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Central Asia Nexus Dialogue Project: Fostering Water, Energy and Food Security Nexus and Multi-Sector Investment (Phase II)

First meeting of the Technical Working Group on the implementation of a national demonstration project in Tajikistan on pumping stations

28 July 2021 |09:30-13:10| HYATT Regency Hotel, Dushanbe

PROTOCOL

On 28 July 2021, the First Meeting of the Technical Working Group (TWG) on the implementation of the national demonstration project "Improvement of control and monitoring system of electricity consumption in pumping stations and preparation of proposals for the modernisation of a large pumping station in the Sughd Province of Tajikistan" chaired by the Agency for Land Reclamation and Irrigation under the Government of Tajikistan (ALRI) took place.

The national demonstration project is implemented within the framework of the European funded project "Nexus Dialogue in Central Asia" (the Project) and under the supervision of ALRI and the Ministry of Energy and Water Resources of the Republic of Tajikistan (MEWR). Five national experts¹ have been procured to carry out the demonstration project's tasks with the financial support of the project "Laboratory of Innovative Solutions for the Water Sector in Central Asia" implemented within the framework of the Central Asia Water and Energy Programme (CAWEP) funded by a multilateral trust fund under the management of the World Bank.

The objective of the meeting was to launch the national demonstration project in the Republic of Tajikistan and to agree on a coordination mechanism between the stakeholders (supervising agencies, national experts, donors). In particular, the meeting focused on the following tasks:

- i) Introduce all parties involved;
- ii) Agree on the distribution of tasks among the experts and hear the first draft results;
- iii) Discuss a coordination mechanism for the implementation of the demonstration project;
- iv) Approve the Working Plan till the end of 2021.

The concept, agenda and list of participants are attached as *Annex 1*.

Mr Shafolat Nazifov (Head of Basin Reclamation and Irrigation Department, ALRI) opened the meeting with welcoming remarks and congratulated the group on the launch of the demonstration project which is of great importance for the energy and food security, as well as the socio-economic well-being of Tajikistan. Mr. Nazifov assured the group that ALRI will support the implementation process of all tasks under the demonstration project as much as possible and looks forward to the results of the demonstration project for their further application in its work.

Ms Ludmila Kiktenko (Project Manager, CAREC) informed participants about the objectives of the Project and pointed out that the demonstration project is aimed at finding optimal technical solutions for

¹Bakhrom Gaforzoda (Team Leader/Expert in Land Reclamation and Irrigation), Kholi Yunusov (Energy Specialist), Abdunabi Boboev (Engineer) Khojiev Khalim (Hydraulic Engineer), Jamoliddin Jalolzoda (Water Economist).

improving the energy efficiency of pumping stations and developing an attractive investment proposal which could then potentially be submitted to interested investors and international financial institutions. Ms Kiktenko also emphasised the possibility of submitting an investment project proposal to the Green Climate Fund, which would provide up to USD 10 million in grant funds for piloting any climate projects with high adaptation/mitigation efficiency and investment potential. Finally, Ms. Kiktenko asked the experts to also consider the impact of climate change in their work.

In the First Session, Bakhrom Gaforzoda (Team Leader of the Expert Group) presented the objectives of the demonstration project and the timeframe for their implementation:

Task 1: Develop a holistic assessment on the operation of pumping stations at national level (July-August 2021);

Task 2: Develop an investment proposal for the automation of the electricity control and consumption system in the pumping stations (July - December 2021);

Task 3: Prepare proposals for the modernisation of the large Golodnostepskaya Pumping Station using energy-saving technologies (July 2021-February 2022).

Mr. Gaforzoda announced that he distributed questions about the analytical review of pumping stations among all experts involved according to their qualification. Also, Mr. Gaforzoda reported about the distribution of 173 pumping stations in the Sughd Province among 3 national experts (A. Boboev, H. Yunusov, H. Khadjiev) for technical review of electricity consumption meters. Mr. Gaforzoda underlined that these experts will also need to take good quality photos of meters and take the GPS coordinates of meter location. A detailed breakdown of the tasks among the experts can be seen in Mr. Gaforzoda's presentation (see *Annex 2*).

