dialogue Project: Fostering Water, Energy and Food Security Nexus Dialogue and Multi-Sector Investments**

### **Nexus pilot projects**

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## Republic of Kazakhstan: Technical Assistance “Enabling the regional water and energy cooperation”

Following the proposal of the First President of the Republic of Kazakhstan on resuming the dialogue on the establishment of the Water and Energy Consortium in Central Asia (WEC CA) initiated in 2004, the CAREC Nexus project team initiated the informal technical consultations to support the ex. Ministry of Agriculture of the Republic of Kazakhstan (current Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan (MEGNR)) to reveal the interests and suggestions from the respective stakeholders to undertake another attempt on the WEC CA establishment. The previously proposed Consortium as of 2004 meant to ensure the sustainability of the water and energy sectors not via the barter approach, but through the mutual monetary settlements. The WEC CA had to ensure each participant against the consequences of the natural shortage, as well as against unpredictable actions of the operational services of reservoirs and organizations that provide compensatory supplies.

### Implementation period:

January – May, 2019

### Location: regional level

**Beneficiaries:** Ministry of Ecology, Geology and Natural Resources the Republic of Kazakhstan, IFAS, interstate regional water and energy organizations, line water and energy ministries.

**Objective:** to enable the environment for the MEGNR to proceed with formal consultations, including based on the received technical inputs.

**Specific tasks:** to develop the background paper on the WEC CA dialog in 2004, organize the informal technical consultations to assess the interest and seek the technical and policy comments, prepare the Terms of Reference for recruiting an international consultant to support the MEGNR on resuming the preparation works on WEC CA, including development of Concept Note, *modus operandi* of financial and economic instrument, international experience, pilot transboundary project and other operational matters of the Consortium.

### Result achieved so far:

- The analysis of the WEC CA concept and respective documents developed as of 2004 carried out;
- The informal technical consultations involving more than forty regional and national stakeholders across Central Asia conducted;
- The Terms of Reference for recruiting an international consultant developed;
- The outcomes of the informal consultations were disseminated at the “15th meeting of Energy Charter on the regional energy collaboration in Central Asia and East Asia” (March 2019, Ashgabat, Turkmenistan), XII Astana Economic Forum (May 2019, Nur-Sultan, Kazakhstan), 4<sup>th</sup> Regional Steering Committee meeting and Closing conference under “EU Nexus CA Dialogue Project” (June 2019, Dushanbe, Tajikistan, and November 2019, Ashgabat, Turkmenistan, respectively).

## Republic of Tajikistan: “Development of methodological guidelines for the development of rules of water reservoirs exploitation in Tajikistan”

Following the proposal of the Ministry of Energy and Water Resources of the Republic of Tajikistan, the pilot project aims to support the development of methodological guidelines for the development of rules of water reservoirs exploitation in Tajikistan (further- methodological guidelines). Existing national legislation requires to have the exploitation rules for each water reservoir, cascade or water reservoir system (which still lacks). The present norms have been developed during the ex. Soviet Union and do not reflect the current needs and realities of water reservoirs exploitation.

The implementation of the pilot project has regional significance. As such, there are eleven water reservoirs under operation in Tajikistan. The total volume of water reservoirs makes 15,3 km<sup>3</sup> and mirror area of 664 km<sup>2</sup>, which is equivalent to about 13% of annual flow of the rivers of the Aral Sea Basin.

**Objective:** to support the national law harmonization with Nexus approach applied to ensure safe and efficient exploitation of the large water reservoirs at the national level.

**Specific tasks:** to develop the methodological guidelines considering the water, energy and ecological estimation methods and estimates.

### Results achieved so far:

- The analysis of the national legislation and international experience on the exploitation of the water reservoirs and safety of hydrotechnical facilities conducted by the national experts;
- The consultations with the national stakeholders, sectoral ministries and water and energy state companies conducted to ensure the multisectoral approach on the development of the draft methodological guidelines;
- The draft methodological guidelines developed, primarily based on Russian experience, and presented at the Round Table in November 2019 in Dushanbe, Tajikistan, among sectoral ministries for comments;
- The final draft methodological guidelines revised based on the received comments and submitted to the national entities for approval with expectation to endorse it at the Government level in the due course.

