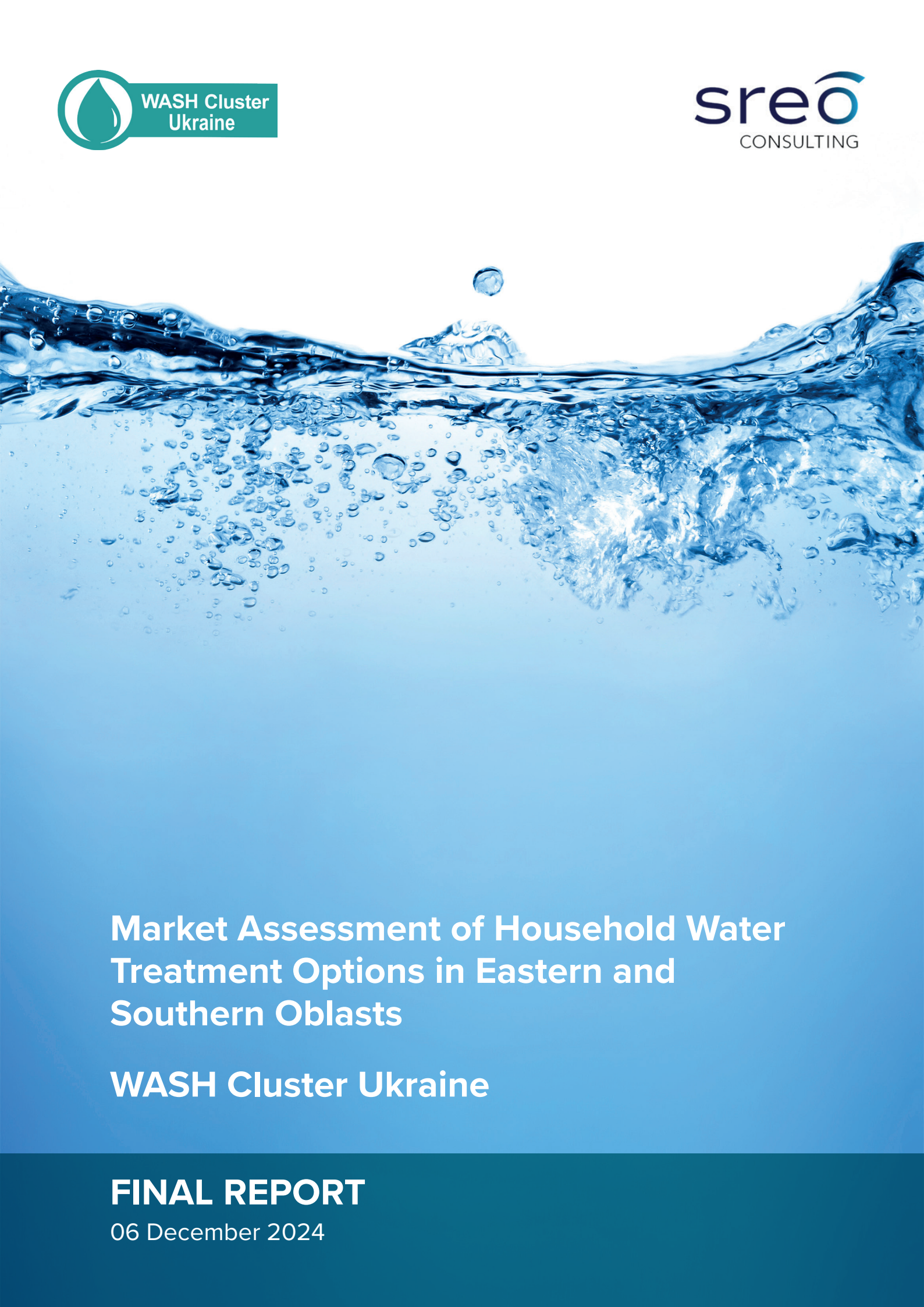




Market Assessment of Household Water Treatment Options in Eastern and Southern Oblasts

WASH Cluster Ukraine

FINAL REPORT

06 December 2024

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SREO takes full responsibility for all omissions and errors in this report.

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LIST OF ACRONYMS

BOQ	Bill of Quantities
FC	Field Coordinator
FR	Field Researcher
HHWT	Household Water Treatment
HRMMU	Human Rights Monitoring Mission in Ukraine
IDP	Internally Displaced Person
KII	Key Informant Interview
MEPNR	Ministry of Environmental Protection and Natural Resources of Ukraine
NEURC	National Energy and Utilities Regulatory Commission
NGO	Non-Government Organisation
OECD	Organisation for Economic Co-operation and Development
SAWRU	State Agency for Water Resources of Ukraine
SDG	Sustainable Development Goal
SIF	Sanitary Inspection Forms
SME	Small and Medium Enterprises
SREO	SREO Consulting Ltd.
PwD	People with Disabilities
UNICEF	United Nations Children's Fund
WFD	Water Framework Directive
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization

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| EXECUTIVE SUMMARY

The 2022 full-scale invasion of Ukraine by Russia has severely impacted access to safe drinking water, especially in the eastern and southern oblasts. The conflict has disrupted the centralized water supply infrastructure, managed by local utility companies, known as Vodokanals. This has led to a greater reliance on alternative water sources, such as water trucking, boreholes, wells and via commercial providers, bottled water and kiosks. In these circumstances, household water treatment (HHWT) solutions play a crucial role in improving water quality when centralized systems are unavailable or compromised.

SREO, commissioned by the WASH Cluster Ukraine, conducted a market assessment to evaluate the availability, acceptability, affordability, demand, and consumer preferences for HHWT products in oblasts and raions near the frontline. The assessment used a mixed-method approach, combining 808 surveys, 28 key informant interviews, 18 store checklists and 20 sanitary inspection forms. This approach provided a comprehensive understanding of both the supply side and the demand side. The assessment aimed to help WASH Cluster partners, manufacturers, distributors, and policy-makers understand market dynamics and identify opportunities to enhance humanitarian efforts. The research examined key commodities and services and assessed the overall functionality of critical market systems, focusing on markets essential for meeting households' basic and recovery needs. The assessment included a wide range of contexts, such as urban and rural areas, and both frontline and non-frontline zones, with an emphasis on equitable gender representation.

Key Findings

Accessibility

- **Water Sources**

- **Tap water is the primary drinking source for 40%** of households, while **20% rely on water kiosks** and **10% use bottled water** as their main source.
- In rural areas, **40% of households depend on private wells** and **12% on public wells**, contrasting with urban areas, where **51% of households rely on tap water**.
- **Water kiosks are the primary source for 52% of respondents in Kharkivska**, while their use is minimal in regions like Odeska and Khersonska.
- **More than 60% of households use alternative or supplementary water sources** occasionally, with particularly high reliance in **Dnipropetrovska (88%), Zaporizka (89%), and Sumska (65%)**.

- **Access to Water**

- **Nearly 90%** of respondents felt that water access was reliable, but older individuals reported this more frequently compared to younger age groups.
- **Over 50% of residents in smaller urban areas** experienced occasional water access interruptions, with **31%** reporting shortages lasting less than 12 hours and **29%** facing disruptions lasting 1 to 3 days—urban areas reported more frequent disruptions than rural areas.
- **Nearly 55% of those living within 20 km of the frontline** experienced drinking water shortages lasting at least one day, with **30%** reporting interruptions between 24 hours and 3 days, highlighting the vulnerability of populations closer to conflict zones.

- **34% of respondents** attributed water disruptions to mechanical or technical issues unrelated to the conflict, while **25%** reported that conflict-related damage was the primary cause, with the highest impact likely in conflict-affected **oblasts near the frontline**.
- **Technologies and Product Availability in Local Markets**
 - **Jug filters (83%), under-the-sink filters (72%), and reverse osmosis units (67%)** were the most commonly available filtration products across the 18 stores surveyed, highlighting strong local availability of these technologies.
 - **Traditional ceramic candle filters were extremely rare, available in only 6% of stores, and ceramic pot filters were not present in any stores**, indicating limited access to traditional filtration methods.
 - **Buckets with both a lid and a tap were found in only 11% of stores**, underscoring the scarcity of proper safe storage solutions for households, despite **73%** of stores carrying basic 20-liter buckets.
- **Locations of Stores and Distributors**
 - **66% of residents in urban areas purchased HHWT products from local stores**, while in rural areas, 15% relied on stores in major cities and 10% bought products online, highlighting urban-rural disparities in access.
 - **Over 70% of jug and faucet-mounted filter users and 65% of reverse osmosis (RO) filter users** reported purchasing their products from local stores, indicating strong local market reliance for HHWT technologies.
 - **In rural areas, one-third of respondents indicated that stores were 10-50 km away**, whereas in urban areas, **over 85%** reported stores within **1-5 km**, reflecting significant differences in product accessibility based on location.
- **Availability of Spare Parts & Consumables**
 - **100% of respondents in rural areas** had to travel to main cities to obtain spare parts, while **75% of urban residents** could find replacements at local stores, highlighting a significant urban-rural disparity in accessibility.
 - **Kharkivska had the highest percentage of HHWT users needing spare parts (40%)**, correlating with the fact that **57% of HHWT users** there chose filters, particularly **jug/pitcher systems (55%)**, which require frequent replacements.
 - **50% of respondents living closer to the frontline** obtained consumables online, contrasting with other regions where local stores were the primary source, underscoring the impact of conflict proximity on access to HHWT supplies.
- **Imported vs. Local Production**
 - **Most HHWT products in the Ukrainian market are from local brands**, with the public showing a strong preference for domestically produced products over imports from Europe or China, as confirmed by key informant interviews and store checklists.
 - **Ecosoft, based in Irpin, Kyiv Oblast**, manufactures a wide range of water treatment products domestically, though it **imports raw materials from France, Austria, and the U.S.**, reflecting a blend of local production and international sourcing.
 - **Competition from low-cost Chinese imports** poses a significant challenge for national producers, **limiting the market expansion of higher-quality local products** despite their strong domestic presence and consumer trust.

- *Supply Chains*

- **35% of implementers distribute HHWT products without managing spare parts or replacements**, highlighting a significant gap in long-term sustainability and maintenance of water treatment systems.
- **Most companies have detailed data on where and which products are sold in the market**, but **lack information about the final destination** of products sold to government institutions or humanitarian agencies, complicating supply chain management for spare parts.
- **Distribution channels range from large retailers like Epicenter to small local shops in both urban and rural areas**, ensuring broad product availability, though **logistics and safety challenges significantly increase production and importation costs**.

- *Demand Creation Initiatives*

- **55% of humanitarian organizations and HHWT implementers conduct needs assessments** before selecting technologies and engaging end users, indicating that nearly half may proceed without fully evaluating community-specific needs.
- **Ecosoft has developed a dedicated YouTube channel** and invests heavily in international promotion by **attending conferences and fairs**, showcasing a proactive approach to expanding brand awareness both locally and globally.
- **Customer engagement channels include 24/7 support via WhatsApp and Instagram**, as well as **direct field visits to assess customer satisfaction**, highlighting the emphasis on real-time feedback and user-centered product development among manufacturers and distributors.

- *War Impacts*

- **Conflict-related damage to water sources accounts for 25% of drinking water shortages**, with the highest impacts reported in **Kherson (60%), Donetsk (50%), and Sumy (39%)**, indicating severe regional disparities due to the conflict.
- In areas closer to the frontlines, **45% of respondents reported that the conflict directly disrupted their access to drinking water**, while **30% experienced shortages of products and spare parts**, highlighting the compounded effects of conflict on both water access and supply chains.
- **45% of implementers identified the disruption of local markets and supply chains** as the most significant challenge in distributing HHWT products, followed by **30% citing transportation difficulties** due to both safety concerns and logistical issues like rising fuel costs.

Acceptability

- *Perception of Water Contamination*

- **Nearly 80% of households believe their drinking water is at least “fair to drink,”** but **only 49%** of those living within 20 km of the frontline perceive their water quality as fair, compared to **89.2%** of those living more than 50 km away, highlighting the significant impact of conflict proximity on water quality perception.
- **Women are 5% more likely than men to believe their water is safe to drink**, while **rural households report higher satisfaction (87.4%)** with their water quality compared to **81.2% in oblast centers**, likely due to greater reliance on trusted private wells in rural areas.
- **Over 90% of rural residents concerned about water quality cited unpleasant taste**, with similar concerns in **93.9% of urban households** outside oblast centers, suggesting widespread dissatisfaction with water taste across both rural and urban populations.

- **User Preferences**

- Zaporizska Oblast reported the highest percentage of households treating their water, with **over 25% of respondents** confirming this practice, while Khersonska reported **zero households** treating their water, highlighting stark regional differences in water treatment behaviors.
- In Khersonska, **75% of respondents** cited financial limitations as the main reason for not treating their water, highlighting significant affordability challenges in conflict-affected regions.
- **Nearly two-thirds of households do not treat their water**, despite concerns about its taste, odor, and clarity, showing a gap between water quality perceptions and treatment practices.
- **Jug filters are preferred by almost 70% of people over 60**, while **half of those closer to the frontline prefer reverse osmosis (RO) systems**, indicating clear age and conflict-related preferences in water treatment methods.

- **Social & cultural aspects from different target groups (urban vs. rural vs. IDPs)**

- **65% of HHWT users would recommend their system to others**, with **80% of filtration unit users** more likely to recommend compared to **61% of those who boil water** and **32% of those who settle water**, highlighting a significant preference for filtration over traditional methods.
- **Individuals over 60 and those living closer to the frontline expressed less confidence in HHWT products**, with **75% still finding them effective**, which, while positive, reflects a **lower trust level** compared to the average.
- **15% of users of countertop and under-sink filters reported difficulties in use and maintenance**, indicating that despite high satisfaction levels overall, certain technologies present usability challenges.

- **Accessibility to Information on Water Quality and Product Availability**

- **58.3% of respondents reported not receiving any information about their drinking water quality**, with this issue being particularly severe in **Sumska (91%) and Zaporizka (76%) oblasts**, highlighting a significant information gap in these regions.
- **Over 70% of individuals who boil their water were unaware of their water quality**, indicating that users of traditional methods are the least informed about water safety, compared to **64.3% of those practicing water settling** and **63.8% of jug filter users**.
- **Only 1.7% of respondents received water quality information from health authorities**, despite their responsibility for public health surveillance, reflecting a significant disconnect between health services and public awareness efforts.

Affordability

- **End User Willingness to Pay for HHWT Products**

- **50% of women were willing to invest in HHWT products**, compared to only **15% of men**, with **37% of men uncertain** about their willingness to pay, highlighting a significant gender gap in investment readiness.
- **60% of individuals under 60 expressed a willingness to pay for HHWT products**, while **over 60% of those aged 60 and above were uncertain**, reflecting an age-based divide in financial confidence regarding water treatment technologies.
- **50% of respondents living farther from the frontline cited unaffordability** as a barrier to investing in HHWT products, underscoring the economic challenges faced by those in **less conflict-affected but financially strained areas**.

- **End User Capacity to Pay for HHWT Products and Consumables**
 - **92% of respondents reported spending between 101-200 UAH** on spare parts and consumables, indicating a common expenditure range for maintaining HHWT systems.
 - **Households spend an average of 2% of their monthly income** on spare parts or consumables for HHWT systems, a cost generally considered **reasonable given the long lifespan** of most filtration units.
 - **Most users estimated their expenditure on filter replacements at around 500 UAH**, which exceeds the actual market prices observed during store visits, revealing a **gap between perceived and actual costs**.
- **Perception of HHWT Product Affordability**
 - **60% of respondents found HHWT products quite affordable**, while **27% considered them very affordable**, aligning with the fact that **households spend an average of 3% of their total income** on these products.
 - **In Zaporiska Oblast, 91% of respondents noticed price hikes**, indicating significant regional disparities in affordability, particularly in conflict-affected areas.
 - **Over half of the respondents closer to the frontline still considered HHWT products and replacements quite affordable**, though this perception is largely influenced by the **free distribution of products in conflict zones**, emphasizing the crucial role of humanitarian aid in these regions.
- **War Impacts**
 - **39% of respondents reported price increases** for HHWT products since the conflict began, with the impact most pronounced in urban areas (53%).
 - **In Zaporiska Oblast, 91% of respondents noticed price hikes**, making it the region most affected by rising HHWT product costs.
 - **People living 20-50 kilometers from the frontline reported the highest increases** in product prices, indicating a strong correlation between proximity to conflict zones and affordability challenges.

Enabling Environment for HHWT

- **Overall Challenges for HHWT Implementation:**
 - **The lack of locally trained staff** in basic WASH implementation and behavior-based communication is a key challenge, directly impacting the effectiveness of HHWT programs in Ukraine.
 - **Careful selection of intervention communities** is crucial, as HHWT is **most impactful in vulnerable populations** where water safety risks are highest, emphasizing the need for targeted approaches.
 - **HHWT provides a quicker and more cost-effective solution** compared to infrastructure rehabilitation or water trucking, particularly for **conflict-affected or high-risk areas**, and can act as a **critical safeguard** even when larger interventions are underway.
- **Regulations and certifications for HHWT:**
 - **The State Service of Ukraine on Food Safety and Consumer Protection is the primary authority responsible for certifying HHWT products** in Ukraine, ensuring that locally produced technologies meet national quality standards.

- **International HHWT products** may enter the Ukrainian market with **certifications from their country of origin**, but this does not guarantee alignment with local verification processes.
- **Both humanitarian actors and manufacturers are largely unaware of or not prioritizing the WHO Scheme for HHWT products**, indicating a significant gap in leveraging international standards for product performance and quality assurance.
- **Key stakeholders:**
 - **80% of humanitarian organizations participate in the WASH cluster**, reflecting strong engagement in coordinated water treatment efforts.
 - **Out of five private companies interviewed, only two were WASH cluster members**, and just **one actively participated** in both national and subnational clusters, highlighting limited private sector integration in humanitarian coordination mechanisms.
 - **60% of organizations reach out to WASH cluster staff** when needing specific information, indicating that the cluster serves as a crucial resource hub for humanitarian water treatment initiatives.
- **Water quality surveillance:**
 - **60% of organizations collect water samples at the source, but none conduct testing after HHWT technologies are applied**, highlighting a significant gap in assessing the actual effectiveness of household water treatment interventions.
 - **Enforcement of household-level water quality regulations is particularly challenging in front-line and rural areas**, despite the **State Service of Ukraine on Food Safety and Consumer Protection** being responsible for this oversight.
 - **Water quality testing by NGOs is typically limited to the start and end of projects**, with most relying on **utility companies (Vodokanals) and municipalities** for ongoing testing, revealing limited continuous monitoring in HHWT programs.
- **How humanitarian response may affect market dynamics:**
 - **Some manufacturers report decreased demand due to the free distribution of water treatment technologies by NGOs**, suggesting potential disruptions in urban markets or among economically capable users.
 - **Products distributed by humanitarian organizations differ from those in local markets** and are intended as **temporary solutions** to urgent water quality issues, emphasizing the **short-term nature** of these interventions compared to market offerings.
- **Presence of innovative market-based approaches:**
 - **No innovative market-based approaches or microfinance mechanisms** for accessing HHWT products were identified in Ukraine, reflecting the dominant focus on emergency assistance due to the ongoing conflict.

Recommendations and Program Actions

- **Recommended Direct ‘Household-Level’ Interventions for WASH Partners**
 - **WASH partners should prioritize technical effectiveness when selecting HHWT systems**, considering contaminant removal, product durability, spare parts availability, and total cost of ownership, including logistics and long-term maintenance, to ensure sustainability.

- **Training local communities on the operation and maintenance of HHWT systems** will promote self-sufficiency, reduce reliance on external support, and minimize the need for humanitarian interventions like water trucking, especially in remote areas.
- **Select HHWT technologies based on the population's ability to maintain them long-term**, factoring in the affordability and availability of spare parts. Avoid free distribution where possible to foster a sense of ownership and consistent product use.
- **Implement small-scale pilot projects to test HHWT technologies** in conflict zones or high-demand urban areas, while exploring micro-credit schemes and vouchers to overcome financial barriers and encourage long-term adoption.
- **Assess the feasibility of reverse osmosis systems**, considering their maintenance needs and electricity dependence, particularly in areas with frequent power outages, and compare them to alternative water sources.
- **Incorporate regular water quality testing into HHWT programs** to demonstrate the benefits of treated water, enhance user adoption, and foster accountability by sharing results with WASH Cluster partners and local authorities.
- **Recommended Demand and Market-Based Interventions for WASH Partners**
 - **Ensure spare parts and consumables are available locally** before deploying HHWT technologies, limiting exceptions to urgent, short-term interventions focused on immediate access to safe water.
 - **Consider the availability and logistics of imported HHWT products**, ensuring local distributors and spare parts are accessible, with instructions in the local language, and prioritize durable, high-quality products.
 - **Select HHWT products based on verified technical data**, supported by independent studies, and advocate for transparency from suppliers by requesting certifications and lab results to improve product trust and selection.
 - **Encourage private sector transparency** by sharing information on sales agents, distributors, and available products with WASH Cluster members, while the Cluster acts as a neutral intermediary to prevent conflicts of interest.
 - **Collaborate with the private sector to implement targeted subsidies** in low-capacity, high-vulnerability areas, improve access to spare parts, and balance support to promote equitable, sustainable HHWT use.
- **Recommended Actions for the WASH Cluster Coordination Unit [Inter-Sector and Authority Focused Recommendations]**
 - **Map groundwater sources at the Hromada level to identify contamination risks** and guide communities to safer water options, while strengthening local water quality monitoring through simplified tools like Sanitary Inspection Forms (SIFs).
 - **Establish strict quality control measures for HHWT products and spare parts** through legislation, while collaborating with health authorities to improve monitoring protocols and ensure product safety and public health.

- **Intensify awareness campaigns to increase demand for HHWT**, especially among vulnerable groups in frontline areas, by coordinating with local health authorities and integrating health representatives into WASH Cluster activities.
- **Adopt a multidisciplinary approach to promote legislative developments for HHWT**, collaborating with WHO and national institutions to strengthen certification processes, build trust in product quality, and foster widespread adoption through training, guidelines, and public awareness campaigns.
- **Establish a technical working group focused on HHWT at the sub-national level**, enhancing the capacity of cluster members, government institutions, and private sector actors through knowledge-sharing and fostering private sector engagement aligned with business interests.

1 | INTRODUCTION

1.1 | Description of Intervention and Context

In light of the full-scale invasion of Ukraine by Russia, over 3.3 million people are internally displaced¹. Since the start of the year 2024, hostilities in front-line and border communities, especially in Donetsk, Kharkivska, Khersonska and Sumyska oblasts, drove further displacement of civilians in search of safety and protection. Strikes on critical infrastructure led to major disruptions of essential services such as electricity, water, and gas for hundreds of thousands of people.

The humanitarian situation in Ukraine deteriorated throughout April and new displacements were reported in the northern hromadas of Kharkivska Oblast in April and May 2024, mainly as a result of a ground offensive launched by the Russian Armed Forces. Waves of attacks on energy infrastructure affected access to essential services, with longer-term implications anticipated. In April and May, the United Nations Human Rights Monitoring Mission in Ukraine (HRMMU) documented over 70 attacks on energy infrastructure, disrupting power and water supply. Recent attacks and displacements in Sumy and Donetsk in the past months have increased the demand for humanitarian assistance in these territories.