Kurshed Pirov (Specialist, Grundfos) introduced his company, which is a world leader in pump manufacturing and has the technical expertise to carry out energy audits. After discussions with the Nexus project team, Grundfos agreed to provide its technical expertise on a free-of-charge basis for the modernisation of the pumping stations (Task 3). Also, in mid-August this year, Grundfos specialists will conduct an energy audit using Grundfos equipment at one of the GPS pumping stations with the participation of national experts.

Mr. Pirov presented Grundfos' work, which is relevant to the demonstration project. In particular:

- A project proposal to reduce energy losses and increase the service life of equipment at pumping stations and water intake wells of machine irrigation systems in the Republic of Tajikistan, developed by Grundfos specialists in 2010. The project proposal provides estimated and investment costs to take the load off the grid and generate energy savings of 40% to 60% at the water supply and irrigation facilities;
- Conduct an energy audit and replace equipment at the Uzbekistan Irrigation Pumping Station in Samarkand Region, Uzbekistan, showing the annual energy, water and payback savings achieved;
- Survey of existing pumping systems by Pamp Audit of the dehkan farm "Poshket" in Istaravshan, Tajikistan.

Comments and suggestions for Session 1:

- Serik Bekmaganbetov (Plenipotentiary Representative of the Republic of Kazakhstan on the Executive Committee of the International Fund for Saving the Aral Sea), showed interest in the tasks of the demonstration project in Tajikistan and emphasized its relevance for Kazakhstan as well. Mr. Bekmaganbetov asked to consider the possibility of implementing a similar demo project in Kazakhstan. He suggested as a pilot area the "20 years of independence" irrigation canal in the Turkestan oblast with an application of Grundfos technical expertise.

In the second session, the national experts presented their vision of the work and the first deliverables that had been completed by the day of the meeting:

- H. Yunusov presented an analysis of agriculture at the national level and in the Sughd Province and made a tour of several pumping stations, which showed that different models of electricity meters are used in the pumping stations, including some mechanical meters (Task 1 and 2);
- H. Khodjiev presented an analysis on irrigation infrastructure in the Sughd Province, which provides more than 70% of irrigated lands with water. Mr. Khodjiev underlined that further operation of pumping stations without reconstruction (replacement) would become unreliable. At present, depreciation of the pumping stations is 40.6% of the total book value (Task 1 and 3);
- J. Jamoliddin gave a detailed analysis of water supply tariffs with a list of water users. The expert cited the growth dynamics of water supply and electricity tariffs over the last 10 years and their differences in vegetation and during the non-growing season. Further, he analysed the process of payment for electricity use from the state budget and the allocated subsidies over the last 5 years to cover the costs of electricity to "Bahri Tojik";
- B. Gaforzoda informed that a survey of pumping stations (Golodnostepskaya Pumping Station – 1 and Golodnostepskaya Pumping Station – 2 and canals TM 1 and TM 2) and canals had been completed and water outfall points recorded using GPS in Zafarabad district. The expert stressed that due to the lack of water on canals TM-1, TM-2 and TM-4, farmers are forced to drill wells to irrigate their land. The cost of well ranges from 20,000-25,000 USD. However, the drilling is done without prior geological surveys and as a result some farmers are left without water after the well is drilled and the costs incurred, as they cannot reach the aquifer arteries. But some farmers succeed in this plan and, as a result, there is uncontrolled groundwater abstraction and a decline in the aquifer level, with continued land degradation in the Zafarabad district and the drying up of orchards and other crops.

In general, in July of this year the national experts made 4 visits to Sughd Province for data collection and consultations with local executive authorities and the district department of land reclamation and irrigation of ALRI. The experts also inspected the irrigation scheme in the field (see *Annex 3* photo report).

