



International Organization for Migration (IOM)
The UN Migration Agency

Project Proposal:

SUSTAINABLE WATER SUPPLY SYSTEM RECOVERY FOR UPSTREAM COMMUNITIES AFFECTED BY THE KAKHOVA DAM BREACH

Project type:	Durable Solutions (DS)
Secondary project type:	Choose secondary project type if applicable
Geographical Coverage:	Pokrov, Dnipropetrovsk Oblast, Ukraine
Executing agency:	International Organization for Migration (IOM)
Beneficiaries:	51,600 Vulnerable populations in the Pokrov community affected by the Kakhovka Dam breach
Partner(s):	Vodokanal, authorities of the Dnipropetrovsk Oblast, local authorities of the Pokrov community
Management site:	Kyiv, CO, UKRAINE
Duration:	12 Months
Budget:	2,000,000 EUR

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Summary

The breach of the Kakhovka Dam on 6 June 2023 led to massive flooding, causing significant infrastructural damage including to essential water, sanitation and heating systems. One of the essential infrastructures that requires prompt and sustainable recovery is the water supply system. The Pokrov community (51,600 people) in the Dnipropetrovsk Oblast is located in the upstream region of the affected area. The breach in the Kakhovka Dam caused a drop in water level and consequently a malfunctioning of the emergency power station, which has not allowed for the water to reach the treatment station serving the Pokrov community. Resolving this issue would require feeding the water treatment plant from an alternative water source, the Bazavluk river, by creating a new pumping station and the technical water pipeline that would link it to the rest of the system. The proposed project therefore aims to contribute to the Pokrov community's improved access to reliable, sufficient, and safe water supply. This project builds on IOM's vast experience and expertise in rehabilitating WASH (water, sanitation, and hygiene) and other critical public infrastructure, including as part of the ongoing Belgium-funded project "*Enhancing resilience and recovery through area-based support in Ukraine*", which focuses on restoring medical and educational facilities.

1. Rationale

In the early hours of 6 June 2023, the wall of the Kakhovka Hydroelectric Dam in Nova Kakhovka in Ukraine's Kherson Oblast collapsed, resulting in massive flooding, directly impacting an estimated 46 settlements across both the right and left bank of the Dnipro river (16 June, IOM DTM), and indirectly impacting significantly more in the upstream communities in the region. The uncontrolled release of water has caused a significant drop of the Kakhovka reservoir and moved waste (as well as mines, unexploded ordnances (UXOs) and explosive remnants of war (ERW)) towards downstream communities. Upstream communities are instead mostly affected by critical loss of access to water, as they were heavily relying on intake from the Kakhovka reservoir. As a result, access to safe, clean drinking water is a severe concern for 212,000 people (25 July, IOM DTM), with waterborne diseases anticipated as a long-term health issue. To address these issues, it is essential to repair critical WASH infrastructure.

2. Project Description

The project intends **to contribute to reliable and sustainable water supply solutions for communities affected by the breach of the Kakhovka dam in Ukraine**. This will be achieved through the following results:

Outcome 1: Populations affected by the Kakhovka Dam breach have improved access to sufficient and safe water services.

Output 1.1: Water supply facilities and services have been restored

Pokrov town, located in Dnipropetrovsk Oblast, is among the severely affected upstream communities. Due to the malfunctioning of the emergency power station (called KP "VUVKG" MMR Vodokanal), the water remaining in the Kakhovka reservoir can no longer reach the water treatment station serving the Pokrov community. As a result, the Pokrov and nearby settlements are left without clean drinking water.