Before the crisis, in 2021, the World Bank projected that over 10 million Ukrainians lacked access to safely managed water services², while more than 20 million lacked access to centralized wastewater collection and treatment services. The conflict has significantly worsened access to safe drinking water, especially in the eastern and southern oblasts, the hardest-hit regions. As a result, ensuring access to clean water remains a critical public health issue. Some of the primary challenges in providing safe drinking water to Ukrainians include:

- Damage to the existing water infrastructure
- Lack of maintenance of current infrastructure due to safety issues and the poor state of water systems, as most of the national water infrastructure was built over 50 years ago.
- Pollution of surface and groundwater, not only from the conflict but also due to industrial and agricultural contaminants, coupled with limited wastewater treatment capacity.
- A significant portion of households rely on unreliable alternative water sources, such as shallow wells, with 11% of respondents using these wells as their primary source of drinking water, and 10% turning to them as an alternative. Additionally, public wells serve as a common alternative water source for 20% of households.
- Poor storage practices at household level.
- Shortage of trained staff to maintain water infrastructure, conduct health promotion campaigns, etc.
- Shortage of consumables, such as chlorine
- Lack of financial resources

The prevalent barriers to accessing safe water are evident in the primary sources utilized by the overall population. According to the Multi-Sector Needs Assessment (MSNA) data³ collected between June and August 2023, the average percentage of households by primary drinking water source is as follows:

¹ IOM Displacement Tracking Matrix, Ukraine, June 2024.

² JMP, WHO/UNICEF, 2020.

³ Multi Sector Needs Assessment (MSNA), June-August 2023, https://experience.arcgis.com/experience/42b0a96171744b7394db394587f1d400/page/Water_Totals_MSNA_MAP_most-popular-type-of-primary-drinking-water-source/

- Borehole & Well – Private access (48%)
- Borehole & Well – Shared access (8%)
- Open uncovered well (4%)
- Piped water in HH (41%)
- Bottled water (13%)
- Water kiosk (6%)
- Public tap standpipe (3%)
- Trucked water – By municipality (3%)

Overall, 75% of individuals express confidence in the safety of their drinking water, likely influenced by previous experiences with highly chlorinated piped water. However, it is important to highlight that this sense of water safety decreases significantly in the Eastern and Southern oblasts, which are the focus of this study, underscoring regional disparities. The table below provides examples of water quality perceptions in these areas:

Table 1. Water Quality Perception in Eastern and Southern Oblasts

Oblast	Raion	% population considers water is not safe (all the time)
Dnipropetrovska	Kryvorizkyi	50
Khersonska	Beryslavskyi	55
Mykolaivska	Bashtanskyi	44
Odeska	Bilhorod-Dnistrovskyi	44

These disparities are even more evident among **Internally Displaced Persons (IDPs)**, who primarily source their water from piped systems, though nearly one-third depend on bottled water. Their confidence in the safety of their water is lower, with 23% expressing concerns about its quality for drinking⁴.

Another demographic group worth highlighting is the **returnees**, who show similar patterns of water source access to IDPs, primarily depending on piped water and private boreholes. However, commercially purchased bottled water makes up a significant portion of their safe water access, accounting for one-fourth of their sources. Notably, this group demonstrates the highest level of skepticism about water quality, with only 58% confident in the safety of their water without treatment⁵. Amidst this intricate backdrop, Household Water Treatment (HHWT) emerges as an indispensable intervention to ensure water safety at the point of consumption, a recognized imperative by global entities like the World Health Organization (WHO). In Ukraine, traditional methods such as boiling or settling have long been relied upon for household water treatment, garnering widespread trust among the population. Boiling, in particular, stands out as a preferred treatment option, accounting for 15% of overall preferences and nearly a quarter among IDPs or returnees. In addition to these customary practices, the country has witnessed a surge in the availability of HHWT products in recent years, facilitated through two primary channels. Firstly, commercial outlets, both physical and online, offer a diverse array of

⁴ Multi Sector Needs Assessment (MSNA), June-August 2023, https://experience.arcgis.com/experience/42b0a96171744b7394db394587f1d400/page/Water_IDP_MSNA_%25-of-people-who-consider-their-main-water-source-safe-to-drink-without-treatment/

⁵ Multi Sector Needs Assessment (MSNA), June-August 2023, https://experience.arcgis.com/experience/42b0a96171744b7394db394587f1d400/page/Water_Returness_MSNA_%25-of-people-who-consider-their-main-water-source-safe-to-drink-without-treatment/

filtering technologies catering to various capacities and price points, predominantly targeting urban areas due to a higher willingness and ability to pay, lower confidence in municipal water quality, and greater market accessibility. Urban populations often have higher disposable incomes and concerns about aging infrastructure or contamination, driving demand for filtration solutions. Additionally, urban areas offer a concentrated customer base with easy access to both physical and online retail options. Secondly, humanitarian efforts in response to the conflict have also played a pivotal role, with NGOs, governments, and other institutions distributing HHWT products as part of hygiene kits or implementing dedicated programs to address the challenge of safe drinking water access, particularly among conflict-affected populations and in rural regions.

1.2 | Making the Case for HHWT in the Current Ukrainian Context

Household Water Treatment (HHWT), also known as point-of-use (PoU) water treatment or water treatment with alternative technologies, refers to the methods and technologies used on a small scale to improve drinking water quality. These methods may include sedimentation, filtration, or disinfection. Depending on the level of contamination in the water source and the desired quality of the final drinking water, these treatment processes can be applied independently or in combination as part of a multi-stage process. Various technologies or devices may address one or more of these steps. HHWT solutions are typically simple and affordable, making them suitable for application at the household level or on a small scale in settings such as health facilities, schools, or housing compounds. The flexibility of HHWT technologies allows for tailored approaches based on the specific water quality challenges present in different regions or households.

Household water treatment generally encompasses both the treatment process and the safe storage of treated water, which is why it is sometimes referred to as Household Water Treatment and Safe Storage (HWTSS). However, while this study acknowledges the crucial role safe storage plays in ensuring safe drinking water for end users, the term HHWT will be used throughout, as the focus here is specifically on the products and practices related to the treatment process. As defined by the World Health Organisation (WHO):

“HHWT is an important public health intervention to improve drinking water quality and reduce diarrhoeal diseases, especially for those who rely on unimproved water sources and, in some cases, unsafe or unreliable distribution systems. In addition, the need for safe water is an immediate priority in emergencies and HHWT can be an effective solution in emergency response interventions.”

The escalation of the conflict in Ukraine has severely disrupted the centralized water supply infrastructure, managed by utility companies known as Vodokanal. This, combined with increased risks in purchasing goods and products, including bottled water, has led to greater reliance on alternative water sources such as tanker trucks, kiosks, wells, and even surface water. In these situations, household water treatment (HHWT) solutions can play a critical role in improving water quality, especially when access to a water system is limited, treatment is insufficient or absent, or there are significant risks in the distribution network or storage tanks. These solutions ensure water quality is treated and improved at the point of consumption, reducing the risk of contamination.

HHWT options also serve as a valuable intervention when alternative or supplementary water sources, such as boreholes or hand-dug wells, are used. These methods enable households to utilize water sources closer to home, even if the initial water quality is inadequate. Treating water at the point of consumption not only improves its quality but also reduces the time spent on transporting water, thereby minimizing safety risks associated with the ongoing conflict. A study by Rufener S. et

al. (2010) highlights that HHWT empowers affected populations to manage their own water supply in case of any issues affecting its quality. This makes it an essential resilience tool, particularly for the population of Ukraine, especially in rural communities or those near the front lines, where access is more challenging.

Proper, regular, sustained use of HHWT options

For Household Water Treatment (HHWT) interventions to successfully improve drinking water quality and reduce the risk of water-borne diseases, three essential conditions must be fulfilled regarding their implementation and use:

- **Proper utilization:** Ensuring the appropriate HHWT system is selected for the specific water source and used according to the manufacturer's guidelines for both operation and maintenance.
- **Consistent application:** Regularly applying the HHWT technology to provide safe drinking water for all family members at all times, ensuring no untreated water is consumed. For example, children should bring treated water to school.
- **Sustained use:** Continuously using the HHWT system over time, with reliable access to necessary consumables, spare parts, or replacements as needed.

It is crucial to emphasize that, even if a HHWT technology meets specific criteria, it may not have a meaningful impact unless it can adequately treat water to meet drinking water quality standards. For this reason, a multi-barrier approach that includes all necessary treatment stages is recommended. Alternatively, technologies should be carefully selected to target the specific contaminants present, ensuring the water is of safe quality. For example, in cases of high salt concentrations, chlorination alone will be insufficient, and a reverse osmosis step would need to be implemented beforehand.

Therefore, even though the overall aim of this study is to assess market dynamics related to HHWT products and spare parts, the study also takes into account the importance of these three factors to achieve a sustained improvement of water quality.

1.3 | Assessment Scope and Objectives

The market assessment aims to examine the availability, acceptability, affordability, demand, and consumer preferences for household water treatment products across oblasts and raions adjacent to the frontline in Ukraine. The insights gained from this assessment will assist WASH Cluster partners, as well as manufacturers, distributors, and policymakers, in comprehending market dynamics and identifying potential areas of enhancement for safe water provision at the household and market level.

As such, the specific objectives are:

- To increase the effectiveness and efficiency of programme responses by promoting market-based approaches and boosting the local economy;
- To strengthen interventions by identifying new avenues to support existing market systems and structures; and
- To limit the risk of interventions causing a negative effect to communities and local markets.

The research design encompasses an examination of key commodities and services available, along with an assessment of the overall functionality of essential market systems. The focus of the market

assessment centres on markets pivotal for meeting households' immediate and long-term needs. To this end, market definitions by product for household-level water treatment systems are considered in the present report.

In this study, we present a proposed classification of the various options available in the country, as outlined in the table below. The products and brands listed serve as examples within each category. This classification is designed to categorize products based on their usage, capacity, and typical target groups. Annex 7 provides a comprehensive list of products and technologies currently available in Ukraine, compiled through household interviews, key informant interviews, and store checklists.

Table 2. List of HHWT Products and Technologies Currently Available in Ukraine

Type of option	Description	Type of treatment	Examples	Type of intervention
Treated Water Delivery	Pre-treated potable water which is delivered	Chlorinated water, or water treated using other disinfecting techniques such as ozonisation.	Bottled water (store-bought or delivered) Water trucking Community water points or kiosks	Market-based Humanitarian Public service
Traditional Treatment Practices /Behaviours	Traditional treatment methods not requiring specific water treatment equipment	Boiling Settling Cloth filter Solar disinfection Plant-based coagulation	Boiling- disinfecting water by applying heat. Cloth filter- pre-filtration technique to remove suspended solids Settling- removes suspended solids through gravity Solar disinfection- use UV rays to inactive pathogens Plant-based coagulation – removes turbidity and suspended solids	Traditional practices that can be integrated into humanitarian and emergency response efforts by NGOs or authorities.
Basic Point of Use (PoU) Treatment Technologies	Point-of-use treatment systems that are simple to use and generally consist of a built-in filter. Water treatment devices or products designed for low-cost water treatment, that normally don't require electricity and are designed for treating water in batches. In some cases used mainly for organoleptic purposes (improve taste and odour).	Jug filter/Pitcher treatment systems often using activated carbon cartridges. Some options feature a ceramic candle treated with colloidal silver. Water bottles often incorporate a hollow fiber microfilter. Ceramic candle/pot: The most common design includes a ceramic filter combined with activated carbon and colloidal silver. Membrane filters: Pore size, shape, and filtration capacity vary across different models and brands. Chlorine: Available as NaDCC or HClO in liquid, tablet, or granular form. P&G sachets: Contain a coagulant (iron sulfate) and chlorine for disinfection.	Jugs: Brita, ECOSOFT Water bottle (with filter): Brita, Aquaphor, Lifestraw Ceramic candle filters: Nazava Tulip, Katadyn Ceramic pot filters: SPOUTS Water Purifaaya Filter Membrane filtration: Lifestraw, ORISA Chlorine (liquid, tablets): commercial bleach, Aquatabs Flocculation & disinfection sachets: Purifier of Water (P&G)	Market Market-based Humanitarian-based

Type of option	Description	Type of treatment	Examples	Type of intervention
Installed Point-of-use Treatment Systems - Countertop (CT) - Under-the-Sink (UTS) - Faucet Mount (FM)	CT: These can be either placed on kitchen counters or wall-mounted. These products may be selected to improve water safety, but also for organoleptic purposes (improve taste and odour) UTS: Typically located under kitchen sinks without cluttering the kitchen counter. These products may be selected to improve water safety, but also for organoleptic purposes (improve taste and odour) Faucet: Compact, inexpensive, and easy-to-install filters attached to faucets. These products may be selected to improve water safety, but also for organoleptic purposes (improve taste and odour)	activated carbon cartridges Membrane filtration Reverse Osmosis (RO) UV disinfection (more expensive) Selection depends on capacities required and treatment focus (chlorine, odours, organic / microbiological contaminants, reducing heavy metals and hardness, etc.) whereby selection may be a combination / larger filters / multi-stage filtration (e.g. combining RO, carbon filters, ion exchange, and ultrafiltration membranes).	Aquaphor Amway BTW Ecosoft	Market-based Humanitarian (notably RO Systems)

***Note:** Assuming proper storage and handling practices are in place, particularly for trucked water and water from kiosks, where some form of transportation is needed to deliver the water to the household.

It is important to emphasize that this study does not evaluate the effectiveness of the options in improving water quality. The brands mentioned are included solely for analytical purposes and do not imply any commercial endorsement or promotional intent. Furthermore, the market assessment considers the following key aspects:

Table 3. Key Aspects of the Market Assessment

Water quality	This encompasses user perceptions of water safety, storage and handling practices, and the use of conducting Sanitary Inspection Forms (SIP) to qualitatively assess water risks. It also includes the analysis of water quality results provided by stakeholders engaged in this study.
Markets	Identification of affected market actors, supply chains, and marketing channels linked to the water treatment sector
Key stakeholders	Analysis of key stakeholders involved in providing safe drinking water to the affected population, including regulators, governments, utilities, NGOs, manufacturers, local distributors, etc.
Behavioral and socio-cultural factors	Exploration of socio-cultural factors influencing the adoption or avoidance of available HHWT across different target groups,
Knowledge and skills	Exploration of end-user access to HHWT information , and assessment of knowledge and skills related to the distribution and implementation of HHWT amongst key stakeholders, including affected communities

The market assessment focuses on identifying the strengths, needs, and vulnerabilities of conflict-affected households in the eastern and southern oblasts in relation to HHWT. It covers various contexts, including urban and rural areas, as well as frontline and non-frontline zones, with a concerted effort to ensure gender representation.

The findings from this research will support WASH Cluster coordination, strategy development, advocacy, communication strategies, demand generation, and field-level decision-making for WASH implementing agencies.

2 | METHODOLOGY

2.1 | Assessment Approach

For this research, the approach was grounded in the Minimum Standard for Market Analysis (MISMA). Market analysis should be part of the response analysis irrespective of the envisioned response modality. The MISMA is applicable to market analysis exercises informing responses that address needs in various sectors. The market analysis is an essential component of situation analysis and should inform responses across sectors and delivery modalities. It is also a critical element of contingency planning and preparedness. The main objectives of the market analysis are three-fold:

- To limit the risk of interventions causing a negative effect on local markets;
- To increase the effectiveness and efficiency of programme responses by promoting dignity and boosting the local economy; and
- To strengthen interventions by identifying new avenues to support existing market systems and structures.

Table 4. Types and Sources of Information Required for MISMA

Type of information	Specific information requirements	Potential sources
Pre-existing country-specific contextual information		
Data on the context	Resources on the general political economy, economic structure and outlook, to better understand the broader picture, including pre-crisis market trends.	Papers from various agencies, e.g. globally publicly available sources such as the Economist Intelligence Unit, nationally available sources from government or private actors, including Bureaux of Commerce
Economic data	Supply sources, quantities, prices.	Government or private actors, national statistics, commodity indexes
Pre-existing market information	Market mapping and market functionality.	National statistics agencies, inter- governmental agencies, private commodity information sources, UN, NGO or other marketplace monitoring products (e.g. Pre-Crisis Market Map and Assessment or PCMA carried out in non- crisis situations)
Current situational information available		
Impact of the crisis on context	The type and scale of the crisis; damage to infrastructure, services and existing livelihoods.	Situational reports, logistics assessments, consultations with sector specialists and logistics departments.
Impact of the crisis on markets	The main impediments that block trade, and the markets that support livelihoods; financial services, telecoms services, or other critical business services existing; the extent to which they have been affected and their capacity to recover.	Logistics assessments,18 consultations with sector specialists and logistics department, other agencies, private sector contacts.
Needs assessments/ gap analysis	The way people meet a particular need before and after the crisis; change in access to that good/service and rationale for that change; necessity to pay for that need and, if appropriate, price; Willingness to pay for that need now.	Previous PCMA, Household Economy Assessment (HEA) oUnderome analysis, UN Disasters Assessment and Coordination (UNDAC) assessments.
Other planned interventions	Other organisations' market assessments and responses.	Cluster meetings, situation reports.

SREO ensured that there was a logical sequence between market analysis objectives, the key analytical questions and the type of actions to be informed by the assessment. This formed the analytical

scope of the exercise. Once the analytical scope was set, SREO then considered the geographical scope. The latter included the identification of marketplaces and key market actors to be included.

- Identify how market analysis will support the WASH Cluster programme-related decisions.
- Determine the key questions or issues that could influence the WASH Cluster programme-related decisions that should be addressed through market analysis. For example:
 - What are the HHWT practices and products available and used in Ukraine in the current context?
 - What is the accessibility, affordability and acceptability of those practices and products?
 - What are the main barriers & challenges for ensuring proper, regular and sustained use of HHWT products?
 - How strong are local markets and supply chains of HHWT compared to humanitarian response?
 - How is the war affecting users' perception on water quality, acceptance of HHWT and local availability and affordability of products and services?
- Identify which critical market linkages and market actors have been affected by the war.
- Focus on the key market actors, linkages and relationships that are crucial to the vulnerable households' needs, whether directly or indirectly.
- Delineate the geographical scope of the assessment to include the hromadas and market actors directly affected by the war, as well as those that will be critical for market recovery.
- Ensure the scope of the market assessment is inclusive of all the different groups that the WASH Cluster would want to target.

2.2 | Data Collection Methods

The following table summarizes the data sources selected and the rationale behind their use:

Table 5. Data Sources and Rationale

Data sources	Rationale
Desk review	Provides foundational information about the context, sectors/sub-sectors and key issues and challenges relevant to the market assessment, helping to inform the design of the assessment and the data collection tools. It's also important in the development of recommendations and conclusions as the background information is important to triangulate information, avoid biases and address specific challenges in the local contexts.
Household interviews	These are critical to get first-hand information on end users practices, behaviours and perceptions related to HHWT access and use.
Key Informant Interviews	By a selective and in-depth selection of critical sector stakeholders, these interviews are crucial to determine HHWT product availability, distribution and implementation, as well as main barriers and challenges identified for scalable interventions. The interviews are customized based on the type of stakeholders (e.g. HHWT implementer vs. government agency).
Store checklists	Provides in the field information of local availability of HHWT related products and pricing.
Sanitary inspection forms	Provides qualitative information of potential risks of contamination of water sources. These are used as a complimentary data source to the users' perception of water quality and water quality testing results.

Desk Review

The desk review was integral during the market assessment design and data analysis. It provided foundational information about the context, sectors/sub-sectors and key issues and challenges relevant to the market assessment, helping to inform the design of the assessment and the data collection tools. During the desk review, project documents shared by UNICEF also helped the team of researchers to understand the state of current household water treatment options, such as treatment technology of products, respondent targeting and locations, etc. Desk review continued during the data analysis and reporting phases, to help provide additional context, evidence, and nuance around the key findings from the primary data, and to ensure conclusions and recommendations were supported by the broadest evidence base possible. Documents reviewed are included in Annex 4.

Household Surveys

For this market assessment, SREO conducted **808 surveys** in Ukrainian government-controlled areas, with households from Dnipropetrovska, Kharkivska, Donetsk, Zaporizhzhia, Kherson, Mykolaiv, Odessa and Sumska Oblasts. The survey was designed to yield information about respondents' experiences with and perceptions of the water treatment options, suggestions for enhancing their availability, and the impact of the limited access to those options on their lives and livelihoods. See Annex 3 for details on the household survey questions.

The sample plan for this assessment was developed using population data sourced from the UNFPA Common Operational Dataset on Population Statistics (COD-PS) as of July 2023, provided on behalf of the Humanitarian Country Team and included in the population statistics database shared by the WASH Cluster.

The survey aimed for a target sample size of 770, with an additional 5% included for enhanced data quality, totalling **808 surveys**. The following table summarizes the details of surveys conducted:

Table 6. Locations and Respondent Numbers per Area

Region	Total	Oblast	Raion	Rural (25%)	Urban	Total Sample Size	Surveys Collected	%	Males	Females
East	432	Dnipropetrovska	Nikopolski	9	25	34	34	100.00%	16	18
			Krivih Rih	24	72	96	96	100.00%	50	46
		Kharkivska	Kharkiv	45	135	180	180	100.00%	88	92
		Donetsk	Kramatorsk	6	17	23	25	108.70%	10	15
			Pokrovsk	4	12	16	17	106.25%	9	8
		Zaporizhzhia	Zaporizhzhia	21	62	83	83	100.00%	39	44
South	308	Kherson	Khersonski	5	15	20	21	105.00%	10	11
		Mykolaiv	Bashtanka	2	7	9	12	133.33%	9	3
			Mykolaiv	14	41	55	55	100.00%	26	29
		Odessa	Bilhorod-Dnistrovskiyi	5	15	20	20	100.00%	9	11
			Odessa	51	153	204	203	99.51%	87	116
North	68	Sumska	Sumskiyi	14	41	55	55	100.00%	27	28
			Okhtyrskiyi	3	10	13	13	100.00%	5	8
Total	808			203	605	808	814	100.74%	385	429

This total sample size was allocated proportionally based on the population of each raion. SREO prioritized conducting surveys in raions situated **within a distance of less than 20km from the frontline**, as well as those **within a radius of 20-50km from the frontline**. We aimed for an **equal distribution of male and female respondents**, although we ended up having a slightly higher percentage of women interviewed (3%) than men, due to the reduced presence of them due to the conflict. Additionally, the plan was that **25% of surveys were in rural areas within each raion**, which was accomplished.