Comments and suggestions for Session 2:

- H. Yunusov and A. Boboev asked to postpone the timing of the comprehensive assessment from July to September of this year in order to allocate working time in August of this year for technical rounds of the 173 pumping stations in Sughd before the end of the growing season. The experts explained that the meters are up to 2 km away from the pumping stations which requires additional travel time. The ALRI representative supported this request and asked to provide the results by 15 September this year;
- The experts requested ALRI to issue an official letter of authorisation to visit the pumping stations in the border areas in order to fulfil the tasks of the demo project. The ALRI representative also supported this request;
- ALRI was informed that negotiations are currently underway with the Eurasian Fund for Stabilisation and Development for a concessional loan of 30 million USD, more than half of which will be used for modernisation of Golodnostepskaya Pumping Station – 1 and Golodnostepskaya Pumping Station – 2 (unit replacement). The draft investment proposal for GTN under Task 3 of the demo project will be made available to the Eurasian Fund for Stabilisation and Development as soon as it is ready.

In conclusion **Lyudmila Kiktenko** congratulated the ALRI and MEWR supervising agencies on the launch of the demonstration project in the Republic of Tajikistan, thanked Grundfos for their cooperation and willingness to support the implementation of the demo project and wished everyone a timely and high-quality implementation of tasks.

Main results of the TWG meeting:

- A coordination mechanism for the implementation of the demonstration project has been agreed upon;
- The draft results of the 5 national experts were presented and heard;
- Grundfos has confirmed the provision of technical expertise under Task 3;
- The Working Plan of the demonstration project until the end of 2021 has been agreed.

List of applications:

Appendix 1: 1st TWG meeting - Concept and agenda;

Appendix 2: Expert presentations (separately in zip folder);

Appendix 3: Photo report of the expert mission to Sughd in July this year.



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First meeting of the Technical Working Group

on the implementation of a national demonstration project in Tajikistan on pumping stations

28 July 2021 |09:30-12:35| Conference room "Brussels 1", HYATT REGENCY Hotel, Dushanbe

General information

The European Union funded project “Central Asia Nexus Dialogue Project: Fostering Water, Energy and Food Security Nexus and Multi-Sector Investment (Phase II)” (the Project) continues to build on the results achieved in the first project period (2016-2019). During its continuation (2020-2023) the Project contributes to building the evidence base for demonstrating the effectiveness of the Nexus approach through the implementation of small demo projects across Central Asia and the institutionalisation of a multi-sectoral approach in the planning and implementation of investment projects².

The national demonstration project in Tajikistan "Improvement of control and monitoring of electricity consumption in pumping stations and preparation of proposals for modernisation of a large pumping station in the Sughd Province of Tajikistan" proposed by the Agency for Land Reclamation and Irrigation under the Government of Tajikistan (ALRI) was selected during the 1st meeting of RSC on 27 October 2020 along with 3 other Central Asian demo projects³. This demonstration project will be implemented with the support of the "Central Asia Water Sector Innovation Lab" project under the Central Asia Water and Energy Programme (CAWEP) funded by a multi-donor trust fund managed by the World Bank.

The objective of the demonstration project is to ensure water-energy-food (WEF) safety by improving the system of control and monitoring of electricity consumption in pumping stations in Sughd Province of Tajikistan and preparing technical and investment proposals for the modernisation of the large Golodnostepskaya Pumping Station cascade using energy-saving technologies and innovative solutions.

² For more information on the Project, visit the [CAREC](#) website.