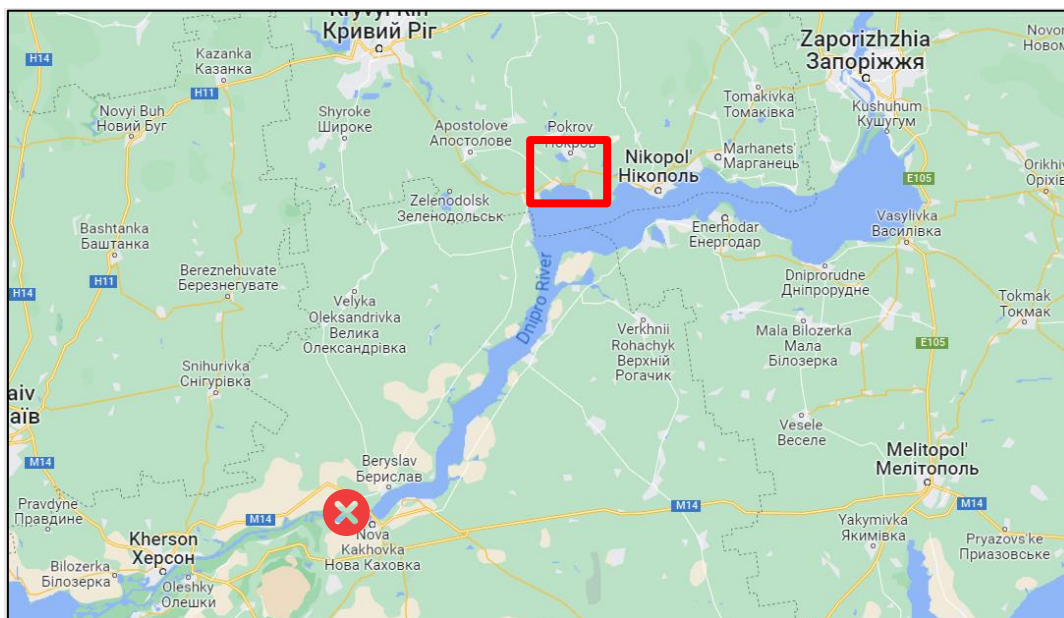


Figure 1 Dnipro River, Kakhovka Dam and upstream

As an interim measure, IOM has assisted local authorities and Vodokanals (the national private/public entity in charge of water, heating, and sewage service provision) by delivering thirty-six containers of drinking water and is refilling them regularly through water trucking. However, as a more sustainable solution and to support full recovery, IOM proposes to feed the water treatment plant from an alternative water source, i.e., the Bazavluk river (Figure 2), located north of Pokrov.

This will be achieved through the installation of a water intake from the Bazavluk river reservoir, the creation of a new pumping station based on two pumps with a 132-kW electric motor, and the construction of a technical water pipeline, composed by two sections of different diameter and a combined length of 2,600 metres, that links the water intake unit to the water treatment facilities managed by the Vodokanal. The water intake unit, pumping station and pipeline have already been designed taking into consideration proper size, material, and alignment with the existing infrastructure. The appropriate location and route for the system have already been selected as well.

The system is also designed to be powered by alternative energy sources (potentially the nuclear power station in Mykolaiv), reducing dependence on the Kakhovka Dam power station on which the town of Pokrov was heavily reliant before the crisis, and by generators and frequency controllers in case of power shortages.

As per current plan, the realization of such works, which will be performed by the Vodokanal with IOM's support in procuring and delivering the materials, will require the purchase of polyethylene pipes of various diameters, lengths and standard dimension ratio, pumps, filters, control cabinets,

valves and latches. The battery of filters of the water treatment plant will also be replaced with new frequency converters as they sustained damage due to the extended downtime (Figure 3).

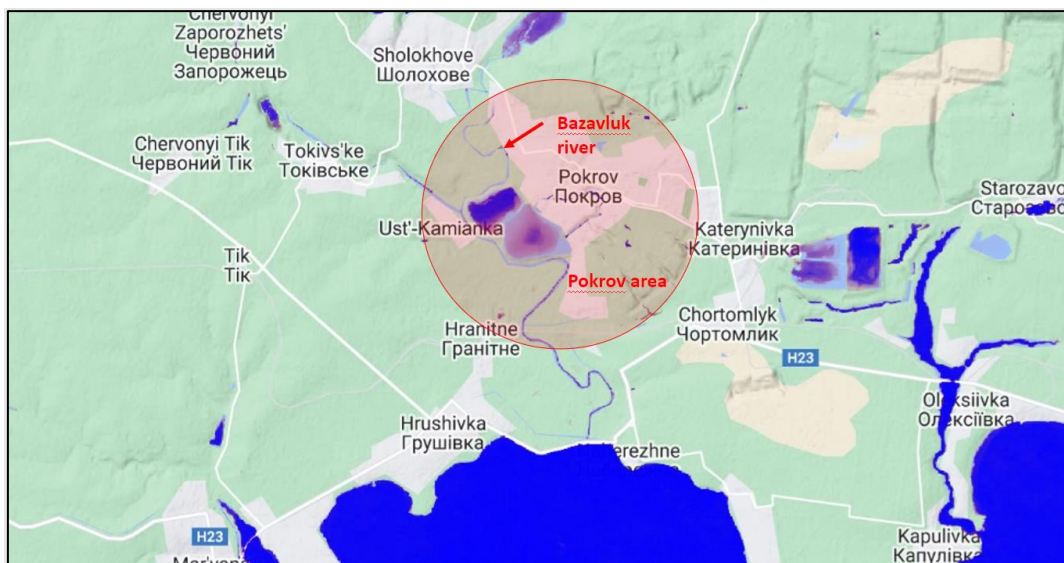


Figure 2 Pokrov and part of Bazavluk river (in dark blue are represented permanent bodies of water)