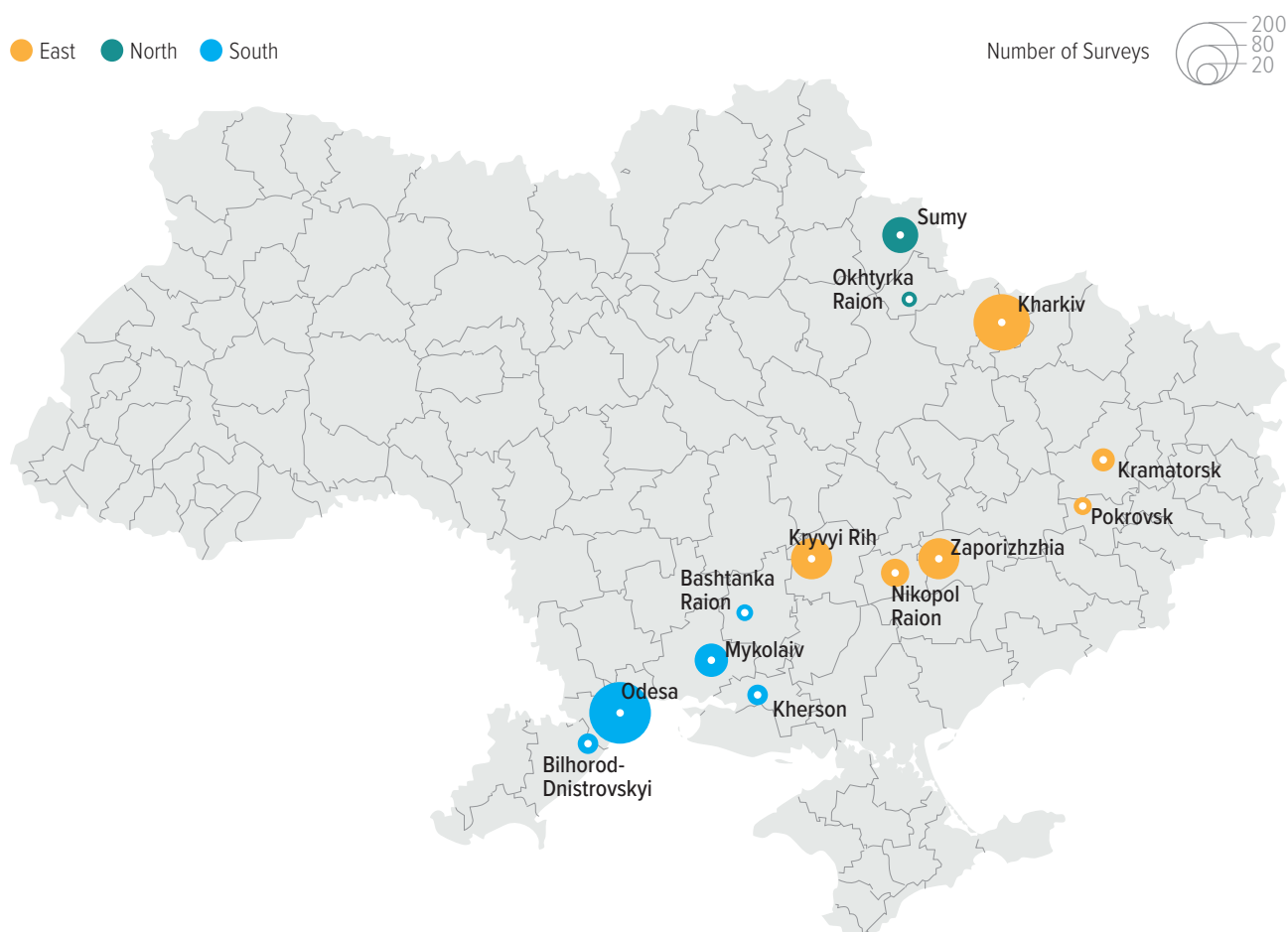
This sample plan was meticulously crafted to ensure precise and representative survey outcomes. It encompassed **808 surveys** across the Eastern, Southern, and Northern Regions, effectively covering the areas targeted by the market assessment. The distribution details are outlined in the accompanying table and visualized in the map below:

Table 7. Regional Total Population in Target Raions

Region	Oblast	Raion	Population	Regional Total Population in Target Raions
East	Dnipropetrovska	Nikopolski	247,134	3,133,475
		Krivih Rih	699,256	
	Kharkivska	Kharkiv	1,302,890	
	Donetsk	Kramatorsk	165,652	
		Pokrovsk	114,050	
	Zaporizhia	Zaporizhia	604,493	
South	Kherson	Khersonski	143,715	2,231,958
	Mykolaiv	Bashtanka	65,455	
		Mykolaiv	396,090	
	Odessa	Bilhorod-Dnistrovskyi	142,668	
		Odessa	1,484,030	
Northern	Sumska	Sumskiyi	394,827	489,687
		Okhtyrskiyi	94,860	
Total			5,855,120	5,855,120

Table 8. Sample Size by Type of Setting (Urban/Rural)

Region	Total	Oblast	Raion	Rural (25%)	Urban	Total
East	432	Dnipropetrovska	Nikopolski	9	25	34
			Krivih Rih	24	72	96
		Kharkivska	Kharkiv	45	135	180
		Donetsk	Kramatorsk	6	17	23
			Pokrovsk	4	12	16
		Zaporizhia	Zaporizhia	21	62	83
South	308	Kherson	Khersonski	5	15	20
		Mykolaiv	Bashtanka	2	7	9
			Mykolaiv	14	41	55
		Odessa	Bilhorod-Dnistrovskyi	5	15	20
			Odessa	51	153	204
North	68	Sumska	Sumskiyi	14	41	55
			Okhtyrskiyi	3	10	13
Total		808		203	605	808

Map 1. Survey Locations Along the Frontline

All surveys were conducted on KoBo Collect. KoBo is essentially a clone of Open Data Kit (ODK) with an enhanced Graphical User Interface (GUI). KoBo works on and offline to allow surveys to be conducted at any time and uploaded when the internet is available.

The household surveys drew from the Knowledge, Attitudes, Practices (KAP) survey methodology conducted by the Kyiv International Institute of Sociology. Additional questions were included to delve deeper into the perceptions, access, usage, and maintenance of HHWT options among vulnerable populations in the targeted regions. Key areas addressed in this survey were:

- Information about the settlement
- Socio-demographic information
- Household water access and perception of quality
- Household water treatment practices/technologies
- Costing, availability and financial viability of HHWT options
- Access to information (water contamination risks, product availability, O&M, etc)
- O&M of HHWT options
- Satisfaction
- Recommendations and suggestions

SREO submitted tools to the WASH Cluster for review and incorporated their feedback before translating, piloting and finalizing them for the field. Tools incorporated an introduction paragraph that ensured privacy was attained and informed consent was granted before a survey was conducted.

All surveys were conducted on KoboCollect, SREO's preferred mobile data collection tool. KoBo allowed field enumerators to seamlessly capture respondent answers on or off-line in the field while still geotagging each survey location. It allows for the capture of both meta-data and respondent supplied data simultaneously. This increases data quality and verification of respondent location without disclosing exactly who was surveyed, thereby maintaining confidentiality. Data collection was done via GIS-equipped tablets, with surveys saved and stored in real-time. SREO was responsible for formatting and coding the survey into Kobo.

Key Informant Interviews

For this market assessment, SREO conducted **28 KIIs** with WASH specialists from UNICEF and other relevant organizations, vendors, and producers of water treatment options, as well as WASH service providers such as water trucking and water filter providers. Additionally, interviews were conducted with representatives from the WASH National Cluster to gather comprehensive insights into the market landscape and identify key considerations for household water treatment solutions. Unfortunately, government officials and regulatory bodies declined to answer our questions.

The interviews were conducted mostly using a structured format, developed in Kobo. These interviews had a different set of questions depending on the role of the informant. There were different formats developed for implementers and manufacturers/distributors. For other agencies, a semi-structured format was developed, with predetermined questions tailored to different types of stakeholders. Each interview guide included 15-20 questions (mostly open-ended) and took around 45-60 minutes.

The final list of key informants is shown in Annex 5. The final number and selection of key informants was determined based on the availability of suitable Key Informants and their willingness to participate.

Store Checklists

For this assessment, a store checklist was created to guide field enumerators in visiting local stores to assess the availability and pricing of Household Water Treatment (HHWT) products. A total of **18 store checklists** were completed across the cities of Zaporizhia, Sumy, Odessa, Mykolaiv, Kherson, Kharkiv, Donetsk, and Dnipro. These locations were selected to include a variety of store types and geographic areas, ensuring a comprehensive evaluation of HHWT product availability in local markets within the study's target regions.

Table 9. List of Visited Stores

Oblast	Raion	Urban / rural	Type of store	Name of store
Zaporizhia	Zaporizhia	Urban	Hypermarket	Nova Liniya
Zaporizhia	Zaporizhia	Urban	Hypermarket	ELDORADO
Sumy	Sumisky	Urban	Supermarket	Vista
Sumy	Okhtyrskyi	Rural	Store	Decor store
Odesa	Odesa	Urban	Hypermarket	EpicentrK

Oblast	Raion	Urban / rural	Type of store	Name of store
Odesa	Bilhorod-Dnistrovskiy		Market	33m2
Mykolaiv	Mykolaiv	Urban	Hypermarket	EpicentrK
Mykolaiv	Mykolaiv	Urban	Market	33m2
Mykolaiv	Mykolaiv	Rural	Market	33m2
Kherson	Kherson	Rural	Market	Central Town Market
Kherson	Kherson	Urban	Market	Central City Market
Kherson	Kherson	Urban	Store	33m2
Kharkiv	Kharkiv	Urban	Market	EpicentrK
Donetsk	Porkrovsk	Urban	Store	Comfy
Donetsk	Kramatorsk	Urban	Store	EpicentrK
Dnipro	Nikopol	Urban	Store	33m2
Dnipro	Kriviyy Rih	Urban	Mall	EPICENTER
Kharkiv	Kharkiv	Urban	Store	Budmen

Sanitary Inspection Forms

SREO's field enumerators used the Sanitary Inspection Forms (SIF) developed by WHO to conduct qualitative assessments of the risk of water source contamination. The SIF is a standardized checklist designed for evaluating and assessing the risk of contamination in different types of water sources. It serves as a supplementary data source alongside water quality testing reports and user perceptions of potential contamination. The use of SIFs was contingent on enumerators' capabilities and safety measures for accessing water sources. It primarily focused on privately-owned sources like boreholes or shallow wells, rather than centralized piped systems. Some conditions taken into account on where to use SIF:

- Raions where water quality has been identified as a problem in MSNA
- Raions where there are water quality studies that highlight specific water quality issues
- Areas where multiple HHs have expressed concerns on water quality of sources
- Areas where people access water from private sources, and these are easy and safe to access

A total of **20 SIFs** were conducted across the below locations and water sources:

Table 10. List of Completed Sanitary Inspection Forms

Region	Oblast	SIFs collected	Borehole motorized pump	Kiosk	HH practices
East	Dnipropetrovska	3	2		1
	Kharkivska	3		1	2
	Donetsk	2		1	1
	Zaporizhia	2		1	1

Region	Oblast	SIFs collected	Borehole motorized pump	Kiosk	HH practices
South	Kherson	3	1	1	1
	Mykolaiv	3	1	1	1
	Odessa	2		1	1
North	Sumska	2		1	1
Total		20	4	7	9

SREO field researchers focused on boreholes equipped with motorized pumps and water kiosks. In Kherson and Mykolaiv, boreholes located in hospitals were specifically studied due to significant concerns about the reliability of water quality, a crucial issue for the local community. Additionally, researchers observed that many families store water at home, so household water storage practices were also examined.

Additionally, SREO's enumerators piloted the use of the SIF tool to evaluate its applicability for water quality surveillance. The goal was to assess its potential as a qualitative method for evaluating contamination risks in water sources, in both urban and rural areas of Ukraine. This tool could potentially be introduced by the WASH cluster to local health authorities as a means for qualitative water risk assessment and monitoring.

2.3 | Challenges and Limitations

- During data collection in areas located 7-10 kilometres from the frontline, field researchers encountered significant security challenges. Drones frequently monitored the targeted areas, and some locations in Kharkiv were subjected to bombing during our work.
- In high-risk areas, local residents were wary and uncooperative, fearing that collecting information about water resources could jeopardize the safety of these sources by turning them into targets for Russian attacks. In some cases, our field researchers had to withdraw from locations to avoid troubles with the local population.
- Access to public or governmental water treatment and distribution facilities was not possible, preventing us from conducting Sanitary Inspection Forms (SIFs) related to this water source. We were only able to gain entry to hospitals through personal connections.
- Finding stores that sold the items listed in the store checklists, or even some of them, was particularly challenging in areas close to the frontlines. Many shops were closed due to the displacement of people and ongoing security issues.
- Identifying key informants relevant to HHWT was another challenge. Many organizations that initially reported involvement in HHWT interventions, based on the WASH cluster dashboard, later clarified that they were focused on larger infrastructure projects rather than HHWT. Additionally, identifying private sector companies was difficult, and most refused to participate in the study. A list of key informant interviews that were not completed is provided in Annex 5 of this report.
- Despite repeated efforts and utilizing various methods to engage with key government agencies involved in HHWT, we were unable to establish contact with them. The targeted organizations included the Ministry of Health, the World Health Organization, and the State Service of Ukraine on Food Safety and Consumer Protection. This lack of interaction hindered our ability to conduct a more comprehensive analysis of the current HHWT regulations in Ukraine. The

insights presented in this report are therefore based on communications with other key stakeholders and a review of available literature.

- Language barriers posed overall challenges, particularly during desk reviews, when searching for product information, and in communicating with informants. The research team faced difficulties due to the lack of resources available in English. Although SREO had a field team fluent in Ukrainian, which was crucial for communication and translation, some information was inevitably lost in translation.
- Store checklist activities were also hindered by the reluctance of sellers to cooperate; they often refused to allow photos to be taken or to provide any details to the enumerators about products or their availability.
- There is a noticeable discrepancy between individuals' expressed concerns about water quality and their actual behavior regarding water consumption. While respondents tend to voice strong apprehensions when discussing water quality in general terms, most admit they do not treat their water at home. They often justify this by stating that the water quality isn't bad enough to necessitate treatment. This gap between concern and action seems to stem from a lack of motivation, influenced by the effort and cost required for home water treatment.

3 | FINDINGS

3.1 | Demographic and Socio-economic Characteristics of the Surveyed Population

SREO conducted a total of **808 surveys** in Ukrainian government-controlled areas, with households from Dnipropetrovska, Kharkivska, Donetsk, Zaporizhzhia, Kherson, Mykolaiv, Odessa and Sumska Oblasts. The following section highlights the demographic and socio-economic characteristics of the surveyed population, providing insights into their needs and the potential areas of focus for aid and support programs.

Figure 1. Gender Distribution

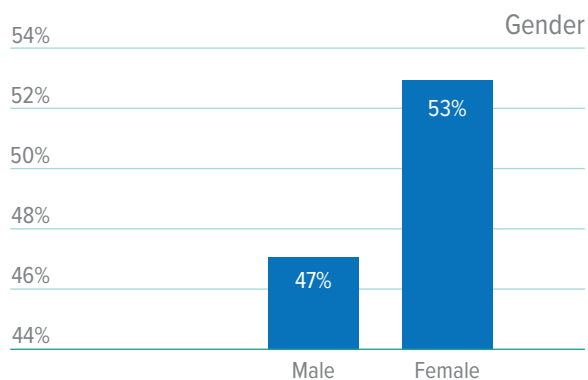
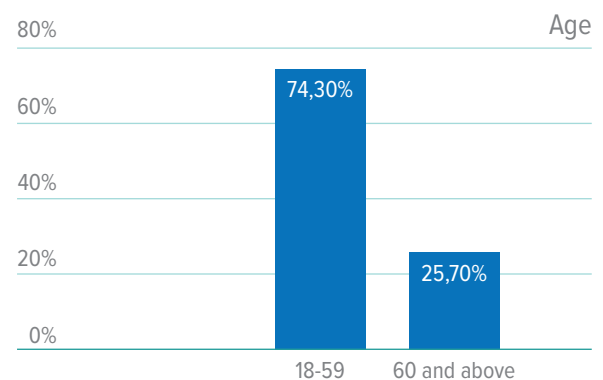


Figure 2. Age Distribution



The gender distribution of the surveyed population shows that 53% of the respondents were female and 47% of the respondents were male. The sample included a higher proportion of female respondents, making up more than half of the total participants, which might indicate either a higher engagement of women in the survey process or a demographic reflection of the population in the surveyed areas.

The majority of respondents (74.3%) fall within the working-age group (18-59 years), indicating that the survey primarily captures the experiences and perspectives of individuals who are likely to be economically active. The representation of older adults (60 and above) is significant but less dominant (25.7%).

Figure 3. Geographical Distribution by Oblast

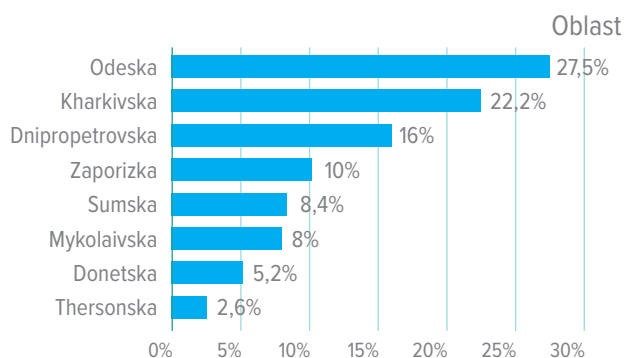
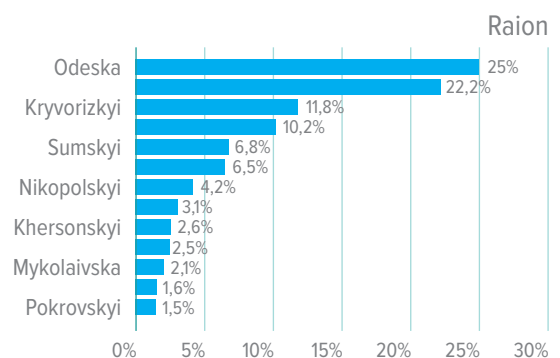


Figure 4. Geographical Distribution by Raion



Odesa (27.5%) and Kharkivska (22.2%) Oblasts have the highest representation among respondents, indicating that the findings will heavily reflect the situation in these regions. The data may be less reflective of the conditions in less-represented Oblasts like Khersonska and Donetsk.

Figure 5. Type of Setting

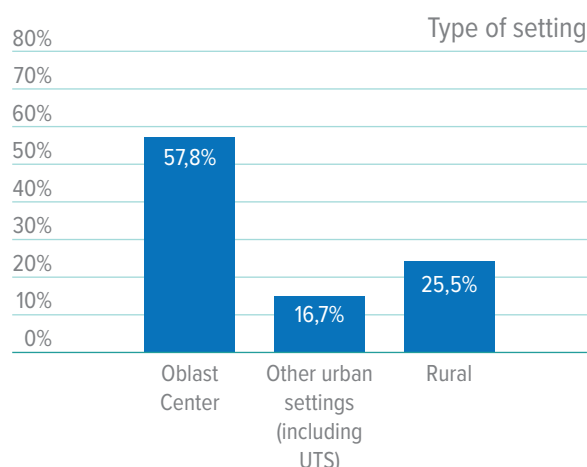
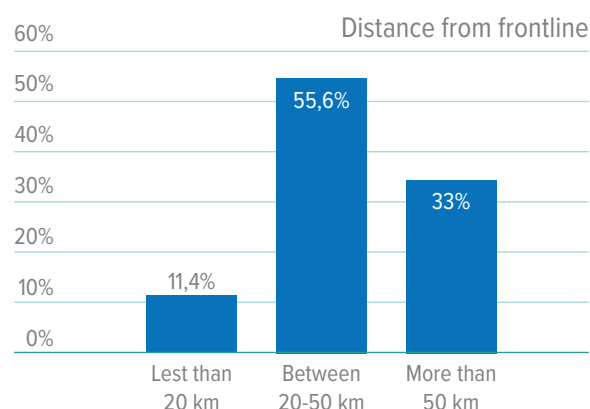


Figure 6. Distance from the Frontline



A significant portion of the respondents are from oblast centers (57.8%), indicating urban areas are well represented. However, rural respondents (25.5%), though fewer, make up over a quarter of the sample, providing insights into more remote areas.

The majority of respondents live relatively close to the frontline, with respectively 11.4% who live less than 20km from the frontline and 55.6% between 20-50km from the frontline, thus impacting their experiences and needs, particularly concerning safety and access to water resources.

Figure 7. Type of Population

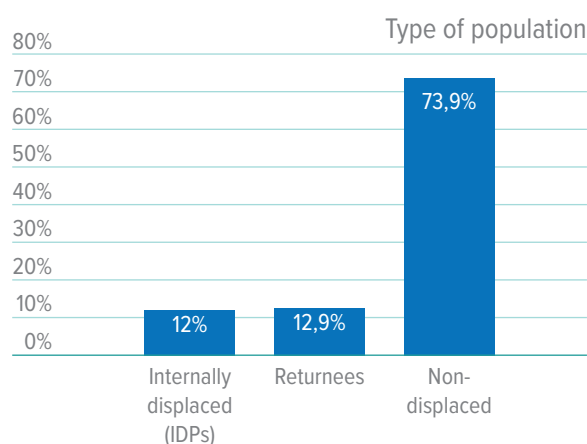
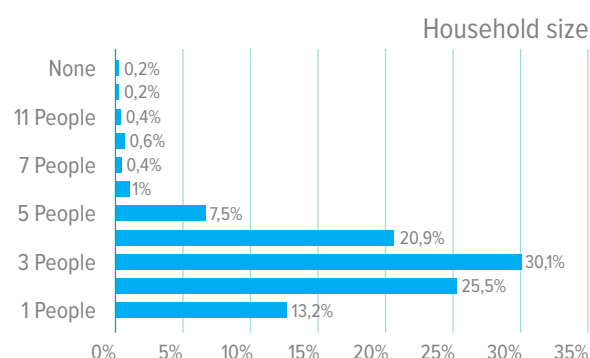


Figure 8. Household Size



The majority of respondents are non-displaced (73.9%), which may suggest that the survey results are more representative of those who have not experienced displacement. However, the perspectives of IDPs (12%) and returnees (12.9%) are still significantly represented.

Most households consist of 2-3 people (55.6%), which is typical for nuclear families. A smaller but noteworthy percentage of respondents live alone (13.2%), which could indicate higher vulnerability, especially among the elderly.

About a quarter of the households include individuals with disabilities (23.8%), highlighting a significant portion of the population that may require special services or support.

The most common disabilities are sensory impairments (e.g. vision or hearing loss), chronic health conditions, and mobility impairments.

Figure 9
Households with People with Disabilities

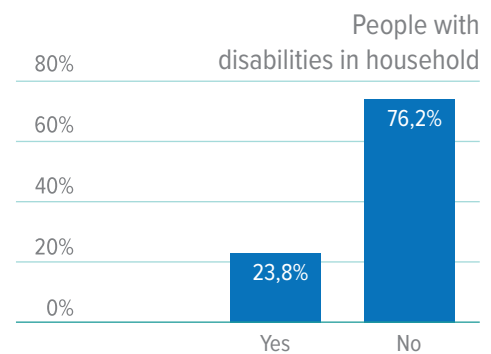
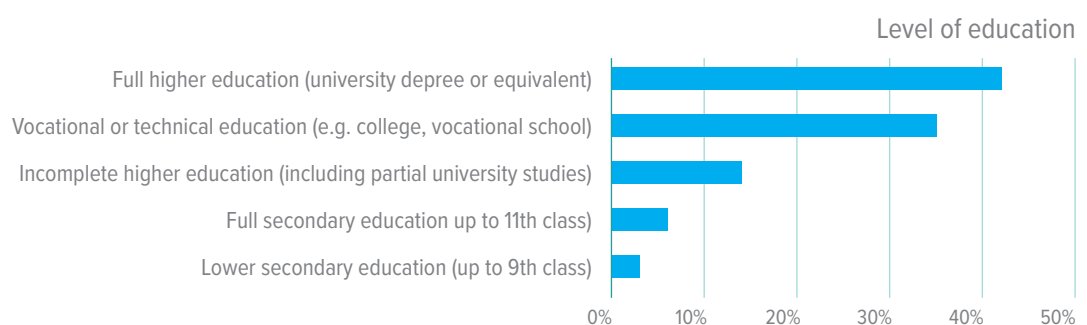
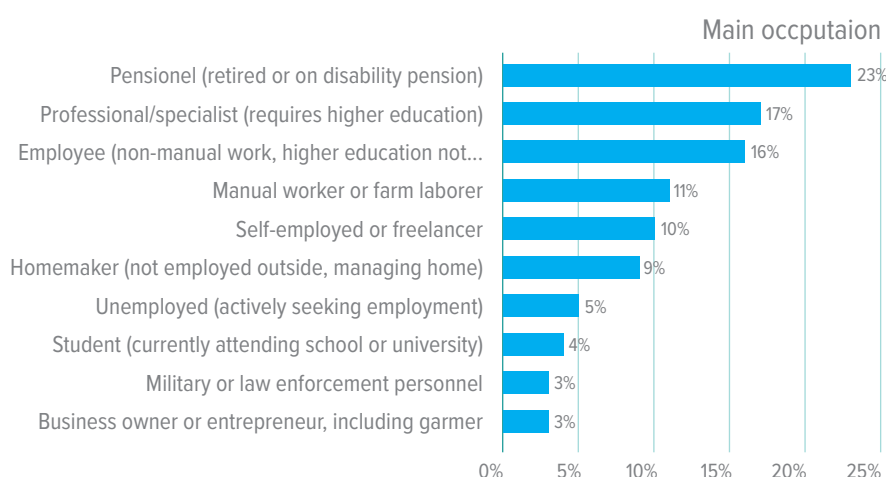


Figure 10. Education Level



The sample is relatively well-educated, with the majority having completed higher education (43%) or vocational training (38%). This could influence the overall awareness and attitudes toward services and household water treatment options available to them.