### Implementation period:

January – December, 2019

**Budget:** US\$ 11 600

**Location:** national level

**Beneficiaries:** population residing in the flood risk zones, line ministries, consumers, private sector, including vendors.



## Turkmenistan: “Sardobs”<sup>1</sup> reconstruction at “Eseneman land plot”

Following the discussions at the interstate working group in Ashgabat, Turkmenistan, in December 2018, the restoration of *sardobs* in dessert pasture areas as a pilot project was supported. *Sardobs* serve as a second vital drinking water source and play vital role in the country with over 70% of the deserts with progressing land degradation. Being under the public ownership, *sardobs* are leased for free to the cattle farmers. Currently, most of *sardobs* are aged due to the hot climate and require reconstruction. The pilot project was implemented in cooperation with UNDP.

### Implementation period:

April – December, 2019

**Budget:** US\$12 350 by Nexus project

**Location:** Daşoguz Velayat, “Eseneman” land plot, livestock farm “Garagum”

**Beneficiaries:** local farmers and rural population, transit travelers, private sector.

**Objective:** to ensure WEF security in a dessert area of Turkmenistan by advancing sustainable water and energy access through Nexus approach.

**Specific tasks:** to provide the pumping and solar equipment and training on its operation to farm “Garagum”.

**Expected outcome:** enabling the environment for cattle breeding within a radius of 30-35 km in the dessert pastures, which have not been in used for the last 30 years due to the lack of water and electricity. The exploitation of fresh pasture will increase the yield of the local farmers with the growth of the cattle up to 5000-6000 heads. The relocation to the new pasture will allow to restore the previously used pasture within the next 3-4 years. Plus, there will be social benefits as mobilization of local community for application of innovative energy technologies and awareness-raising and capacity building in the field of climate change mitigation and adaptation.

### Results achieved so far:

- Letter of Cooperation between UNDP and CAREC signed;
- Solar equipment and pumping stations purchased, installed, tested and put into operation;
- The farmers house built by the farm “Garagum” and connected to the solar electricity supply;
- Two sardobs restored by the farm “Garagum”;
- The baseline indicators developed and put into track by the local consultant procured;



<sup>1</sup> Traditional water reservoir for collection and saving of rainy water in deserts for the needs of animal husbandry or drinking

## Republic of Uzbekistan: “Improvement of the system for control and electricity consumption monitoring of the pumping stations under the Ministry of Water Resources of the Republic of Uzbekistan”

Following the request of the Ministry of the Water Resources of the Republic of Uzbekistan (MWR), the above-mentioned pilot project was selected for implementation. The pilot project aims to ensure the sustainability in the water and energy supply at the national level under the growing demand for resources. The pumping stations supply water to over 50% of irrigated lands of Uzbekistan and, hence, is a largest electricity consumer (15%) and utilizes over 70% of the MWR budget. Due to the high obsolescence rate and technological issues, the pumping stations overconsume the monthly electricity limits, including in the energy deficit regions.

### Implementation period:

March – December, 2019

**Budget:** 9 000 EUR

**Location:** national level

**Beneficiaries:** local population in rural and urban areas, farmers, private and public sectors, line ministries, communal serving companies.

**Objective:** to ensure WEF security during the exploitation of the pumping station at the national level.

**Specific tasks:** to conduct the technical assessment of the pumping stations with the recommendations on the technological improvement with respective investment estimates.

### Results achieved so far:

- The technical assessment and sectoral management of the state pumping stations (1 700) and the pumping units (5 000+) conducted. It was revealed that 70% of employees' time is spent on the transportation between pumping stations, collecting, analyzing and sending consumption data via a telephone message;
- The project proposal with the recommended technical solutions and investment estimations developed. The introduction of Automated System for Monitoring Electricity Consumption proposed as the least costly and efficient solutions. It would cost ~1 million US dollar with payback period of 2 - 2.5 years. The estimated annual energy savings is 0.5% (40 million kW);
- The project proposal submitted to the Government and potential investors.