³ 1st RSC meeting with a list of approved demo projects [see here](#)

The tasks of the demonstration project

The following tasks will be pursued in order to achieve demo project's objective:

Task 1: Develop a holistic assessment on the operation of pumping stations at the national level;

Task 2: Conduct a general audit of electricity meters in pumping stations and develop a concept for an automated system for monitoring electricity consumption in pumping stations in Sughd;

Task 3: Prepare proposals for modernisation of a large Golodnostepskaya Pumping Station using energy-saving technologies;

Task 4: Discuss the results of the demonstration project at regional and national meetings;

Task 5: Develop information materials and a note to decision makers.

Purpose of the First Meeting of the TWG

The purpose of the First TWG meeting is to launch the demonstration project and agree on a coordination mechanism between all stakeholders who will be involved in the implementation of the demonstration project. In particular:

1. **Introduce** all the parties involved (supervising agencies, national experts, donors interested in co-financing the demonstration project and cooperation);
2. **Agree on** the distribution of tasks among the national experts and hear the first deliverables (if completed by the day of the meeting);
3. **Discuss** a coordination mechanism for the implementation of the demonstration project between the supervising agencies, donors and experts;
4. **Share** the vision of CAREC and donors on the expectations of the demonstration project's results, taking into account a multi-sectoral and innovative approach;
5. **Approve** the Working Pplan until the end of 2021.

Format

The working meeting will be held in the format of technical discussions in a face-to-face format.

Language of the meeting

The working languages of the meeting shall be Russian without simultaneous translation into English.

Participants

- Representatives of the Agency of Land Reclamation and Irrigation under the Government of the Republic of Tajikistan and the Ministry of Energy and Water Resources of Tajikistan;
- Representatives of the World Bank (S4W Living Lab);
- Grundfos (an international pump manufacturing company);
- CAREC.

AGENDA

First meeting of the Technical Working Group on the implementation of a national demonstration project in Tajikistan on pumping stations

28 July 2021/09:30 -12:35/ Conference room "Brussels 1", HYATT REGENCY Hotel, Dushanbe

TIME	DESCRIPTION
09:30 – 9:45	<p>Welcome speech:</p> <ul style="list-style-type: none"> ● Shafolat Nazifov, Head, Basin Reclamation and Irrigation Department, Reclamation and Irrigation Agency under the Government of Tajikistan ● Lyudmila Kiktenko, Project Manager, CAREC
9:45 – 10:00	<p>Lyudmila Kiktenko, Project Manager, CAREC (15 min) Presentation of the Nexus project and demonstration project</p> <ul style="list-style-type: none"> ● Prerequisites for the implementation of the demonstration project ● Introduction of experts and participants involved and their roles ● Overall vision of the expected results of the demonstration project
<p>Session 1: Implementation of the demonstration project: task allocation <i>Moderator: Aksulu Kushanova, Energy Investment Specialist, CAREC</i></p>	
10:00 – 10:40	<p>Bakhrom Gaforzoda, Team Leader (15 min)</p> <ul style="list-style-type: none"> ● The tasks of the demonstration project and their distribution among the experts ● Working Plan ● Cross-sectoral coordination between ALRI, MEWR and experts <p>Kurshed Pirov, Grundfos (15 min)</p> <ul style="list-style-type: none"> ● International expertise and cooperation opportunities in the implementation of the demo project <p><i>Questions and answers, discussion (10 min)</i></p>
10:40 – 11:00	Coffee break
<p>Session 2: Current status of the implementation of the demonstration project <i>Moderator: Bakhrom Gaforzoda, Team Leader</i></p>	
11:00 – 12:10	<p>Task 1: Development of a holistic assessment of pumping stations at national level (25 min)</p> <p>Holl Yunusov, Energy Specialist, Abdunabi Boboev, Engineer, Bahrom Gaforzoda, Team Leader/Expert in Land Reclamation and Irrigation, Khojiev Halim, Hydraulic Engineer, Jamoliddin Jalolzoda, Water Economist.</p> <ul style="list-style-type: none"> ● Distribution of questions under the holistic assessment