Figure 11. Main Occupation



Pensioners comprise 23% of the respondents, reflecting an aging population. Professionals/specialists make up 17%, while non-manual employees account for 16%. Manual workers represent 11% of the workforce. The high proportion of pensioners suggests a need for social support services, while the presence of professionals indicates a segment of the population with potentially higher economic resilience.

Figure 12 Financial Situation of Households

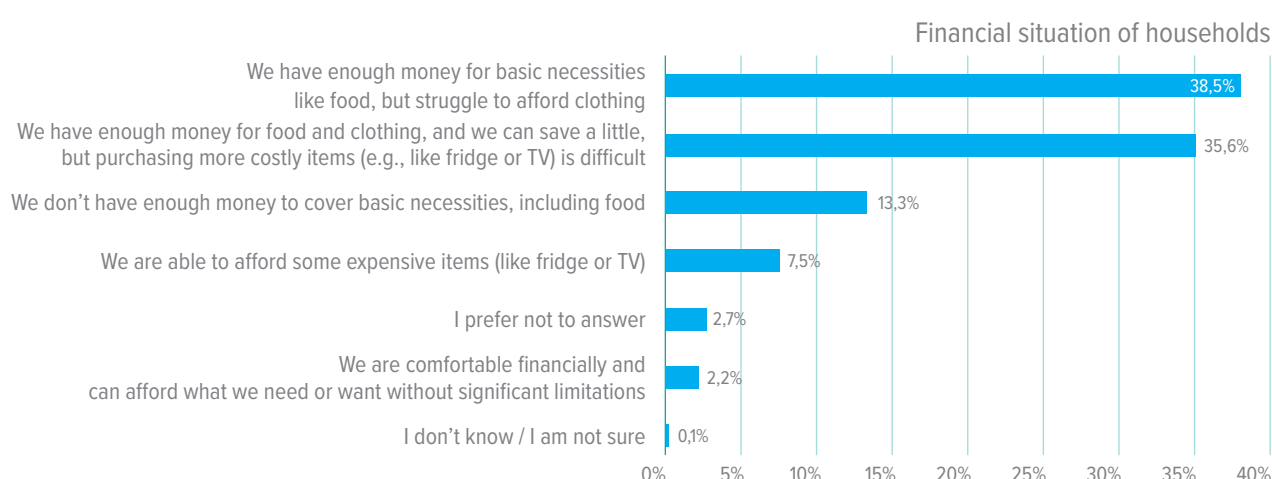
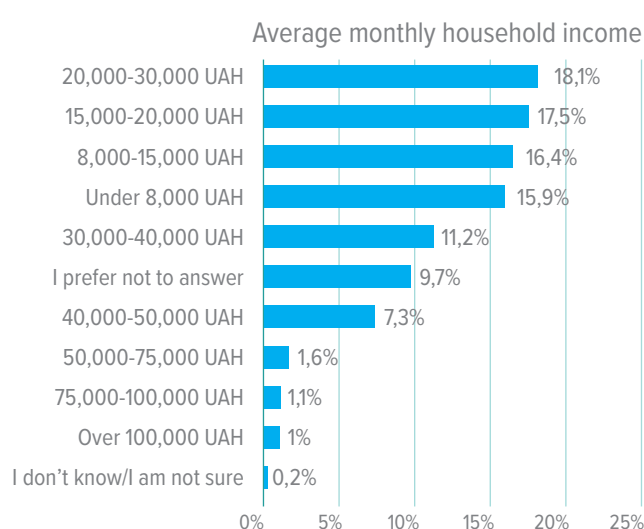


Figure 13 Average Monthly Household Income



38.5% of respondents can meet basic needs but struggle with purchasing clothing. 35.6% can save a little but find it difficult to purchase expensive items. 16.3% report not having enough money for basic necessities. Financial insecurity is prevalent, with a large segment of the population facing difficulties beyond meeting basic needs, indicating a potential need for financial assistance or economic recovery programs.

The most common self-reported income bracket is 20,000–30,000 UAH, accounting for 18% of respondents. 15,000–20,000 UAH represents 17.5% whereas under 8,000 UAH accounts for 16%. This data suggests that a large portion of the surveyed population falls within the lower-middle-income bracket. This income distribution may have significant implications on:

- **Purchasing power:** Many households might face financial limitations, particularly in acquiring more expensive goods or services.
- **Economic stability:** A significant proportion of households earning less than 20,000 UAH could struggle with meeting day-to-day needs, affecting their overall economic resilience.

73% of households reported not receiving any cash or voucher assistance, while 16% indicated they received cash only. Smaller percentages received either vouchers or a combination of both. Among those who did receive cash or vouchers, 62% stated they received assistance only once, and 25% received it between two to five times. Additionally, 59% of recipients did not use the cash or vouchers for water treatment products, whereas 25% did. The majority of households utilized cash vouchers to address other essential needs, including food, clothing, and similar necessities. The significant portion of households that have not received any cash or voucher assistance highlights potential gaps in aid distribution and underscores the need for more targeted interventions.

The most common amount received is 2,000–5,000 UAH, with 48.9% of respondents reporting this range, while 22.1% of respondents received 5,000–10,000 UAH. Cash or voucher assistance is modest, indicating that while many households have received aid, the amounts are relatively small.

Vouchers and financial assistance have a limited impact on household access to HHWT products, as these items are typically provided through separate donations by humanitarian organizations, local authorities, and other entities. Consequently, the relevance of vouchers and cash assistance in the context of this study is less significant compared to their role in meeting other basic household needs.

Figure 14. HHs Receiving Cash or Voucher

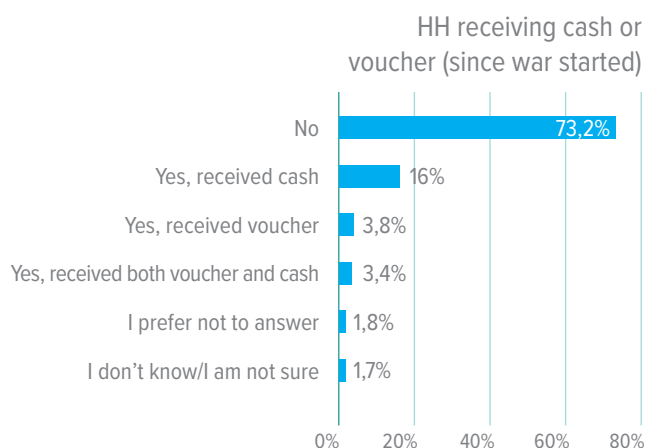
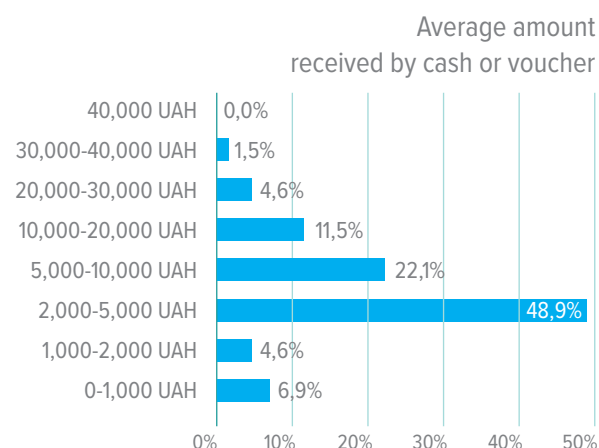


Figure 15. Average Amount Received by Cash or Voucher



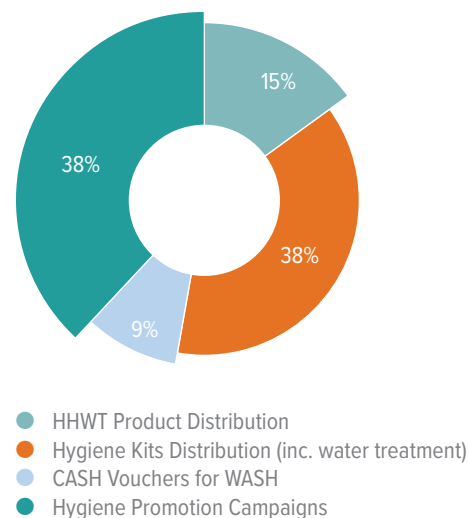
3.2 | Assessment Matrix Findings

Before presenting the gathered information, it is important to highlight the current level of implementation of Household Water Treatment (HHWT) initiatives by humanitarian agencies associated with the WASH cluster operating in Ukraine.

The data from Figure 16 illustrates the distribution of WASH-related interventions, with the following proportions:

- **Hygiene Kits Distribution and Hygiene Promotion Campaigns** are the most common interventions, both accounting for 38% each. This suggests a strong focus on hygiene-related support, with equal attention to physical resources (kits) and awareness (promotion campaigns).
- **HHWT Product Distribution** represents 15% of the interventions, indicating a moderate emphasis on providing household water treatment products.
- **CASH Vouchers for WASH**, at 9%, is the least implemented intervention, suggesting that financial support for WASH-related needs might not be a primary focus compared to direct product or campaign-based interventions.

Figure 16. WASH Related Interventions



This data highlights the balance between tangible support (kits and products) and educational efforts (campaigns) in WASH interventions, with financial aid playing a smaller role.

3.2.1 | Accessibility

Water Sources

≡ SUMMARY

- The most commonly used water sources are tap water, kiosks or trucked water, and boreholes/private wells, with wells being more frequently used in rural areas and regions near the frontline.
- Bottled water is the primary water source for 10% of households.
- Tap water is mainly used by households for non-drinking purposes, such as cooking and bathing.

The survey results indicate that tap water, sourced from a centralized supply system, is the primary drinking water source for 40% of households. Following this, 20% of households rely on water from kiosks or booths (connected to the centralized supply system) where containers can be refilled. Private wells or boreholes serve as the main water source for 12% of households, while public wells or boreholes account for 8.5%. Additionally, 10% of respondents primarily use purchased bottled water.

There is a five-percentage-point difference in access to water kiosks between adults and the elderly population (21.6% vs. 15.8%), with a similar gap observed between females and males (22.6% vs. 17.3%). A similar trend is evident for bottled water, as younger individuals are more likely to rely on it as their primary water source.

There is a notable disparity in water access between urban and rural households. In Oblast centers and other urban areas, most households rely on tap water, with 42% in Oblast centers and 51% in other urban locations. In contrast, rural households primarily source their water from private wells (40%) and public wells (12%). Additionally, in Oblast centers, a quarter of the population depends on water kiosks, while more than 12% use bottled water as their primary source.

Table 11. Primary Water Source by Oblast (N=812)

	Odeska	Kharkivska	Dnipro	Sumska	Zaporizka	Donetska	Mykolaivska	Khersonska
Bottled water (commercially purchased)	13%	12%	12%	9%	8%	7%	2%	0%
Private well (owned by your household)	7%	3%	12%	21%	27%	14%	19%	29%
Public well or borehole (shared access with others)	16%	9%	2%	7%	2%	2%	3%	24%
Tap water (from a centralized water supply system)	56%	13%	50%	53%	57%	21%	22%	19%
Trucked water - paid for service	0%	8%	2%	0%	0%	10%	0%	0%
Trucked water - provided by municipality	0%	0%	3%	0%	0%	31%	34%	29%
Water from water kiosk/booth (water containers can be refilled)	5%	52%	21%	9%	6%	14%	22%	0%
Other (the closest pump-room)	2%	3%	0%	2%	0%	0%	0%	0%
Total	100% N=223	100% N=180	100% N=130	100% N=68	100% N=83	100% N=42	100% N=65	100% N=21

The data from Table 11 highlights the variation in primary water sources across different oblasts. Tap water from centralized systems is the most common source overall, particularly in Odeska (56%), Sumska (53%), Dnipro (50%), and Zaporizka (57%). However, tap water usage is significantly lower in conflict-affected areas like Donetska (21%), Khersonska (19%), and Mykolaivska (22%). In these areas, alternative sources, such as wells and trucked water, play a more prominent role.

Private wells are more prevalent in rural and semi-urban regions, with high usage in Khersonska (29%) and Zaporizka (27%). Public wells and boreholes are also significant, especially in Khersonska (24%) and Odeska (16%), though they are less common in oblasts like Zaporizka and Dnipro. Bottled water is most commonly used in urban areas such as Odeska (13%) and Kharkivska (12%), while reliance on this source diminishes in regions like Mykolaivska (2%) and Khersonska (0%).

Water kiosks are a major water source in Kharkivska, where 52% of respondents rely on them, and they are also used in Dnipro and Mykolaivska. However, kiosks are scarcely utilized in oblasts like Odeska and Khersonska. Trucked water, either paid for or provided by the municipality, is essential in Donetska, Mykolaivska, and Khersonska, underscoring the need for emergency water provision in these regions. The diversity of water access across oblasts reflects the impact of local infrastructure, geography, and ongoing conflict.

Access to water varies depending on the proximity to the frontline. Those living closer tend to rely on water trucking provided by municipalities (22%) and use private wells or tap water (19% each). In contrast, people living farther from the frontline more frequently utilize tap water, water kiosks, and bottled water.

Interestingly, when looking at primary water sources of HHWT users, a vast majority of all products and practices users have access to tap water (see below Table 12). The data suggests that a portion of households using household water treatment systems list bottled (commercially purchased) water

as their primary source of drinking water. Specifically, 18% of reverse osmosis (RO) filter users and 15% of carbon-type (CT) filter users report using bottled water as their main water source. This raises an important clarification: in Ukraine, purchased bottled water is typically not treated by households because it is already processed and considered safe for direct consumption.

Given that 67.5% of households use bottled water as a supplementary source, some respondents may primarily use treated tap water but also purchase bottled water when needed. The data confirms that tap water from a centralized system is the most common primary drinking water source (ranging from 46% to 77% across HHWT users), aligning with the broader Ukrainian context where municipal networks provide ‘technical water’ rather than potable drinking water.

The low confidence in centralized supply is consistent with the known gap between Vodokanal-reported quality and actual end-user experience. The aged infrastructure often leads to contamination and deterioration of water quality, which may explain why many residents turn to bottled water or filtration.

In urban areas, centralized tap water is widely available, but its poor perception leads to increased reliance on bottled water, water kiosks, and trucked water. Rural households show more reliance on private or public wells in addition to centralized supply, reflecting different water access challenges.

Table 12. Primary Source of Drinking Water (N=99)

	Reverse Osmosis	CT filter	FM filter	Jug filter/ Pitcher	UTS filter	Settling	Boiling	Ceramic pot	Other
Bottled water (commercially purchased)	18%	15%	9%	4%	4%	4%	3%	0%	0%
Private well (owned by your household)	0%	8%	0%	13%	11%	21%	17%	0%	0%
Public well or borehole (shared access with others)	0%	0%	9%	2%	4%	0%	6%	0%	0%
Tap water (from a centralized water supply system)	77%	77%	73%	68%	70%	46%	65%	0%	100%
Trucked water - paid for service	0%	0%	0%	0%	0%	0%	1%	0%	0%
Trucked water - provided by municipality	6%	0%	9%	0%	7%	4%	2%	0%	0%
Water from water kiosk/booth (water containers can be refilled)	0%	0%	0%	13%	4%	21%	7%	0%	0%
Other	0%	0%	0%	0%	0%	4%	0%	100%	0%
Total	100% N=17	100% N=13	100% N=11	100% N=47	100% N=27	100% N=28	100% N=102	100% N=1	100% N=1

More than 60% of households surveyed reported using alternative or supplementary water sources at least occasionally. This reliance is particularly notable in the following Oblasts: Dnipropetrovska (88%), Zaporizka (89%), and Sumska (65%). Respondents primarily depend on bottled water (67.5%), water kiosks (41%), or water delivered by trucks (21%) as supplementary sources. In rural areas, wells are more commonly used than in urban locations. The use of rivers or other surface water sources is almost negligible in Ukraine. From the perspective of households using household water treatment (HHWT) systems, bottled water, water kiosks, and trucked water are the most common alternative drinking water sources.

Generally, households use tap water for other activities, including bathing, personal hygiene, laundry, cleaning, watering animals, and gardening, with 87.6% reporting this use. This represents a significant increase compared to the 40% of households that use tap water as their primary drinking water source. This pattern holds across different analytical categories, except in rural areas, where in addition to tap water (62%), private or shared wells are used by 60% of rural households.

Among the 20 HHWT and WASH implementers surveyed in Ukraine, their responses were similar: boreholes (16 responses), tap water (14), private wells (11), bottled water (9), and trucked water supplied by the municipality or utility (8) were identified as the main primary water sources in their areas of intervention.

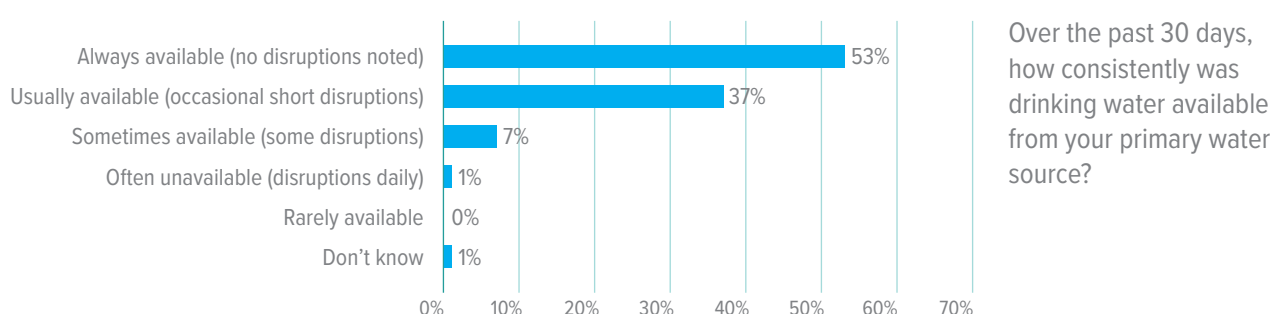
Access to Water

≡ SUMMARY

- Overall, most respondents do not consider water shortages a major concern. However, individuals living near the frontline and in certain urban areas reported more frequent disruptions in access.
- In some Oblasts, particularly Donetsk, Khersonska, and Dnipropetrovska, the duration of water shortages can be especially difficult, with some residents experiencing several days without access to water.

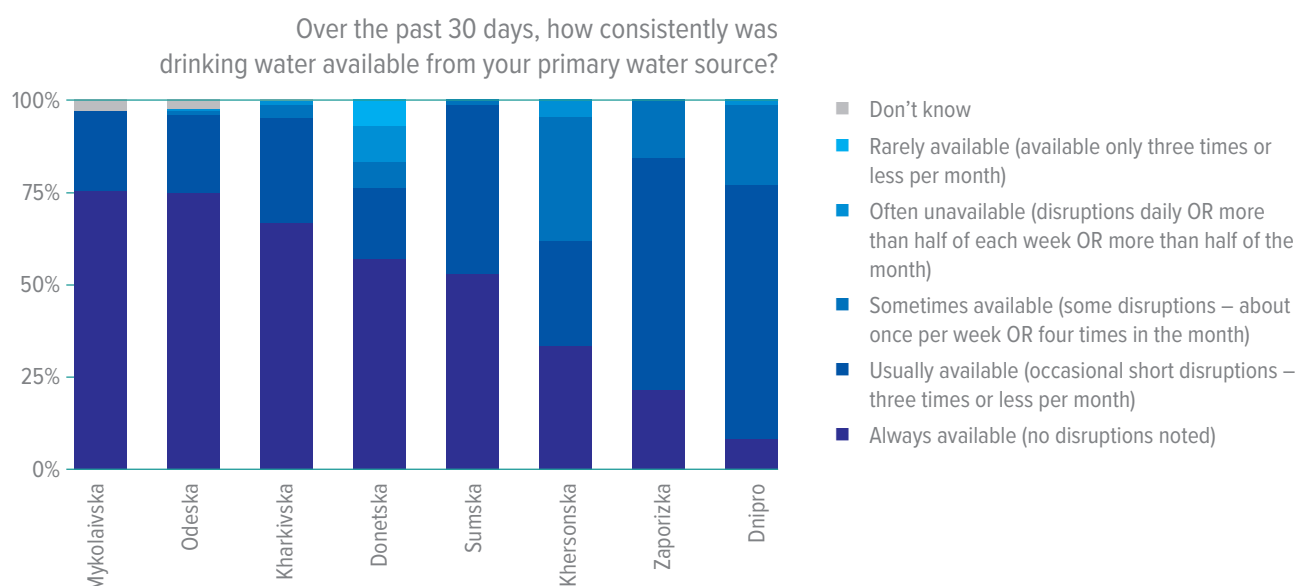
Over 90% of respondents reported having sufficient water for drinking and other needs within the past 24 hours. The figure 17 below illustrates households' perceptions of the consistency of their primary drinking water source over the last 30 days.

Figure 17. Reliability of Primary Drinking Water Source



Nearly 90% of respondents felt that water access was reliable, with only minor shortages occurring less than three times per month. This view was more commonly held by older individuals compared to younger age groups. More than half of those residing in smaller urban areas reported occasional short interruptions, happening three times or fewer each month. The distribution of this situation across various Oblasts is shown in Figure 19.

Disruptions in drinking water are more common in areas near the frontline, with over 25% of respondents reporting that water is “sometimes available,” with interruptions occurring about once per week or up to four times a month.

Figure 18. Reliability of Primary Drinking Water Source by Oblast

Regarding the length of these disruptions, 29% experienced interruptions lasting less than 12 hours, while 10% reported disruptions lasting about a day. Elderly individuals reported a higher perception of these interruptions compared to younger people (63% vs. 41%, respectively). In other urban areas, over half of the population experienced access disruptions, with 31% reporting shortages lasting less than 12 hours and 29% experiencing disruptions lasting 1 to 3 days. Prolonged disruptions were reported more frequently in urban areas than in rural ones. The Oblasts facing the longest drinking water shortages are highlighted below.

Table 13. Drinking Water Access Shortages

Oblast	About 1 day	Between 1-3 days	Between 3-7 days	More than 7 days
Donetsk	5%	5%	12%	5%
Kherson'ska	9,5%	38%	19%	-
Zaporiskha	31%	5%		
Dnipropetrov'ska	23%	31%	5%	

When comparing based on proximity to the frontline, nearly 55% of those living less than 20 km away reported experiencing drinking water shortages lasting at least one day, with the most common duration being between 24 hours and 3 days (30%).

For HHWT product users, it is common to suffer from drinking water disruption. While most report shortages of 12 hours or less across all technologies, 15-20% of filter users experience water shortages lasting between 1-3 days.

Overall, 34% of respondents attribute drinking water disruptions in the last 30 days to mechanical or technical issues unrelated to the conflict, such as old or non-functional systems, while 25% reported that damage due to the conflict was the primary cause.