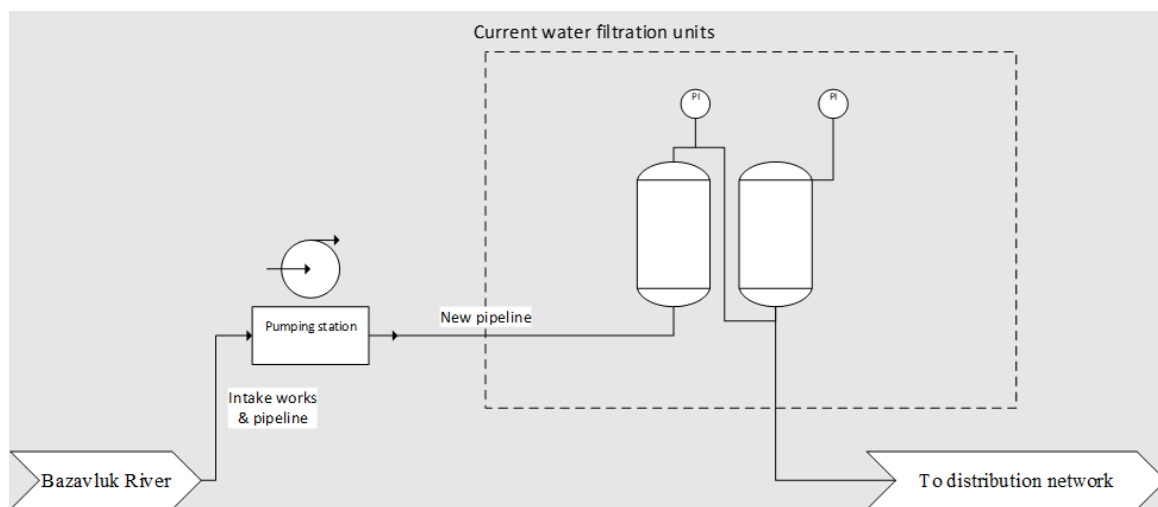


Figure 3 Process scheme for the proposed intervention

The proposed project was developed in consultation with the local authorities, the Vodokanal, and the WASH Cluster. The selection of the intervention location was done in coordination with the WASH Cluster, which has been active since the first moments of the emergency to coordinate WASH assistance to the affected population. The recovery of the water supply system in the Pokrov community, heavily affected by the Kakhovka Dam breach, is expected to benefit around 51,600 people living in the Pokrov town and surrounding settlements.

Activity 1.1.1: Construction of an intake structure

Activity 1.1.2: Installation of a pumping station

Activity 1.1.3: Construction of a technical water pipeline

Activity 1.1.4: Rehabilitation of the current water filtration units at the local water treatment plant

Cross-cutting issues

The implementation will consider environmental impacts during the construction and operational phases to minimize ecological impacts where possible whilst also promoting efficient water management practices within the local stakeholders (Vodokanal and local authorities) moving away from temporary water supply solutions towards an autonomous durable solution.

3. Partnerships and Coordination

Established in 1996, IOM Ukraine has a consolidated footprint across the country and over twenty-five years of experience in implementing humanitarian, recovery, and development programs in the country. Since February 2022, IOM has further expanded its presence and operations. It is among the largest humanitarian and recovery actors operating in Ukraine and, with its expanding team of 675 staff, currently represents around one third of the total United Nations personnel in country.

The availability of in-house technical staff and expertise allows IOM to ensure the highest standards in the reconstruction and rehabilitation of infrastructures and utility supply systems, including complex ones such as hospitals and district water networks. This technical capacity in IOM's team includes architects, civil, electrical and mechanical engineers, site planners, doctors, and legal advisors, in addition to a large pool of seasoned thematic experts managing sectorial programs. Active rehabilitation portfolios in Ukraine already include light, medium and heavy repairs of shelter facilities and social infrastructure such as hospital and schools, the rehabilitation and maintenance of large water supply and wastewater networks, the repair of heating systems and setting up of emergency heating backup systems, as well as capacity building efforts for practitioners and partners.