	<p>Task 2: Development of an investment proposal to automate the control and consumption of electricity in pumping stations (15 min)</p> <p>Hall Yunusov, Energy Specialist, Abdunabi Boboev, Engineer</p> <ul style="list-style-type: none"> • Progress report and initial findings/drafts of results <p>Task 3: Proposals for upgrading a large pumping station using energy-saving technologies (25 min)</p> <p>Bakhrom Gaforzoda, Team Leader/Expert in Land Reclamation and Irrigation, Khojiev Halim, Hydraulic Engineer, Jamoliddin Jalolzoda, Water Economist</p> <ul style="list-style-type: none"> • Progress report and initial findings/drafts of results <p><i>Questions and answers, discussion (10 min)</i></p>
<p>Session 3: Feedback/recommendations from the supervising ministries <i>Moderator: Aksulu Kushanova, Energy Investment Specialist, CAREC</i></p>	
<p>12:10 – 12:25</p>	<ul style="list-style-type: none"> • Shafolat Nazifov, Head, Basin Reclamation and Irrigation Department, Agency for Land Reclamation and Irrigation under the Government of Tajikistan (10 min)
<p>Conclusion</p>	
<p>12:25 – 12:35</p>	<p>Lyudmila Kiktenko, Project Manager, CAREC (5 min)</p> <p>Bakhrom Gaforzoda, Team Leader (5 min)</p>

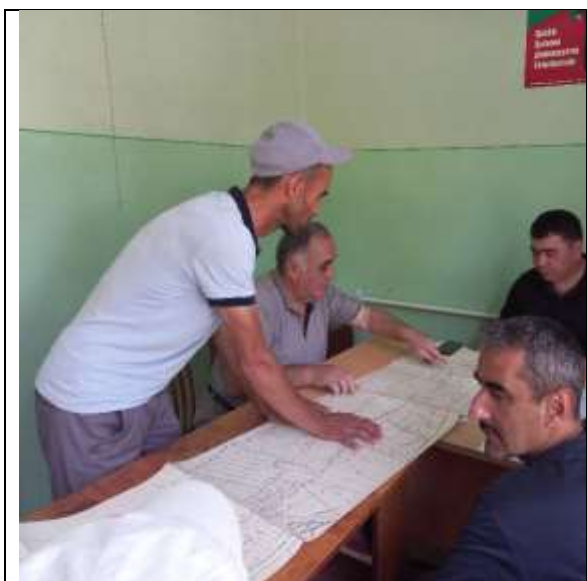
LIST OF PARTICIPANTS

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Agency for Land Reclamation and Irrigation under the Government of Tajikistan	
Shafoat Nazifov	Head of the Basin Reclamation and Irrigation Department
National experts	
Bakhrom Gaforzoda	Team Leader, Expert in Land Reclamation and Irrigation
Hall Yunusov	Energy Specialist
Abdunabi Boboev	Engineer
Khojiyev Halim	Hydraulic Engineer
Jamoliddin Jalolzoda	Water Economist
Project's partners	
Kurshed Pirov	Specialist, Grundfos
Serik Bekmaganbetov	Plenipotentiary Representative of the Republic of Kazakhstan on the Executive Committee of the International Fund for Saving the Aral Sea
Regional Environmental Centre for Central Asia	
Lyudmila Kiktenko	Project Manager
Aksulu Kushanova	Energy Investment Specialist
Rustam Isakhodjaev	Project Specialist
Asel Amit	PR specialist
Oksana Kravtsova	Project Assistant

Annex 3 - Photo report of the expert mission to Sughd in July of this year



Meeting at the Zafarabad District Waterworks



Meter inspection at HNS-2



Meeting of Zafarabad district chairman Ashurzoda Rajab with the head of the WUA. WUA in the NS of GNS-2



Irrigated land



Drilled well in the Zafarabad district



Implications of the lack of access to water for horticulture



Prosperous agriculture with sustainable access to irrigation water



Fixing water allocation points using GPS



A study of irrigation infrastructure