When asked about their water storage practices, 38.5% of respondents reported storing water for both drinking/cooking and other household needs, while 30.7% said they store water only for drinking and cooking. On average, families store approximately 40 liters of water. The most commonly used storage containers are plastic bottles (80%), followed by barrels or tanks (21%) and canisters (15%). As for cleaning these containers, 32% of respondents clean them weekly, 28% do so monthly, and 21% never clean them. However, these figures are inconclusive, as it was not clarified whether the containers were used exclusively for drinking water or for other household purposes.

Promoting safe storage practices is a priority for humanitarian agencies and implementers, with 60% of the organizations interviewed confirming that they encourage these practices at the household level. However, slightly more than half of these organizations consistently incorporate safe storage distribution into their program implementation.

The table below provides a summary of the data collected on safe storage behaviours and practices:

Table 14. Safe Storage Behaviours and Practices

Parameter related to water storage	Most common response
Purpose for storing water	38% drinking, cooking and other needs / 30% only for cooking and drinking
Average quantity HH store	40 liters
Most common containers for water storage	Plastic bottles, barrels / tanks and canisters
Frequency for cleaning containers	32% weekly / 21% never (may relate to higher capacity containers)
Challenges identified with safe storage with SIF	The collection container is dirty or in poor condition or lack a cover The intermediate storage container is dirty or in poor condition, or are contaminants inside it The tap or utensil is dirty or in poor condition Sources of pollution can be seen around the intermediate storage container
Local availability of water storage containers	Finding household storage buckets is very common at stores, but is rare to find buckets with lid and more even with a tap for safer storage practices

Technologies and Product Availability in Local Markets

≡ SUMMARY

- The most commonly available products are domestically produced filtration units, along with their spare parts. Imported items, such as membrane filtration units and chlorine tablets, are more difficult to find in local markets and are typically only available through national distributors or specialized outdoor retailers. The most prevalent types of filters found in stores are jug filters, under-sink filters, and reverse osmosis units.
- In areas where products or spare parts are not readily available, they can often be pre-ordered.
- Among the NGOs interviewed, centralized water treatment or delivery remains the most common treatment option offered, followed by jug/pitcher filters and reverse osmosis systems. Additionally, 60% of humanitarian agencies reported promoting boiling as part of their initiatives.

Based on the store checklist that was conducted, there appears to be a continuous availability of locally manufactured filters and their spare parts in the local market. However, it is more challenging to find internationally sourced products, such as membrane filters from brands like Sawyer, Icon Life-Saver Cube, and Katadyn.

From the 18 stores visited across the country—while not a fully representative sample—we can still draw some useful insights regarding the availability of these water filtration products.

- **Sedimentation products**, such as chemical coagulants and flocculation-disinfection sachets (e.g. purifier of Water), were found in half of the stores surveyed. However, sachets were notably rare, available in only 6% of the stores. Of the products identified for flocculation, the vast majority were designed for reducing turbidity in swimming pools rather than for drinking water purification.
- **Filtration products** - Jug filter (83%), Under the sink filters (72%) and Reverse Osmosis units (67%) were the most commonly available filtration products. Spare parts and replacement cartridges were also readily accessible in stores that sold these filters, and even in some that did not carry the full filtration systems. In certain urban areas, stores offered customers the option to pre-order filtration systems. However, traditional ceramic candle filters were rarely available (only 6%), and ceramic pot filters were not present in any of the inspected stores. Additionally, no international commercial membrane filter brands, such as Sawyer or LifeSaver, were found during the store visits.
- **Disinfection** - Chlorine tablets were available in nearly half of the surveyed stores, while other chemical-based disinfectants, such as liquid chlorine and iodine, were also somewhat popular, being found in roughly one-third of the stores. For boiling practices, pots and electric kettles were commonly available across most locations, and portable stoves were stocked in 39% of the stores. Fuel availability varied depending on the type of fuel, with wood being the most prevalent (83%), while gas and coal were present in about half of the inspected stores.
- **Safe Storage Practices at Household Level** - While 20-liter buckets were relatively common (73% of stores), finding buckets with both a lid and a tap was significantly rarer, with only 11% of stores carrying such products. Buckets with lids were also less frequently available.

When asked about their geographic reach, manufacturers and distributors stated that they have coverage across the entire country, with some even exporting internationally. However, their level of influence in different Oblasts has been impacted by the current situation in Ukraine and fluctuating customer demand.

The table below outlines the types of products being implemented by humanitarian agencies in Ukraine:

Table 15. Technologies Implemented by Humanitarian Agencies

Type of technology	# responses	Type of technology	# responses
Chemical flocculant sachets	0	Ceramic candle	0
Alum or other chemical coagulant	1	Membrane filtration	1
Countertop (CT) filter	0	Reverse Osmosis	4
UTS filter	1	UV disinfection units	0
Faucet-mounted	0	Chlorine tablets	2
Jug/ pitcher	4	Chlorine liquid	0
Ceramic pot	0	Iodine liquid / Iodine tablets	0
I don't know	2	Centralized water treatment options or delivery	9

Despite this, when agencies were asked which traditional practices or behaviors they were actively promoting, the responses were summarized in the table provided below:

Table 16. Practices and Behaviours Promoted by Humanitarian Agencies

Type of technology	# responses	Type of technology	# responses
Settling	6	Boiling	12
Plants or seeds for natural coagulation	0	Commercial bleach	5
Percolation (e.g. cloth filter)	2	Solar disinfection (SODIS)	0

Boiling remains the most commonly promoted traditional practice by NGOs, likely because it is already familiar and widely used among the local population. This practice is especially encouraged by organizations involved in rehabilitating large water supply systems, as boiling can serve as a quick, temporary solution during water cuts or service disruptions. Additionally, NGOs reported promoting other essential household practices such as settling water to reduce turbidity and using commercial bleach for water disinfection. These simple methods are seen as effective stopgap measures to ensure water safety in emergencies or when access to clean water is compromised.

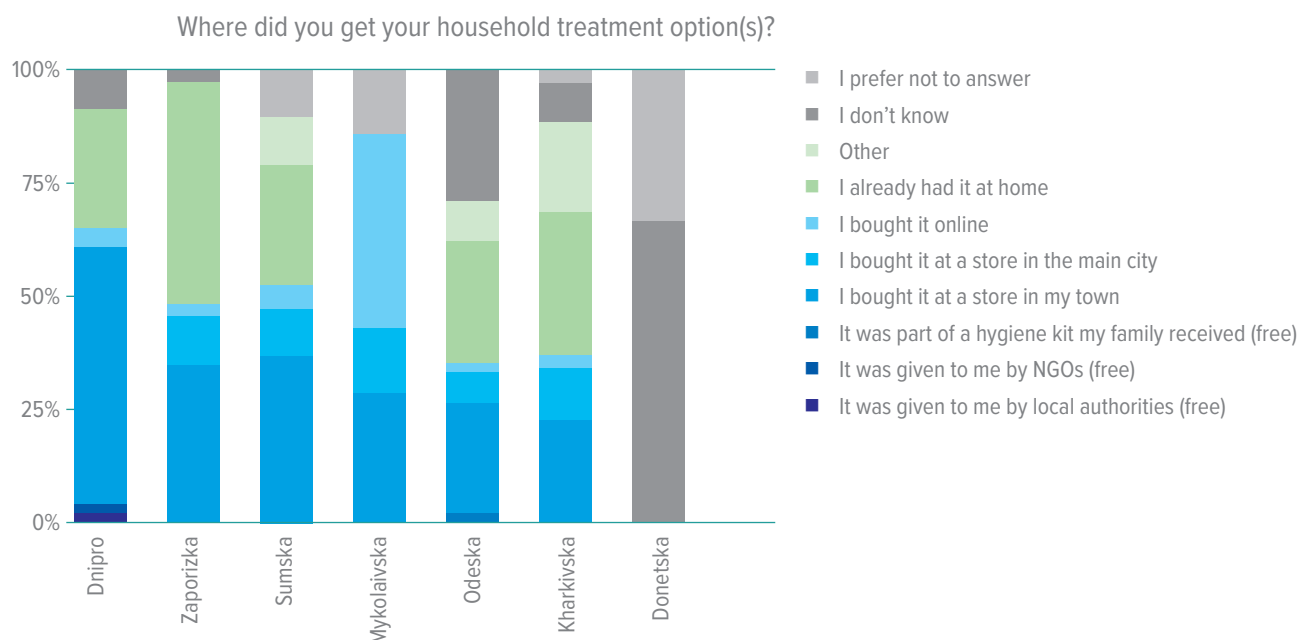
Locations of Stores and Distributors

≡ SUMMARY

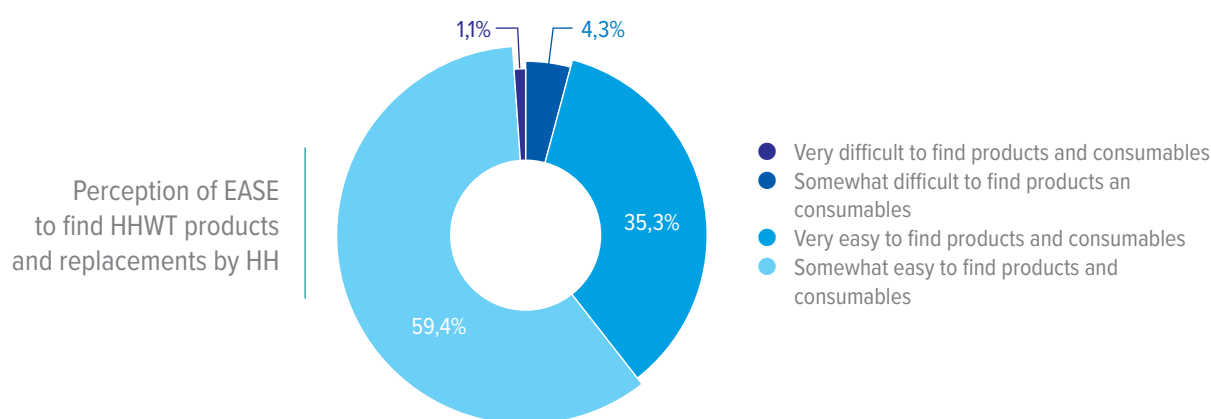
- Users reported accessing products primarily through local stores (36%) or stores in major cities (7.5%). Those living in other urban settings are most likely to purchase products at local stores (66%), while residents of rural areas tend to obtain products from stores in major cities (15%) or online (10%).
- In nearly 30% of cases, the distance to the nearest store is less than 5 km, with 20% of users reporting distances of less than 1 km, and 18% unsure of the exact distance. For areas closer to the frontline, 15% of respondents mentioned distances ranging from 10 to 50 km.
- While distance to store locations is a potential factor, safety concerns related to these locations were not highlighted as a primary issue by households.
- Implementers and humanitarian agencies generally source products exclusively from either national or international manufacturers, based on factors such as their target market, the type of product, and the specific conditions or locations where distribution takes place.

The household surveys covering both rural and urban households revealed that among HHWT users, 36% reported purchasing their products from a local store in their town, 31% stated they already had the means for water treatment at home (e.g., through boiling practices), 12% were unsure of where they obtained it, 7.5% purchased it from a store in a major city, and 5% bought it online.

Residents of other urban areas were most likely to buy HHWT products from local stores (66%), while those in rural areas primarily accessed them through stores in major cities (15%) or online (10%). For those living near the frontline, local stores were the most common source of HHWT products (30%). Among users of various HHWT technologies, especially filters, the majority reported purchasing them from local stores in their towns, with over 70% of jug and faucet-mounted filter users and 65% of RO filter users indicating this. A breakdown of how people accessed HHWT technologies by Oblast is provided in the following data.

Figure 19. Access to HHWT Technologies by Oblast

When HHs were asked about their perception on the ease of finding products and spare parts, these are the results:

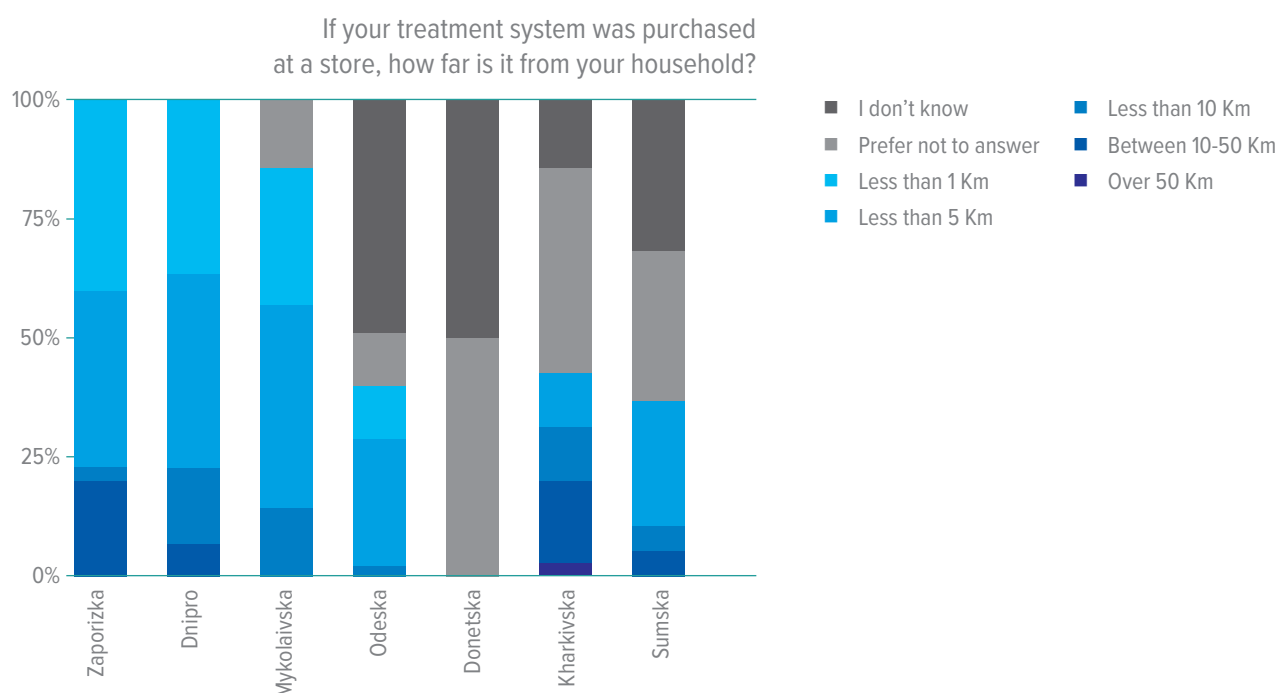
Figure 20. Perception on Ease of Finding HHWT Products and Spare Parts

The vast majority of respondents found it somewhat or very easy to locate HHWT products and spare parts. In nearly 30% of cases, stores were located less than 5 km away, with 20% reporting a distance of less than 1 km, and 18% were unsure of the distance. Approximately 10% of respondents mentioned that stores were 10-50 km away.

In rural areas, one-third of respondents indicated that stores were 10-50 km away, while in other urban areas, over 85% reported stores being within 1-5 km. This pattern was consistent for those living closer to the frontline, where more than half of respondents indicated having a local store within the same distance range, although 15% mentioned that the store was between 10-50 km away.

Further details on access by Oblast are provided below:

Figure 21. Store Distance



Store inspections confirmed that HHWT products are widely available in various types of retail locations across the country, ranging from small local stores in rural areas to larger urban hypermarkets and chains such as Epicentre, El Dorado, and Ekomarket.

When it comes to sourcing HHWT products, implementers and humanitarian agencies typically rely on both national and international manufacturers, depending on the product and the specific distribution location. However, large humanitarian organizations often have a unique approach: they source products through their international logistics centers, where they maintain stock to quickly dispatch to crisis-affected areas around the world. This strategy enables them to provide faster assistance to impacted populations.

Availability of Spare Parts & Consumables

SUMMARY

- Nearly half of the households using HHWT products reported not needing spare parts or consumables, while a quarter indicated they did. The Kharkivska region had a higher percentage of households requiring spare parts, likely due to the prevalent use of jug filters in that area.
- When asked where they source replacement parts and consumables, most respondents cited local stores as their primary option, with some, particularly in rural areas, obtaining them from stores in the main city. Online purchases were rare.
- Households do not receive any assistance from municipalities or NGOs for accessing replacements or spare parts.

When assessing the need for spare parts and replacements, 44% of respondents reported not requiring them, while 25% indicated a need for consumables. Among the Oblasts, Kharkivska had the highest percentage of HHWT users needing spare parts or consumables, with 40%. This aligns with the data showing that 57% of HHWT users in Kharkivska chose filters, particularly jug/pitcher systems (55%), which require regular replacement of filtration units.

When asked where they obtained replacement parts, 75% of respondents said they found them at a local store, while 15% mentioned stores in the main city. Only 3% reported purchasing them online, and none indicated receiving them for free from NGOs or municipalities.

Accessibility varies between urban and rural areas; while the majority in urban areas (75% or more) could find replacements at local stores, 100% of respondents in rural areas had to travel to stores in main cities. By Oblast, although local stores were cited as the primary source for consumables, residents of Kharkivska and Zaporizka found it more difficult to access replacements locally, with 31% and 23%, respectively, needing to go to main cities. For those living closer to the frontline, 50% of respondents mentioned obtaining consumables online.

Among those needing replacements, 42% reported that local stores were less than 5 km away, 25% said less than 1 km, and 15% each indicated distances between 5-10 km or 10-50 km. In rural areas, however, 100% of respondents stated that the nearest store was 10-50 km away.

Manufacturers and distributors with a local presence in Ukraine appear to have established strong supply chains, ensuring the availability of spare parts and replacements across most regions. They affirm that their products are accessible in all Oblasts of the country.

Overall, humanitarian agencies perceive that HHWT products and spare parts are widely available in local markets throughout Ukraine, and that these markets remain relatively robust despite the impact of the war. However, when implementers were asked how they ensure access to products and spare parts, the most common responses were:

Table 17. Implementers' Feedback on Access to HHWT Products and Spare Parts

Response	# times mentioned
Ask local distributor to ensure local availability	3
Have stock at local offices in the field	1
Leave information to end users about local distributors	3
Connect directly with local markets to ensure availability of spare parts and products	2
Don't get involved in ensuring access to spare parts or replacements	8

Random visits to local stores across different Oblasts confirmed the availability of spare parts and consumables, particularly for filtration units. The most commonly found spare parts were for popular commercial products such as jug filters, under-the-sink (UTS) units, and reverse osmosis systems. In some instances, while the full product might not be in stock, cartridges or filter replacements were readily available, and in certain urban stores, parts could be pre-ordered if not immediately available.

For internationally manufactured HHWT products, such as Purifier of Water or membrane filters like Sawyer and Lifestraw, spare parts and replacements were rarely found in local stores. These products were primarily available through national distributors in major cities or specialty retail shops. In such cases, they were also accessible via the stores' websites.

Notably, some membrane filtration products are designed without replaceable cartridges, requiring the entire unit to be replaced once the filter reaches the end of its lifespan.

Imported vs. Local Production

≡ SUMMARY

- Ukraine has a diverse range of companies producing water treatment systems for both community and household use, though some have had to suspend operations due to the ongoing conflict.
- While many of these companies manufacture their products locally, they often import key technological components, such as membranes, and then assemble the final products within the country.
- A significant number of water treatment products used by humanitarian agencies are manufactured abroad, including membrane filters like Lifesaver Cube, Lifestraw, Katadyn, and Aquatabs.
- Ukrainian companies supply spare parts for their products through local distributors. However, many imported products lack replaceable parts, requiring users to purchase a completely new unit when replacements are needed.

Ukraine boasts a wide variety of locally produced products and brands available in large market chains and local stores. The public tends to trust the quality of domestic products, often preferring them over imports from other European countries or China. This preference was confirmed through key informant interviews and store checklists, which showed that most HHWT products found in the market are from local brands and companies.

Some national companies, like Ecosoft, have their production facilities based in Ukraine. Ecosoft, for instance, operates in Irpin, Kyiv Oblast, where they manufacture a wide range of water treatment products, from household units to large-scale systems. While membrane cartridges and other components are produced locally, the raw materials are imported from countries such as France, Austria, and the United States.

Other companies, like Formula Vody, also have production facilities in Ukraine and assemble most of their products domestically. However, they still import certain components, such as membranes and higher-tech parts, from countries like the USA, China, or other European nations.

Meanwhile, some Ukrainian companies, such as Mykolaiv Water Group, import their products from China and Taiwan and sell them locally, offering various membrane filtration options.

International brands like Icon Lifesaver produce their products in their home countries, such as the UK, and distribute them within the Ukrainian market.

Other imported products, including Aquatabs, Sawyer, and Katadyn, are available in the country through national distributors or retail stores specializing in outdoor equipment. Although these companies sell some of their products to humanitarian organizations, the scale of their involvement in responding to the current crisis in Ukraine remains limited.

One of the key challenges noted by national producers is the competition from imported products from China, which are sold at lower prices. This price competition makes it difficult for higher-quality local products to expand their market presence.

Supply Chains

≡ SUMMARY

- Companies and brands with a local presence in Ukraine, whether through local production or imports, have developed strong distribution networks to ensure their products are readily available in local markets.
- Internationally imported brands typically operate through national distributors, offering direct sales to humanitarian agencies and online purchases via their websites. Some of these products are also available in retail stores that specialize in outdoor activities.
- National products are distributed by local agents across the country, creating extensive networks that ensure availability in various outlets, including major retail chains like Epicenter, local hardware stores, and smaller shops in both urban and rural areas. These products are also sold wholesale to government institutions, through small-scale sales to humanitarian organizations or NGOs via tenders, and directly to consumers online via platforms such as Epicenter and Rozetka.
- One of the main challenges for the private sector in securing supply chains is the lack of information from intermediaries, including humanitarian actors, regarding the final destination or end user of their products. This makes it difficult to build robust networks and business relationships.

Various distribution models were identified in the country that HHWT companies use to ensure their products are available in local markets.

For internationally produced, humanitarian-focused products such as Lifesaver Cube, Aquatabs, and Katadyn, the following distribution schemes are typically used:

- In some cases, a national distributor is responsible for country-wide distribution, as with Icon Lifesaver, which has a nationwide distributor based in Kyiv.
- These products are also distributed through retail stores that primarily sell outdoor activity equipment.
- Humanitarian agencies can purchase these products through international agreements with the companies' headquarters, direct sales via websites or international sales representatives, or through tender processes.
- Additionally, direct sales to individual customers are conducted through company websites.

Companies and brands with a local presence in Ukraine, whether their products are locally produced or imported, have established effective mechanisms to ensure their products reach local markets. Their primary distribution channels include:

- Utilizing local sales agents in various locations across the country.
- Building extensive networks for product availability, ranging from large retailers like Epicenter to local hardware stores and small shops in both urban and rural areas, as confirmed by store checks.
- Selling wholesale to government institutions.
- Small-scale sales to humanitarian organizations or NGOs, often through tender processes.
- Direct online sales to customers via platforms such as Epicenter and Rozetka.

The distribution channels and sales processes influence the level of information companies have about their end customers and the use of their products. Most companies closely monitor their sales and have detailed data on where and which products are sold in the market. However, when products are sold to government institutions or humanitarian agencies for relief efforts, companies often lack

information about the final destination of their products. This makes it more difficult to maintain the supply chain, particularly for spare parts and replacement.

Producers and distributors also highlighted challenges related to logistics and safety issues, which significantly increase production and importation costs.

When asked about their distribution methods for HHWT products, implementers reported various approaches. The most common method, used by 35%, involves distributing products without managing spare parts or replacements. Another 25% rely on partner NGOs or organizations to facilitate distribution. Additionally, 20% handle distribution through their own local field offices, while 10% utilize local markets or national distributors. Finally, another 10% coordinate distribution efforts through local authorities, ensuring broader accessibility within communities.