As an active member of the UN Country Team and the UN Humanitarian Country Team, IOM Ukraine coordinates closely with the relevant clusters including the Shelter/NFI, Camp Coordination and Camp Management (CCCM), WASH, Protection, Logistics, Health, Food Security and Livelihoods clusters, in addition to the Cash Working Group and a number of other specific working groups and task forces across the various thematic areas. Very frequently, IOM is a member of the Strategic Advisory Groups within various clusters and of the Steering Committee on Durable Solutions and leads or co-leads technical working groups.

IOM coordinates closely with the central and local government so that the recovery assistance reaches the most vulnerable. Within this project, IOM will work closely with the local authorities of the Pokrov town and the Vodokanal, with which IOM has entered into an Memorandum of Understanding in mid-2022.

4. Monitoring

The monitoring of this project will be executed according to the procedures and standard tools defined in IOM's Project Handbook and Monitoring and Risk Management Policies. The project will engage a combination of monitoring techniques and methods to track results of qualitative and quantitative nature at all levels of logic. At the output level, the implementation will be monitored through site visits, face-to-face interviews, etc., as permitted by access and security situation. Project results and

activities will be closely monitored by the Project Manager with the help of the independent Monitoring, Evaluation, Accountability and Learning (MEAL) team to ensure the project implementation is on track and that support reaches the intended beneficiaries in a timely and efficient manner. At the output and outcome levels, lessons learned will be collected and integrated into future project activities. IOM will keep the donor informed of the progress and possible challenges throughout project implementation, and report against progress or any challenges during regular reporting. IOM's institutional data protection and data security principles will be upheld throughout data collection and processing activities.

Communication and Visibility

Following the Organization's and Donor's guidelines, IOM will develop and implement a communications and visibility plan to enhance the visibility of the implementation of the project, the achievement of its objectives and to widely promote its impact. This will include information sharing with local and other relevant communities: publicizing the donor's contribution, such as, displaying donor visibility at all appropriate project sites; and communicating on the project and its impact through the IOM online and social media resources as well as through direct media engagement. IOM will engage professional photographers and videographers to ensure high-quality visual content. Clear and stakeholder-specific communication approaches will be developed and implemented, ensuring that all stakeholders of the project receive adequate information and that safeguards are established to avoid any potential harm to individuals or groups. While IOM will actively engage with local stakeholders and beneficiary entities for amplification of the information on the project results and impact, the level of the detail for this public communication could be subject to security concerns and restrictions in place for Ukraine's critical infrastructure during the war.

5. Evaluation

In light of the timeframe of the project, resources are focused on monitoring for adaptation and learning throughout the project implementation period.

6. Results Matrix

	<i>Indicators</i>	<i>Data Source and Collection Method</i>	<i>Baseline</i>	<i>Target</i>	<i>Assumptions</i>
Objective: Contribute to reliable and sustainable water supply solutions in Ukraine					
Outcome 1: Populations affected by the Kakhovka Dam breach have improved access to sufficient and safe water services.	Local authorities consider IOM's WASH recovery interventions contributed to improving access to WASH services at target locations	Key informant interviews with key local stakeholders	No	Yes	The environment and security situation in the area of implementation are conducive to enable the implementation of the project activities.
Output 1.1: Water supply facilities and services have been restored.	# of individuals benefitting from the restored water system	Completion reports, Bill of Quantities (BoQs)	0	51,600 ¹	The water system receives regular maintenance. The population is not forced into (further) displacement. Construction materials and equipment are available on local and/or international markets.

¹ Estimation based on the current population, it may vary if there is further population movements.

					Prices remain relatively stable.
<p>Activities that lead to Output 1.1:</p> <p>1.1.1 Construction of an intake structure</p> <p>1.1.2 Installation of a pumping station</p> <p>1.1.3 Construction of a technical water pipeline</p> <p>1.1.4 Rehabilitation of the current water filtration units at the local water treatment plant</p>					<p>Supply chains remain uninterrupted.</p> <p>Authorities and relevant stakeholders remain committed and supportive of the intervention.</p> <p>Access to targeted communities remains viable.</p>

7. Work Plan

Activity	Responsible Party	Time Frame											
		1	2	3	4	5	6	7	8	9	10	11	12
1.1.1 Construction of an intake structure	IOM												
1.1.2 Installation of a pumping station	IOM												
1.1.3 Construction of a technical water pipeline	IOM												
1.1.4 Rehabilitation of the current water filtration units at the local water treatment plant	IOM												

8. Budget

Please refer to Annex I. Budget