Transport and Storage of HHWT products

The most common method implementers use to store HHWT products before distribution is utilizing their own warehouses, either at the national level (typically in Kyiv) or locally, depending on their operational areas. In some cases, they depend on the storage capacity of manufacturers and their supply chains.

Large international NGOs often rely on centralized warehouse and logistics centers, where they request products to be shipped to the country for local distribution.

Demand creation initiatives

≡ SUMMARY

- Manufacturers and local distributors primarily drive demand through their websites, complemented by sharing product information with local vendors, attending events, and running social media campaigns.
- Humanitarian agencies focus on raising community awareness and distributing promotional materials, though some admitted to not conducting any specific demand creation activities.
- Over half of the humanitarian agencies conduct needs assessments with affected populations before distributing technology.

Local manufacturers and distributors employ various channels to promote their products to different target audiences. Their primary promotional tool is typically their website, where they aim to provide as much technical information as possible to highlight their products. Many also seek to collaborate with NGOs to raise awareness about their offerings and establish partnerships.

Other promotional methods include participating in local events such as exhibitions and festivals, though these activities have been affected by the ongoing conflict. They also showcase products in local stores through partners and, in some cases, even conduct door-to-door promotions.

Ecosoft, in particular, has developed a YouTube channel and invests significantly in promoting its products by attending international conferences and fairs.

International brands without a direct presence in Ukraine typically generate demand through their websites, social media platforms, sales representatives, and national-level distributors.

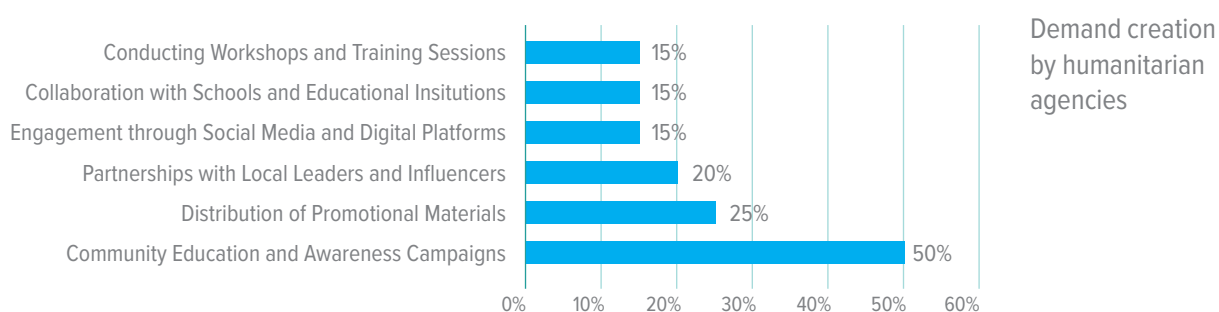
Manufacturers and distributors identified multiple channels through which end users access HHWT products and spare parts. These include direct communication with the company via telephone, email,

or website, as well as purchases through local distribution networks, such as hardware stores or pharmacies. Additionally, some users obtain products through independent marketers, while others rely on humanitarian organizations that initially provided the products for further assistance.

Customer engagement is facilitated through several key methods. These include **direct sales to end users**, as well as the provision of **communication and feedback channels**, such as WhatsApp and Instagram, ensuring **24/7 customer support**. Additionally, **field visits** are conducted to assess customer satisfaction, allowing companies to gather insights on product perception and integrate feedback into product development and distribution strategies. **Local market assessments** also play a crucial role, helping businesses understand client needs, evaluate demand for their products, and gauge interest in competitor offerings.

Humanitarian organizations and HHWT implementers were also asked how they generate demand for their WASH interventions, specifically for HHWT implementation. The most common responses included:

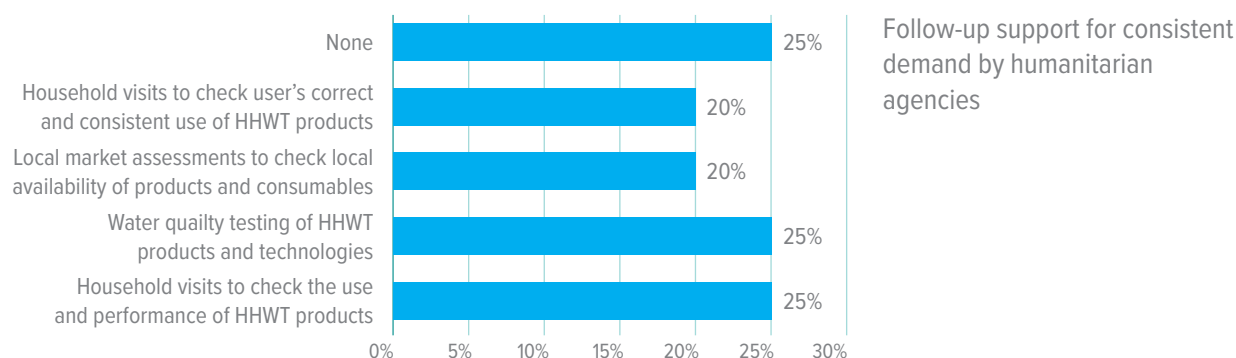
Figure 22. Demand Creation by Humanitarian Agencies



When asked whether they conduct needs assessments before selecting technologies and engaging end users, 55% of the respondents confirmed that they do. Others indicated that this practice depends on the specific circumstances.

To maintain consistent demand and support the long-term adoption of water treatment behaviors, implementers were asked about the types of monitoring activities they typically conduct. The most common responses were:

Figure 23. Monitoring Activities



War impacts

≡ SUMMARY

- Households cited the main obstacles to water access as conflict-related damage to water sources and the difficulty of physically accessing these sources.
- Households, implementers, and manufacturers highlighted the increased difficulty of transporting HHWT products and spare parts as a result of the ongoing conflict.

Conflict-related damage to water sources (25%) and restricted access due to safety or other security concerns (15%) were identified as the second and third most common reasons for drinking water shortages, according to the households interviewed. The war appears to have a greater impact on water access in certain urban areas (32%) and in the following oblasts: Donetsk (50%), Kherson (60%), Sumy (39%), and Zaporizhzhia (32%). In regions closer to the frontlines, 45% of respondents reported that the conflict is directly disrupting their access to drinking water.

Households generally do not perceive the conflict as having a significant impact on their access to products and spare parts, with only 10% reporting occasional shortages. However, this figure rises to 30% in areas closer to the frontline, where shortages are a greater concern. Safety concerns related to accessing stores were primarily noted in rural areas, though only 7% of respondents expressed mild concern about this.

Manufacturers and distributors, on the other hand, highlighted several major challenges the war has created for product availability. These include:

- Difficulties with local transportation due to safety concerns.
- Logistical challenges, such as rising fuel prices and road closures, affecting the transport of goods.
- Stock shortages, as production has been reduced due to the conflict, along with increased difficulties in importing raw materials from other countries.
- In some cases, production capabilities have been directly impacted, with companies like Formula Vody having to close manufacturing locations near the frontlines.

When asked about the impact of the war on their ability to distribute household water treatment (HHWT) products and replacements, implementers identified several key challenges. The most frequently cited issue was the **disruption of local markets and supply chains** (45%), followed by **transportation difficulties due to safety concerns** (30%). Additionally, **logistical challenges**, such as rising fuel costs and road closures, were reported by another **30%**. Notably, **stock shortages were not considered a major issue**, at least for the products currently being distributed.

3.2.2 | Acceptability

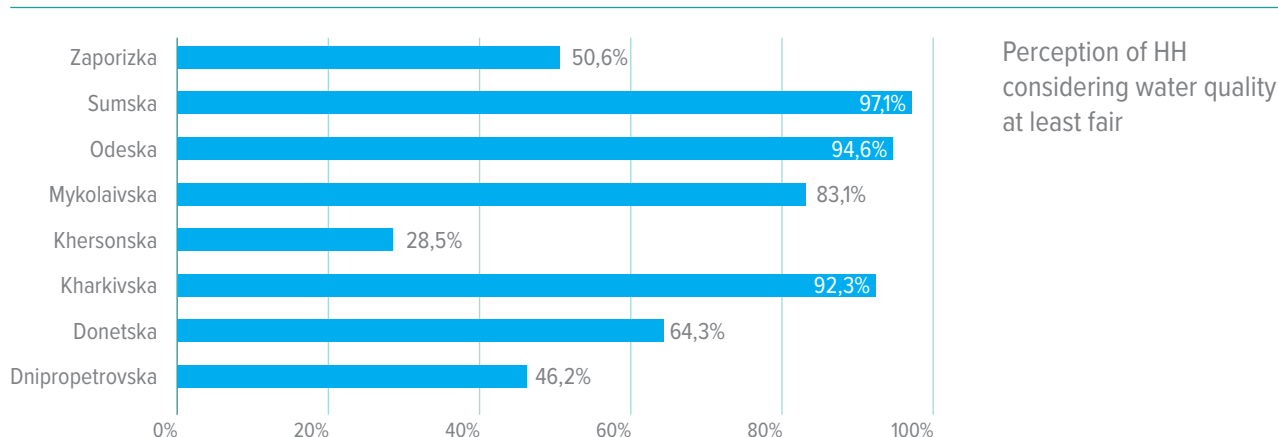
Perception of Water Contamination

≡ SUMMARY

- The majority of households interviewed consider their drinking water to be at least ‘fair to drink,’ meaning it is safe for consumption but may have minor issues such as taste, odor, or clarity.
- Rural residents tend to be more satisfied with their water quality compared to urban dwellers, likely due to a higher reliance on private wells. In Khersonska, however, dissatisfaction is greater, likely due to the area’s proximity to the frontline.
- Overall, concerns about water safety are the least pressing issue for most households regarding their water supply.

Nearly 80% of the households interviewed believe their drinking water is at least “fair to drink.” This indicates that, while the water is generally safe for consumption, it may not be ideal, with minor issues such as taste, odor, or clarity affecting user satisfaction. Of this group, almost half consider their water to be of good quality, meaning it is not only safe for consumption but also generally satisfactory, with no significant concerns.

Figure 24. Water Quality HH Perception



Perceptions of water safety vary by gender, with women being 5% more likely than men to believe their water is safe to drink. Additionally, there is a notable difference in water quality satisfaction based on household location. Rural households report higher satisfaction with their water quality (87.4%) compared to those in oblast centers (81.2%). This discrepancy may be due to the greater reliance on private wells as a primary water source in rural areas (40%) compared to oblast centers (1%). It appears that households in rural areas trust their own water sources more than the tap water provided by utilities.

In contrast, households in other urban areas express the most dissatisfaction, with only just over half (51.2%) rating their water quality as at least fair. This suggests that urban areas outside of oblast centers may face greater challenges in water quality, possibly due to aging infrastructure or inconsistent service provision.

Water quality perceptions vary significantly across the different targeted Oblasts:

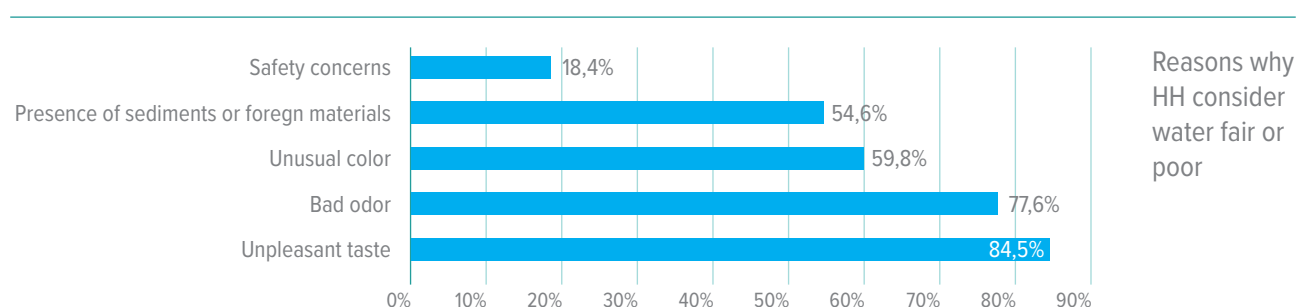
Table 16. Water Quality Perception by Oblast

Oblast	% population considering water quality at least fair for consumption	Key considerations to justify water quality perception
Sumska	97.1	Over ⅔ population living in Oblast center, HH far from the frontline
Odeska	94.6	Over ⅔ population living in Oblast center, HH far from the frontline
Kharkivska	92.3	75% of interviewees living in Oblast centers, HH far from the frontline
Mykolaivska	83.1	Over ⅔ population living in Oblast center, HH far from the frontline
Donetska	64.3	Over 20% of people interviewed were living less than 20 Km from the frontline
Zaporiska	50.6	24% of rural population
Dnipropetrovska	46.2	Population interviewed ranged from all different regions related to the frontline
Khersonska	28.5	100% of HH are less than 20 Km from the frontline. Almost a third of the population access to water from trucks and another third from private wells

A similar trend is observed for those living closer to the frontline (within 20 km), with only 49% perceiving their water quality as at least fair, compared to 89.2% for those living more than 50 km away.

The most common reasons given for rating water quality as fair or poor include:

Figure 25. Rationale behind Water Quality Perception



The adult population (aged 18 to 60), particularly males, appear to be more concerned about the organoleptic properties of water, such as taste. In rural areas, over 90% of those reporting water quality concerns mentioned that the water has an unpleasant taste, with more than 80% noting other related issues. Dislike of the water's taste is also significant in other urban areas (93.9%) and oblast centers (74.7%).

Interestingly, despite the high reports of unpleasant taste, there is no direct correlation with other common organoleptic factors such as bad odor or discoloration, which are typically associated with a poor flavor. The exact cause of the unpleasant taste remains unclear, but it may be linked to high chlorine levels in centralized water systems, where disinfectant concentrations are higher.

≡ SUMMARY

- While most of the inspected water sources did not present significant safety risks, minor infrastructure improvements could further protect them. Ongoing vigilance is essential to prevent contamination, particularly due to inadequate sanitation practices.
- The greatest risk for water recontamination lies in household water storage practices.

As mentioned earlier, Sanitary Inspection Forms (SIFs) were conducted in various locations to gather more information on water quality and potential contamination of commonly used water sources. The primary sources inspected included four boreholes with motorized pumps and seven water kiosks. Additionally, nine household storage containers were sampled to assess safe storage and handling practices at the household level.

The inspections revealed that water kiosks generally provided better protection of water quality, with minimal issues identified. Treatment methods used at these kiosks varied, with some utilizing pre-chlorination, others combining chlorination with reverse osmosis (RO), and a few implementing secondary treatment processes after chlorination and RO, such as additional filtration units or UV lamps for water disinfection.

Table 17. Challenges Encountered at SIF Sample Point

Borehole with a motorized pump	Water kiosk	Storage practices
• The fence or barrier surrounding the borehole and pump was either absent or insufficient missing or inadequate • There was sanitation infrastructure within 100 meters of the borehole	• The overflow pipe lacks adequate protection from vermin	• The collection container is dirty or in poor condition • The collection container lacks a cover • The intermediate storage container lacks a cover • There are signs of contaminants inside the intermediate storage container • Sources of pollution can be seen around the intermediate storage container (e.g. open defecation, open drains, animals, drinking troughs for livestock, rubbish) • The intermediate storage container is dirty or in poor condition • The tap or utensil is dirty or in poor condition

SIFs emphasize that while most water sources appear to be functional and provide some protection against contamination, they still require regular inspection, as potential issues may arise. It should not be assumed that water from these sources is automatically safe for consumption. This concern was validated during the assessment of household-level storage and handling practices, where challenges related to water recontamination were identified.

User Preferences

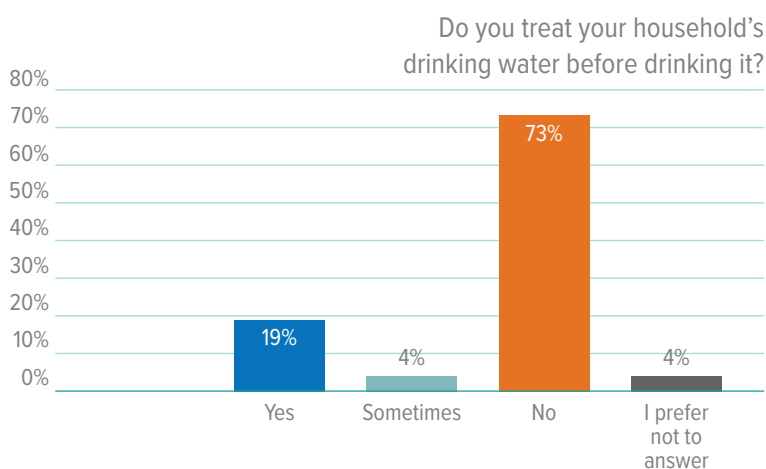
≡ SUMMARY

- Nearly two-thirds of the households interviewed acknowledged that they do not treat their water before drinking it.
- Individuals under 60 and women are more likely to treat their drinking water, as are those living in urban areas.
- The primary reason for not treating water is the belief that its quality is already sufficient, making treatment unnecessary. However, nearly a quarter of households cited a lack of financial resources to afford filters, chemicals, or other treatment methods. This financial barrier is particularly pronounced among people over 60 and those in rural areas, with these groups being twice as likely to report financial constraints compared to the average respondent.

- In Khersonska, 75% of respondents identified financial limitations as the main reason for not treating their water.
- Around 10% of respondents expressed doubt that treating water would be effective, indicating a potential lack of trust in household water treatment methods.

The following graph illustrates users' responses to the question of whether they treat their water:

Figure 26. Household water treatment practices before drinking water

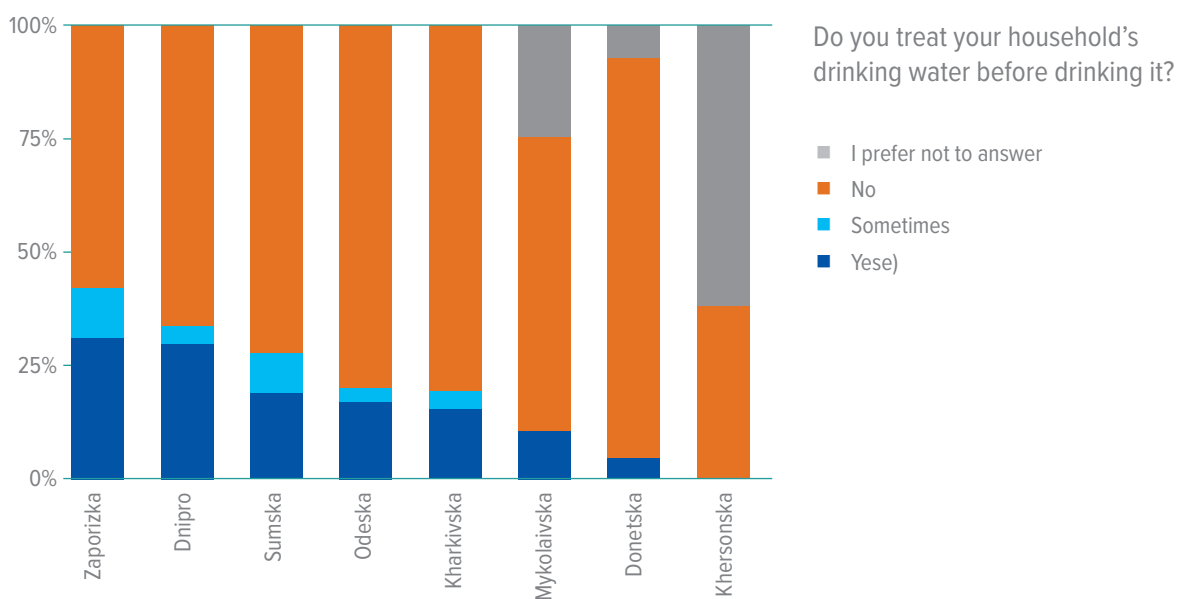


The majority of respondents reported that they do not treat their water, despite expressing concerns about its organoleptic qualities, such as taste, odor, and clarity, as mentioned in the previous section.

Although the difference is marginal, older individuals and men were 5% more likely than younger people or women to state that they do not treat their drinking water. Awareness of water treatment is somewhat higher in other urban areas, accounting for nearly 30% of those who do treat their water.

The following graph highlights the levels of water treatment across the targeted Oblasts:

Figure 21. Store Distance



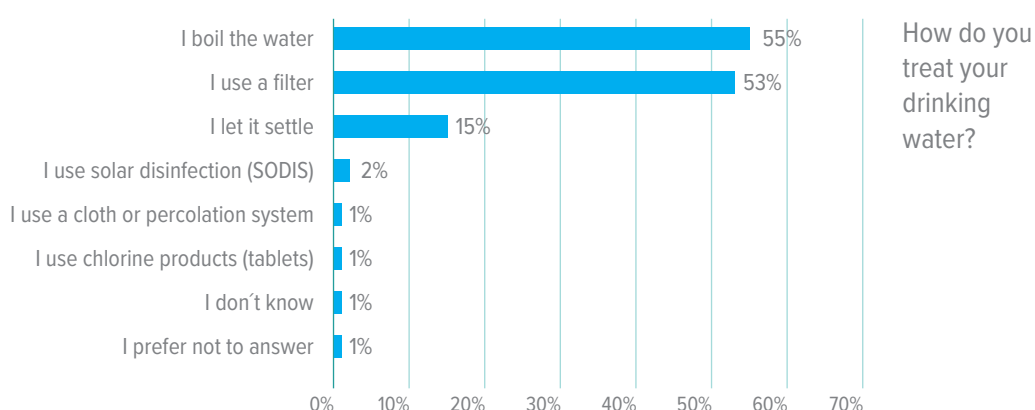
Zaporizska Oblast reported the highest percentage of households treating their water, with over a quarter of respondents confirming this practice, while in Khersonska, no households reported treating their water.

The most common reasons cited for not treating water include the belief that the water quality is already sufficient (64.4%) and the lack of financial resources to afford filters, chemicals, or other treatment methods (23%). Financial constraints were twice as likely to be mentioned by people over 60 and households in rural areas, with this issue being particularly significant in regions near the frontline. In Khersonska, 75% of respondents stated that financial limitations were the main reason they did not treat their water. Similarly, at least 25% of respondents in Dnipropetrovska, Donetsk, Odeska, and Zaporizka shared the same concern.

Notably, across all demographic categories—including age, gender, and location—an average of 8-12% of people expressed skepticism about the effectiveness of water treatment.

The following graph illustrates households' responses when asked how they treat their water:

Figure 27. Household Water Treatment Methods

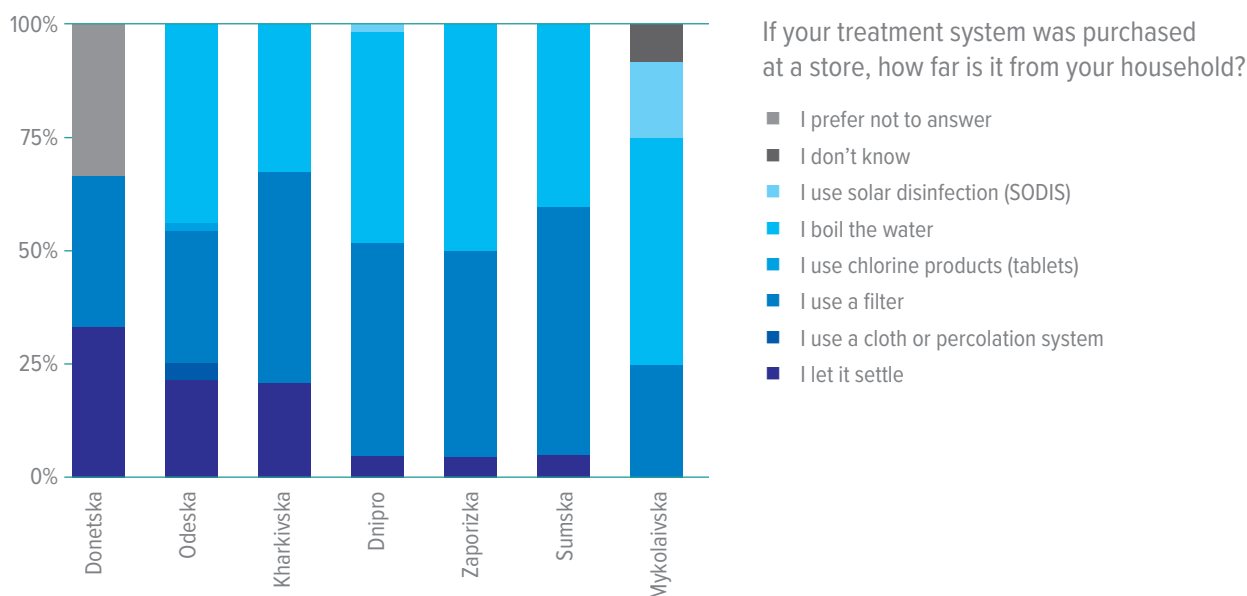


More than half of respondents who treat their water cited filtration and boiling as their primary methods at the household level. However, preferences differ when examined more closely:

- Individuals over 60 years old reported boiling their water 20% more frequently than using filters.
- Men were 10% more likely to boil water compared to women.
- In other urban areas, 73% of people use filters, whereas only 28% of rural respondents reported doing so.
- Boiling is the most favored method in rural areas (82%), while in Oblast centers and other urban areas, around 40% prefer this method.
- Traditional methods like settling (23%) and UV disinfection (5%) are more common in rural areas, while up to 2.5% of urban respondents use cloth filtration.
- Among those closer to the frontline, 85% boil their water, 46% use filters, 23% settle, and 7% use solar disinfection.
- Notably, chlorine was never mentioned as a significant household water treatment option across all disaggregated data.

In terms of HHWT preferences by Oblast, the following options are most common:

Figure 28. Common HHWT Options



When analyzing data from the perspective of HHWT users, some interesting patterns emerge regarding the use of multiple water treatment methods. When various methods are combined and consistently applied, this is known as a multi-barrier approach, which provides the best possible water quality. However, since this study focuses on market access and product use, there isn't enough data to confirm whether users combine these technologies or if their choices depend on factors such as personal preference or accessibility to spare parts.

Key insights include:

- 15% of users who boil their water also practice settling, and 26% use a filter.
- 46% of people who use countertop (CT) filters also boil their water.
- 27% of faucet-mounted filter users boil their water, and 9% practice solar disinfection.
- 32% of jar filter users also boil their water.
- One-third of reverse osmosis (RO) users boil their water, while 6% rely on solar disinfection as well.
- Of those who use settling as a treatment method, 4% use cloth filtration, 14% use a filter, and 57% boil their water.
- Among users of under-the-sink (UTS) filters, a quarter boil their water, and 4% also use solar disinfection.

This shows the complexity of treatment preferences and highlights the potential of multi-barrier approaches to ensure safer drinking water.

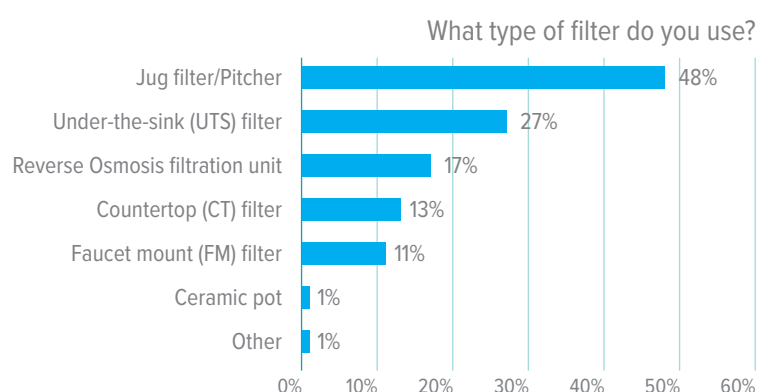
≡ SUMMARY

- Boiling and using filters are the most employed household water treatment (HHWT) methods among users.
- Individuals over 60 and men are more likely to boil their water than other groups. Boiling is also the preferred method in rural areas and regions closer to the frontline.
- In rural areas, other traditional methods, such as settling or UV disinfection, were also mentioned as water treatment practices.
- Across all the data collected, chlorine was not mentioned as a relevant water treatment option at the household level.

Regarding user preferences for filter selection and usage, the data reveals the following trends:

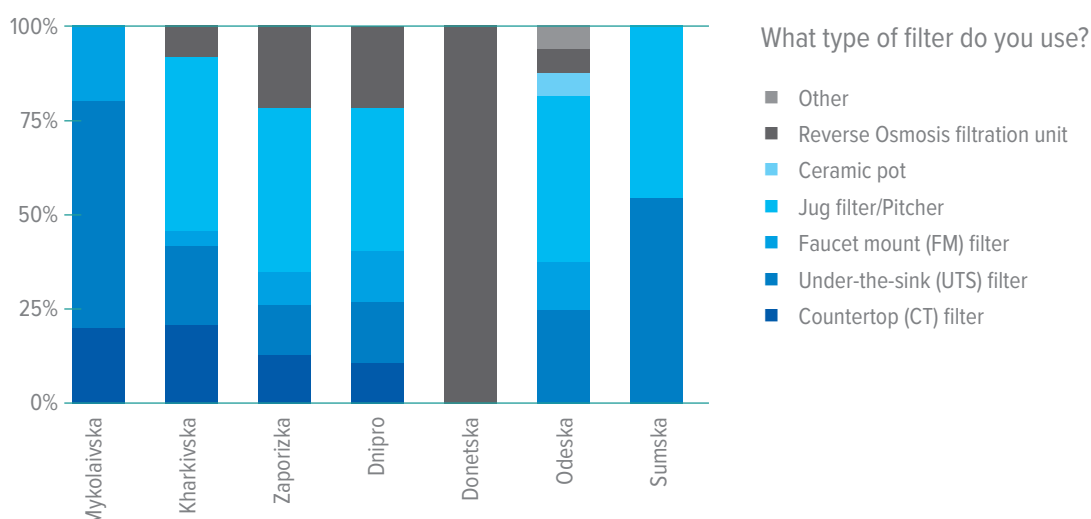
- For individuals over 60, jug filters are the most preferred option, with nearly 70% favoring them.
- Among adults under 60, jug filters are also popular, but UTS filters come in second, with almost 30% expressing a preference for them.
- Women tend to prefer UTS filters (33%), while men show a stronger inclination toward reverse osmosis (RO) systems (24%).
- These preferences remain consistent across urban and rural areas, with no significant variations based on location.

Figure 29. Type of Filter Used



The following graph illustrates filter preferences based on Oblasts:

Figure 30. Type of Filter Used by Oblast



Half of the respondents living closer to the frontline favor RO systems, with similar preferences (33%) shared between UTS, jug, and countertop (CT) filters. Further from the frontline, the use of RO systems decreases significantly, with only 10% opting for these units.

≡ SUMMARY

- Overall, jug filters, UTS and RO are the preferred filter options.
- Jug filter is the preferred option for people over 60 years old (almost 70%)
- For adults below 60, after the jug filter, they prefer UTS filters (almost 30%)
- Women tend to prefer UTS filters (33%) and men are more into RO (24%)
- Preferences follow the general patterns regardless of location, between urban and rural.
- Half of the people closer to the front line prefer RO systems, and have similar preferences for UTS, jug and CT filters (33% of responses)
- Households also reported using several treatment methods: if applied together, it can be considered a multi-step treatment process although there is not enough evidence if this is the case or people using different treatment techniques separately based on availability or preferences.
- This may lead to the lack of awareness towards how different techniques contributes to improve water quality.

Since boiling is one of the most common traditional practices in Ukraine, the access to and affordability of fuel was examined:

- **Type of fuel used:** 84% of respondents reported using gas, while 23% used electricity. Other types of fuel, such as coal and wood, were more commonly reported in rural areas (7% each) and closer to the frontline (18%).
- **Year-round access:** 96% of people who boil water reported having consistent access to fuel throughout the year.
- **Monthly cost:** 55% of families spend 200 UAH or less per month on boiling water.

≡ SUMMARY

- Only a few respondents cited promotion by local authorities or NGOs as the reason for choosing a particular technology.
- People under 60 are twice as likely as older individuals to learn about products through social media or TV. Among women, 30% cited the belief that “I knew that treatment makes water safe” as their main reason for choosing a product. In rural areas, no one reported seeing products in local stores, and only 2.6% mentioned that local authorities or NGOs promoted them.
- Among HHWT users, those using reverse osmosis (RO) and filtration membrane (FM) systems were the ones who most frequently mentioned seeing the products in stores. Nearly a third of ceramic filter (CT) users reported first learning about the products through TV or social media.

A key consideration in technology adoption is understanding why users choose a particular solution. Key findings from the analysis of disaggregated data include:

- Almost no respondents mentioned local authorities or NGOs promoting the products.
- People under 60 are twice as likely to learn about products through social media or TV compared to those over 60 (12% vs. 5%).

- For 30% of women, the primary reason for adopting a technology was the knowledge that water treatment makes it safe.
- In rural areas, no one reported seeing these products in local stores, and only 2.6% mentioned promotion by local authorities or NGOs.
- Among HHWT users, those using reverse osmosis (RO) systems (41%) and filtration methods (FM) (36%) were more likely to have seen the products in stores. Meanwhile, 31% of users of ceramic or carbon filters (CT) reported learning about them through TV or social media.

Figure 31. Source of Information behind the Selection of Particular HHWT Methods

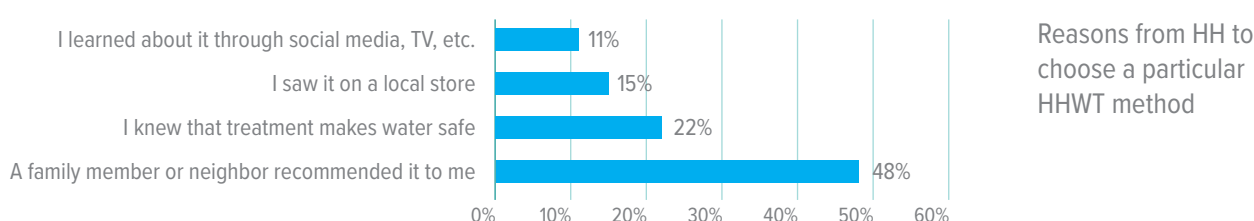
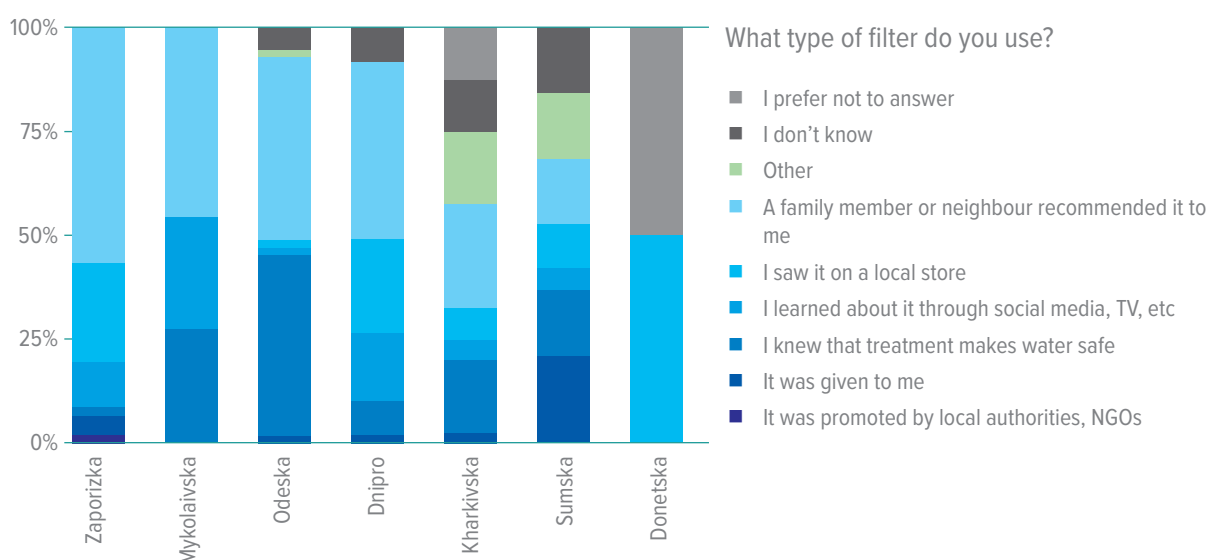


Figure 32. Reasons behind the Selection of Particular HHWT Methods



Social & cultural aspects from different target groups (urban vs. rural vs. IDPs)

SUMMARY

- The acceptability of HHWT products and practices is generally high, particularly regarding their effectiveness in improving water quality, ease of use, and maintenance.
- When asked if they would recommend their water treatment method, users most commonly cited affordability and ease of use as their reasons.

- Humanitarian agencies primarily base their selection of HHWT products and technologies on user acceptability. Ease of use and maintenance are the key factors in their decisions, with the volume of water produced or treated being the only technical parameter considered important. Other technical aspects of treatment effectiveness were not viewed as critical in the selection process.

When asked about their overall perception of the effectiveness of their water treatment system in improving water quality, 54% of respondents found it effective, 30% rated it as very effective, and 15.5% said it was somewhat effective. Notably, individuals over 60 and those living closer to the frontline expressed less confidence in HHWT products, with 75% stating they find them effective, which is higher than the average level of trust in these technologies.

Regarding the ease of use and maintenance of their HHWT products, 50% of users described the process as somewhat easy, while 45.5% found it very easy. However, 15% of users of countertop and under-sink filters reported that these products were somewhat difficult to use and maintain.

Respondents were also asked if they would recommend their household water treatment system to others (such as family or neighbours) to gauge overall satisfaction. In general, 65% of HHWT users said they would recommend their system. However, 25% were unsure, and 5% were opposed to recommending it. Users of filtration units were more likely to recommend their HHWT method (80%) compared to those using traditional practices like boiling (61%) or settling (32%).

The primary reasons for customer satisfaction with their HHWT product are outlined in Table 18 below:

Table 18. HHWT Products Satisfaction Parameters

Reason	# of times mentioned
Affordability	22
Ease to use	28
Overall satisfaction	14
Effectiveness	16
Convenient	14
Old/traditional method	14

The few respondents who indicated they would not recommend their HHWT system provided the following reasons:

- Issues with operation and maintenance, such as system leaks

Figure 33. Perception of HHWT Products Effectiveness

Perception of EFFECTIVENESS of HHWT products by HH

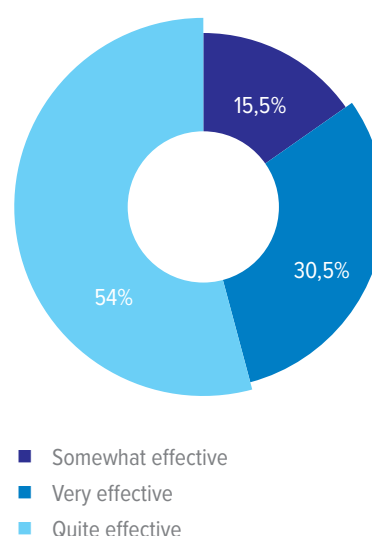
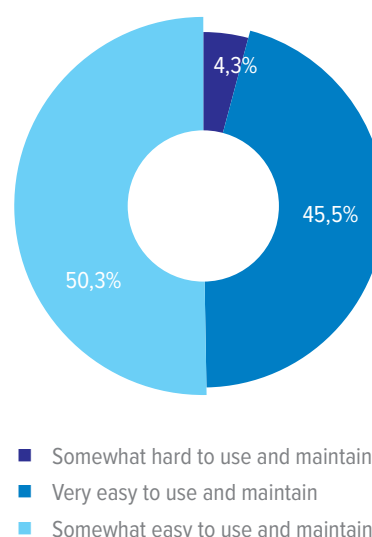


Figure 34. Perception of HHWT Products Ease of Use and Maintenance

Perception of EASE OF USE and MAINTENANCE of HHWT Products by HH



- The belief that water treatment is a shared responsibility
- Lack of trust in the effectiveness of the treatment method
- Dissatisfaction with water quality, citing concerns that it is not adequately treated or may not be safe
- Reluctance to take on the responsibility for water treatment

Implementers were also asked how they select the technologies they provide to communities, which are distributed free of charge as part of humanitarian response efforts.

Table 19. Criteria for HHWT Selection

Criteria for HHWT selection	# times mentioned	Criteria for HHWT selection	# times mentioned
Amount of water produced	10	Water aesthetics-taste, odour, color, etc	8
Product aesthetics	1	Ease of use	14
Ease of maintenance	11	It was a previous practice for water treatment	4
Price of product	4	I don't know	2

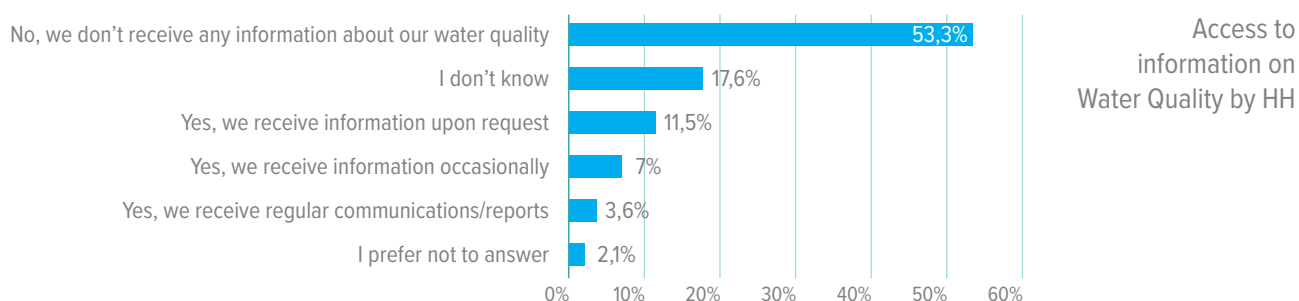
According to the responses, implementers prioritize the ease of operation and maintenance when selecting technologies for communities. This approach is logical, as time for training and follow-up is often limited. By choosing simpler, user-friendly technologies, there is a higher likelihood that these products will be used effectively and sustainably over the long term.

Accessibility to Information on Water Quality and Product Availability

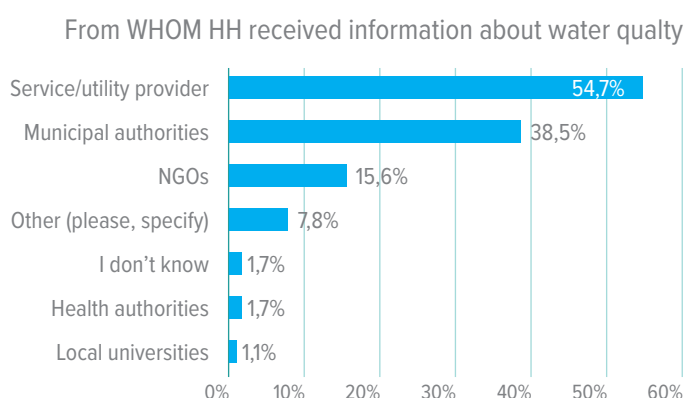
≡ SUMMARY

- There are significant gaps in how people access information about their water quality.
- Water quality information is mostly provided by service providers or utilities, followed by municipal authorities, while NGOs typically do not offer this information to households.
- Nearly a quarter of the people interviewed reported not receiving any information about different HHWT options. Among those who did receive information, local vendors were the primary source.
- Some users demonstrate proactivity, with 10% of HHWT product users actively searching for information online on their own.
- Those living closer to the frontline faced more limited access to information, with 50% reporting they received none. As a result, they had to be more proactive, with 23% actively seeking alternative information online and another 23% obtaining information from local markets.
- Humanitarian organizations provide training during installation or distribution of HHWT products and supply informational pamphlets.

A total of 58.3% of respondents reported not receiving any information regarding the quality of their drinking water, with an additional 18% unsure if they had received any. This gap in information varied across different oblasts, with 91% of respondents in Sumska and nearly 76% in Zaporizka indicating they had not been informed about their water quality. Only 3.6% of all respondents confirmed that they regularly receive water quality reports.

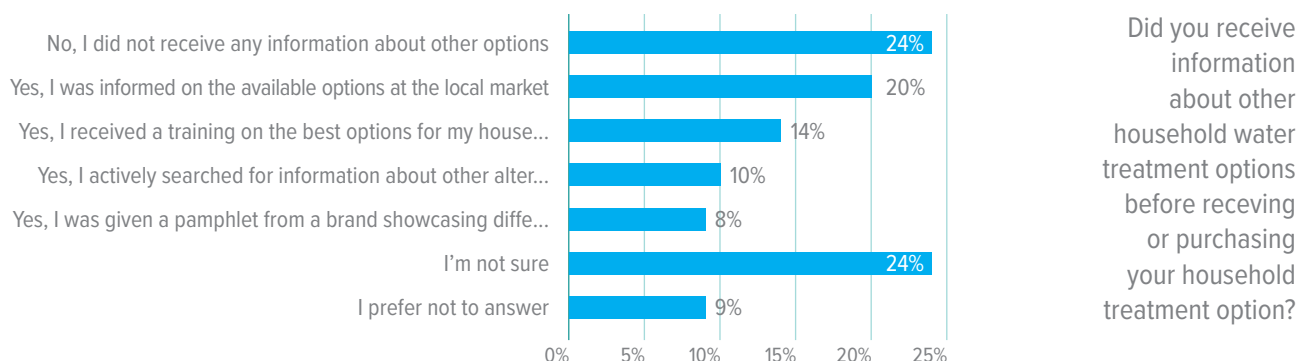
Figure 35. HH Access to Water Quality Information

Most HHWT users reported not receiving any information about their water quality, with this issue being especially pronounced among those who boil their water—over 70% of individuals using this traditional method were unaware of their water quality. Other HHWT users who reported a lack of information include those practicing water settling (64.3%), using jug filters (63.8%), and employing reverse osmosis systems (58.8%). Additionally, users of various filtration units mentioned, with responses ranging from 3% to 30%, that they only received information when they specifically requested it.

Figure 36. Water Quality Source of Information

When asked where they obtain information related to water quality, over half of the respondents (54.7%) indicated that they receive it from their utility or service provider, while 38.5% cited municipalities or local authorities as their source. Together, these represent the majority, with NGOs accounting for just over 15% of cases. Interestingly, despite health authorities being responsible for overseeing health promotion and public health surveillance, only 1.7% of respondents reported receiving water quality information from them.

Households were also asked if they received any information before receiving or purchasing their HHWT product or technology, as illustrated below in Figure 37 :

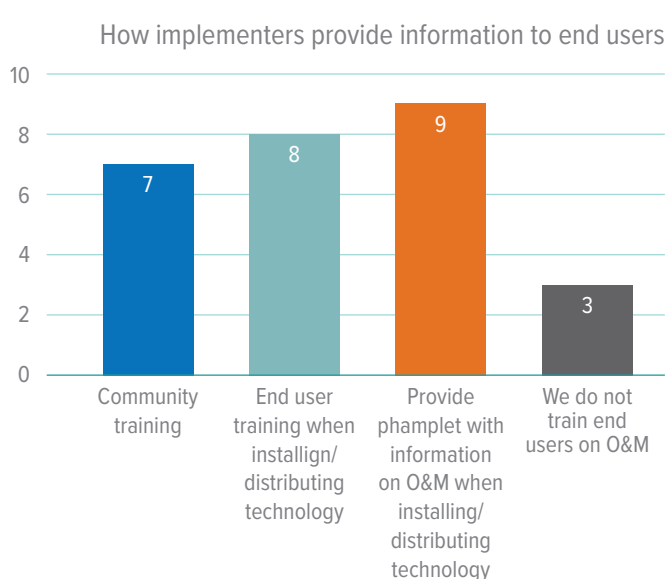
Figure 37. HHWT Product Information Timeliness

Nearly a quarter of respondents reported not receiving any information about different HHWT options, with an equal number unsure whether they had received such information. Among those who did receive information, local vendors were identified as the primary source. Additionally, 10% of HHWT users demonstrated proactivity by actively seeking information online.

People living closer to the frontline faced greater limitations in accessing information, with 50% stating they did not receive any. To compensate, 23% actively searched for information about alternatives on the internet, and another 23% obtained information at local markets. When asked about receiving pamphlets or guidance on the operation and maintenance of their water treatment systems, 30% confirmed they had, while another 30% were unsure. Additionally, 10% reported receiving training, and 10% found the necessary information online. Higher rates of not receiving pamphlets or maintenance information (over 30%) were reported among individuals over 60, those living in rural areas, and those near the frontline.

Of those who received some form of training, 53% said it came from local vendors, 35% from NGOs, and 17% from local authorities. When implementers were asked how they inform end users about HHWT, the most common responses included a variety of approaches.

Figure 38. Implementers' Information Sharing Methods



War Impacts

≡ SUMMARY

- Nearly half of the households reported no significant change in their access to water due to the conflict, with those in other urban settings being the most affected. Residents of Sumska and Donetska reported the most significant disruptions to water access. Additionally, nearly a quarter of those who rely on boiling and settling methods noted a significant deterioration in water availability.
- Over half of the respondents indicated that the frequency of their access to drinking water has not changed significantly. However, concerns about water access frequency are most pronounced among residents of Dnipropetrovska, Mykolaivska, and Zaporizka in Oblast centers, as well as those living 20-50 km from the frontline. Users of RO systems, boiling, and settling methods were particularly sensitive to changes in water access frequency.
- Water quality was reported as being more adversely affected than access frequency, with nearly 25% stating that the situation has significantly worsened. Residents of urban centers in Dnipropetrovska, Khersonska, and Mykolaivska noted a substantial decline in water quality since the onset of the war.
- Areas closer to the frontline have experienced the most severe deterioration in water quality, with RO filter users expressing the greatest concern about the impact of the war on water quality.
- The primary reasons cited for changes in water access, frequency, and quality due to the war include hostilities and shelling (79%) and aging infrastructure combined with a lack of maintenance (43%).

In relation to household perceptions of water accessibility since the full escalation of the conflict (before February 2022), 47% of respondents reported no significant change. However, nearly 30% indicated that access to water had somewhat deteriorated, while 16% observed a significant decline. When analyzed by location, households in urban areas outside of major cities reported the most difficulties, with 40% noting a moderate decline and 20% experiencing a significant worsening in water access.

A closer look at the situation across different Oblasts reveals varying perceptions of water access changes. In Odeska, 75% of respondents believe there have been no significant changes in water quality. Meanwhile, 60% in Sumska, 45% in Donetsk, and over a third in Dnipropetrovska, Kharkivska, Khersonska, and Zaporizka feel that water access has somewhat deteriorated.

The greatest concerns about worsening water access are in Dnipropetrovska (38%), where most respondents live in urban areas (65%) and half reside 20-50 km from the frontline. In Donetsk and Mykolaivska, over 25% of respondents reported significant declines. In Donetsk, half of the population lives in oblast centers and the rest in urban or rural settings, with 80% located less than 20 km from the frontline. In Mykolaivska, two-thirds of respondents are in the oblast center, while the remainder, mostly in rural areas, live 20-50 km from the frontline.

When examining HHWT users, 25% of those practicing boiling and 21% using settling reported significant deterioration in water access. Among filter users, 61% of CT users and over 50% of RO and UTS users noted that water access had somewhat deteriorated.

Overall, more than 50% of interviewees stated that the frequency of access to drinking water has not changed significantly since the war escalated, with 30% reporting that access has somewhat worsened. Those in urban areas experienced a higher degradation in frequency, with over 20% expressing concerns.

The Oblasts reporting the highest concerns about water access frequency are Dnipropetrovska (36%), followed by Mykolaivska (23%) and Zaporizka (20%). In Zaporizka, the majority of respondents (75%) are from the oblast center and live 20-50 km from the frontline.

Figure 39. Conflict Impact on Water Access

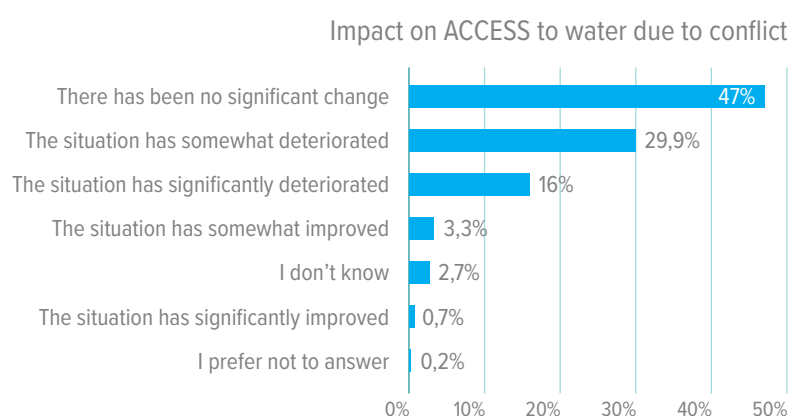
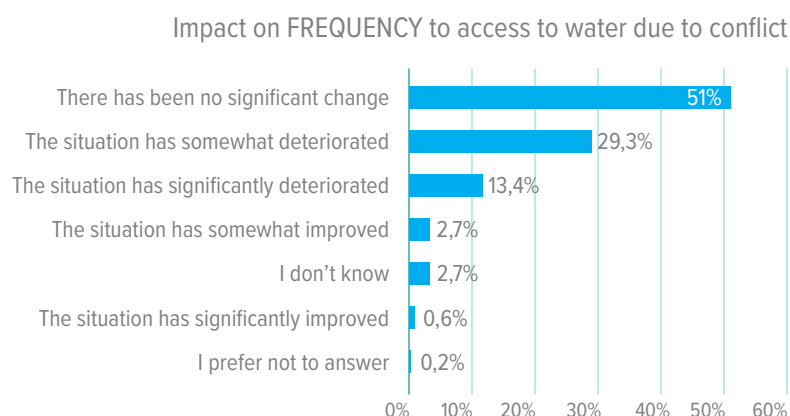


Figure 40. Conflict Impact on Water Access Frequency



Among HHWT users, those who rely on boiling and settling methods expressed the most concern about reduced access to drinking water, with over 20% reporting issues. Additionally, 50% of RO filter users noted a significant decline in access.

Regarding water quality, concerns are even more prominent. While half of the population did not identify any major issues, nearly 25% reported a significant deterioration in water quality. Residents of other urban centers expressed the highest concerns, with 45% noting a worsening in the quality of their drinking water.

When comparing Oblasts, respondents from Odeska and Sumska reported that water quality has remained largely unaffected (84% and 95%, respectively). In contrast, more than half of the respondents from Dnipropetrovska, Khersonska, and Mykolaivska indicated that water quality has significantly deteriorated since the war began, with over 40% of respondents in Donetsk and Zaporizka expressing similar concerns. Areas closer to the frontline experienced the most severe decline in water quality, with over 60% of respondents noting a significant deterioration, while only 8% felt that the situation had not changed.

Among HHWT users, those using reverse osmosis (RO) filters reported the highest levels of concern about the worsening water quality (53%), followed by users of boiling methods or CT/faucet-mounted filters, with around 40% expressing concern.

The two primary reasons cited for changes in water access, frequency, or quality were ongoing hostilities and shelling (79%) and the aging infrastructure combined with a lack of maintenance (43%). The full breakdown of reasons is illustrated in the following graph.

Figure 41. Impact of the Conflict on Water Quality

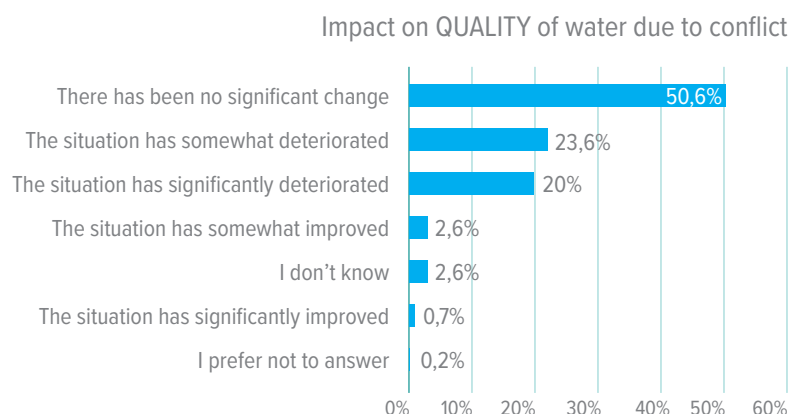
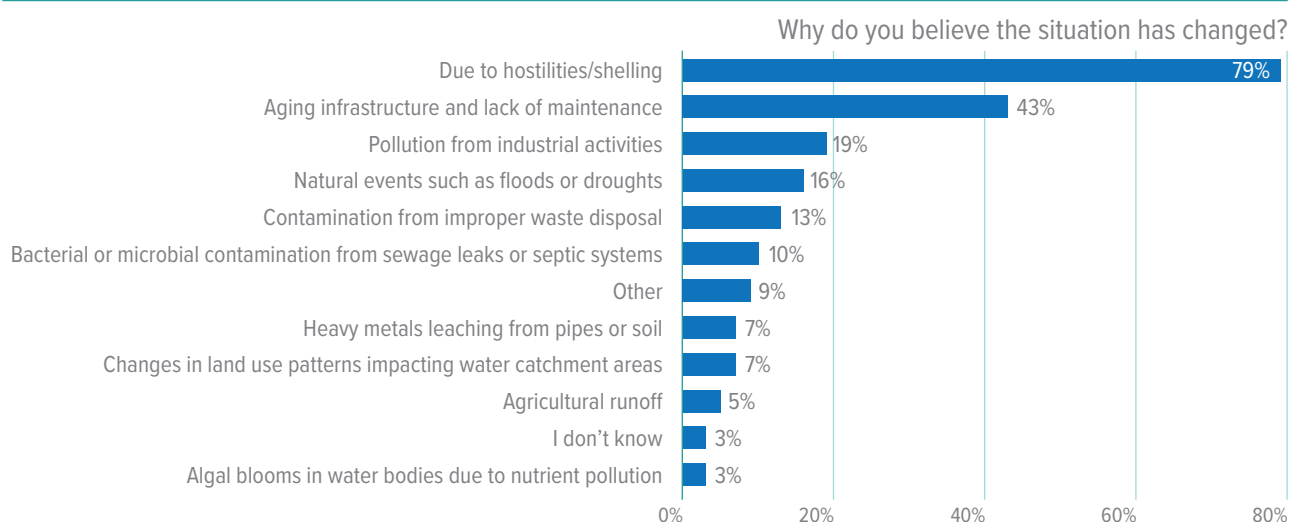


Figure 42. Rationale behind Perception of Changes around Water Access, Frequency and Quality (n=812)



Adults reported a slightly higher awareness of water contamination issues—such as chemical pollutants from industry, microbiological contamination, heavy metals, and algae—compared to older individuals, with an average difference of 5 percentage points. A similar trend is observed by gender, with men expressing slightly higher concerns about various contamination sources compared to women.

Urban residents showed greater concern about the decline in water quality due to factors like aging infrastructure (57%), industrial pollution (55%, including chemical spills and wastewater discharge), and improper waste disposal (21%, such as landfill leachate).

The following graph illustrates the primary reasons for water quality deterioration, categorized by Oblast:

Multiple choice question: *Why do you believe the situation has changed?* (N=517)

Table 20. Main Factors of Deterioration

By Oblast	Most selected factor	2 nd factor
Dnipropetrovska	Due to hostilities/shelling (87%)	Aging infrastructure and lack of maintenance (63%)
Donetska	Due to hostilities/shelling (77%)	Aging infrastructure and lack of maintenance (40%)
Kharkivska	Due to hostilities/shelling (95%)	Aging infrastructure and lack of maintenance (36%)
Khersonska	Due to hostilities/shelling (85%)	Pollution from industrial activities e.g., chemical spills, wastewater discharge (40%)
Mykolaivska	Due to hostilities/shelling (70%)	Aging infrastructure and lack of maintenance (41%)
Odeska	Due to hostilities/shelling (44%)	Other: Power Outages (33%)
Sumska	Due to hostilities/shelling (100%)	Other: Power Outages (5%)
Zaporizka	Aging infrastructure and lack of maintenance (81%)	Due to hostilities/shelling (74%)

And the following one represent the reasons expressed by HHWT users:

Multiple choice question: *Why do you believe the situation has changed?* (N=517)

Table 21. Perception of Changes around Water Access, Frequency and Quality among HHWT Users

By Filter Type	Most selected factor	2 nd factor
Boiling	Due to hostilities/shelling (85%)	Aging infrastructure and lack of maintenance (54%)
Countertop (CT) filter	Due to hostilities/shelling (100%)	Aging infrastructure and lack of maintenance (27%)
Faucet mount (FM) filter	Due to hostilities/shelling (80%)	Aging infrastructure and lack of maintenance (70%)
Jug filter/Pitcher	Due to hostilities/shelling (77%)	Aging infrastructure and lack of maintenance (77%)
Reverse Osmosis filtration unit	Due to hostilities/shelling (100%)	Aging infrastructure and lack of maintenance (50%)
Settling	Due to hostilities/shelling (75%)	Aging infrastructure and lack of maintenance (44%)
Under-the-sink (UTS) filter	Due to hostilities/shelling (81%)	Aging infrastructure and lack of maintenance (29%)

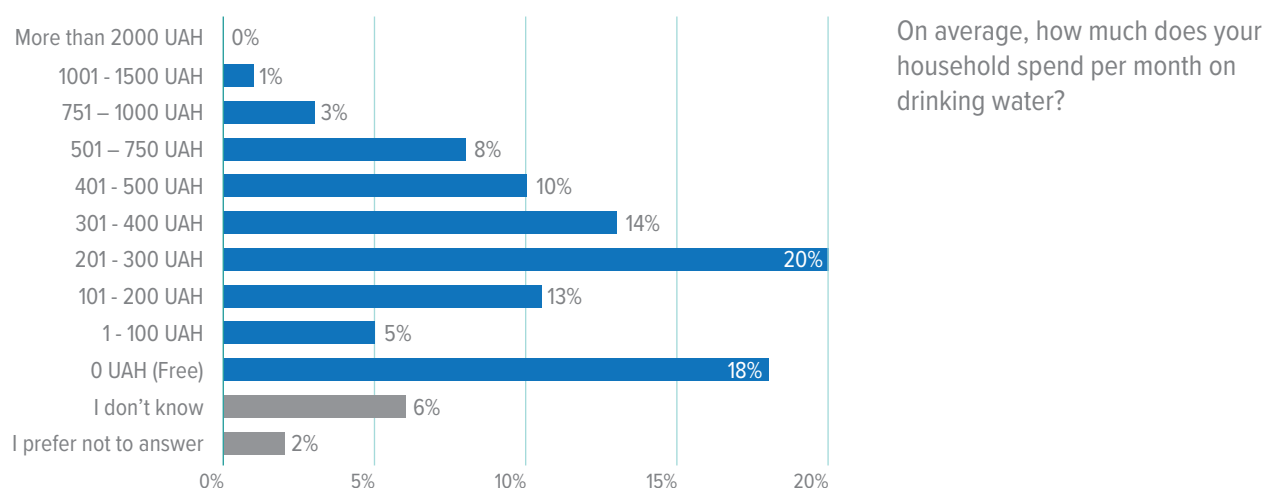
3.2.3 | Affordability

≡ SUMMARY

- The most common expenditure reported by households for accessing drinking water falls within the range of 201-300 UAH. The level of support received for obtaining water varies significantly across different Oblasts, with areas closer to the frontline generally receiving more ongoing assistance.
- NGOs are the primary source of support for households in accessing drinking water, followed by assistance from family members and municipalities. Access to micro-credits from financial institutions or credits from service providers is minimal.
- NGOs tend to focus their support efforts on urban settings and municipalities. For those living closer to the frontline, NGO support is often directed towards more distant areas, typically over 50 km away.
- The Oblasts that reported receiving the most support from NGOs include Dnipropetrovska, Odeska, and Zaporizka.
- Family support is primarily concentrated on households closer to the frontline, with these families receiving twice as much assistance as those farther away. Municipalities also prioritize supporting communities near the frontline.

The following graph shows how much, on average, household spend monthly on drinking water:

Figure 42. Rationale behind Perception of Changes around Water Access, Frequency and Quality (n=812)



Nearly 20% of people receive their water at no cost, while another 50% of users pay less than 400 UAH per month for water access. When comparing by age, 32% of older individuals do not pay for water, compared to just 14% of younger users.

The regions with the highest levels of water subsidies, where users receive water for free, include Mykolaivska (49%), Odessa (31%), and Donetsk (29%). In contrast, Dnipropetrovska has a higher proportion of users—nearly 50%—paying between 400 and 700 UAH per month, with similar trends observed in Khersonska and Zaporizka.

The following table provides a comparison of the average income across different Oblasts and the corresponding average payment for drinking water, based on weighted average estimates:

Table 22. Average Income against Expenditure on HHWT Product per Oblast

Oblast name	Average monthly income by Oblast (UAH)	Average monthly expenditure on drinking water access (UAH)	Average monthly expenditure on HHWT product (UAH)	Average monthly expenditure on HHWT spare parts/ consumables (UAH)
Dnipropetrovska	26500	400	700	550
Donetska	31500	250	n.a.	n.a.
Kharkivska	22000	250	300	500
Khersonska	20000	300	n.a.	n.a.
Mykolaivska	27000	150	750	n.a.
Odeska	17500	200	500	200
Sumska	23000	200	750	200
Zaporiska	21500	350	600	750

To properly analyze the data in the table, several assumptions must be considered:

- The average income value used for comparison is self-reported by respondents per Oblast. Therefore, it does not necessarily reflect the full representation of different social groups, particularly the most vulnerable families.
- The reported average monthly expenditure on water is an estimate based on responses and may not accurately represent everyone. For instance, older or more vulnerable individuals often access water for free.
- The cost of HHWT technologies is presented as an average, but this varies widely, from low-cost solutions like Aquatabs to more expensive systems like reverse osmosis (RO). The estimate does not account for the product lifespan, as some technologies require frequent replacements while others last for several years.
- The same applies to the cost of spare parts, which also varies depending on the product and its maintenance needs.

The table 22 “Average Income against Expenditure on HHWT Product per Oblast” provides a comparative analysis of the financial burden of HHWT products across different oblasts in Ukraine. It presents the self-reported average monthly income, monthly expenditures on drinking water access, HHWT products, and associated spare parts or consumables. However, given that HHWT products have varying lifespans, normalizing these expenditures over the functional duration of the products is necessary to accurately assess their affordability.

The data indicates that households allocate approximately 3% of their monthly income to HHWT products, with an additional 2% for spare parts and consumables, resulting in a combined expenditure of 5% of total monthly income. However, these costs do not represent recurring monthly expenditures, as many HHWT products—such as reverse osmosis systems, carbon-type (CT) filters, and other filtration technologies—have lifespans extending from several months to years. The financial burden should therefore be recalculated based on the amortized cost over the duration of the products.

Since HHWT technologies range from short-term consumables (e.g. Aquatabs) to durable filtration systems (e.g. reverse osmosis units), the reported monthly expenditures may overestimate the actual financial burden when considering the extended lifespan of more durable technologies. If, for example:

- A reverse osmosis filter costing UAH 750 lasts for 12 months, the actual monthly cost would be UAH 62.5, rather than the full UAH 750 being attributed to a single month.
- Similarly, spare parts and consumables costing UAH 500 but replaced every six months would equate to a normalized monthly cost of UAH 83 rather than UAH 500.

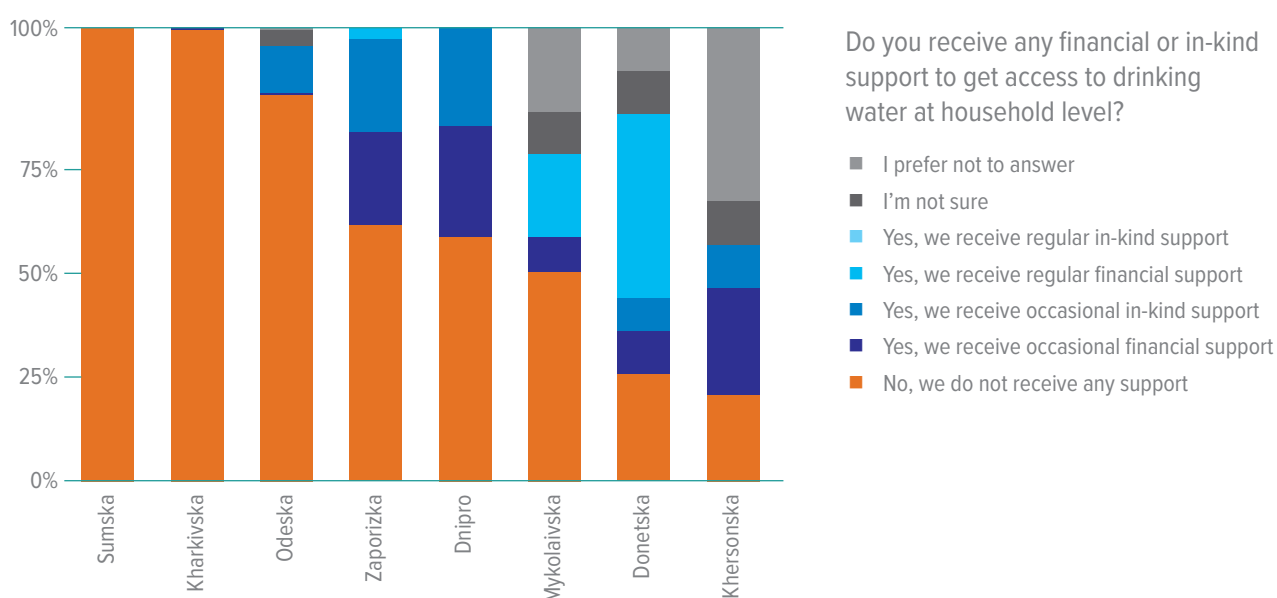
Applying such normalization across all reported expenditures would more accurately reflect the periodic nature of HHWT costs rather than presenting them as fixed monthly expenses.

The financial burden of HHWT products varies across regions:

- Oblasts with higher incomes (e.g. Donetsk, Mykolaivska, and Dnipropetrovska) show a lower relative burden of HHWT expenditures.
- Lower-income regions (e.g. Odeska, Khersonska, and Sumska) may experience a greater financial strain, as the same HHWT costs represent a higher percentage of available income.
- The self-reported nature of income data introduces potential bias, as the most vulnerable households may be underrepresented.

Additionally, the lack of financial assistance for HHWT expenditures is significant, with nearly 75% of surveyed households receiving no support, further emphasizing the need for cost-effective or subsidized water treatment options, particularly in economically disadvantaged regions.

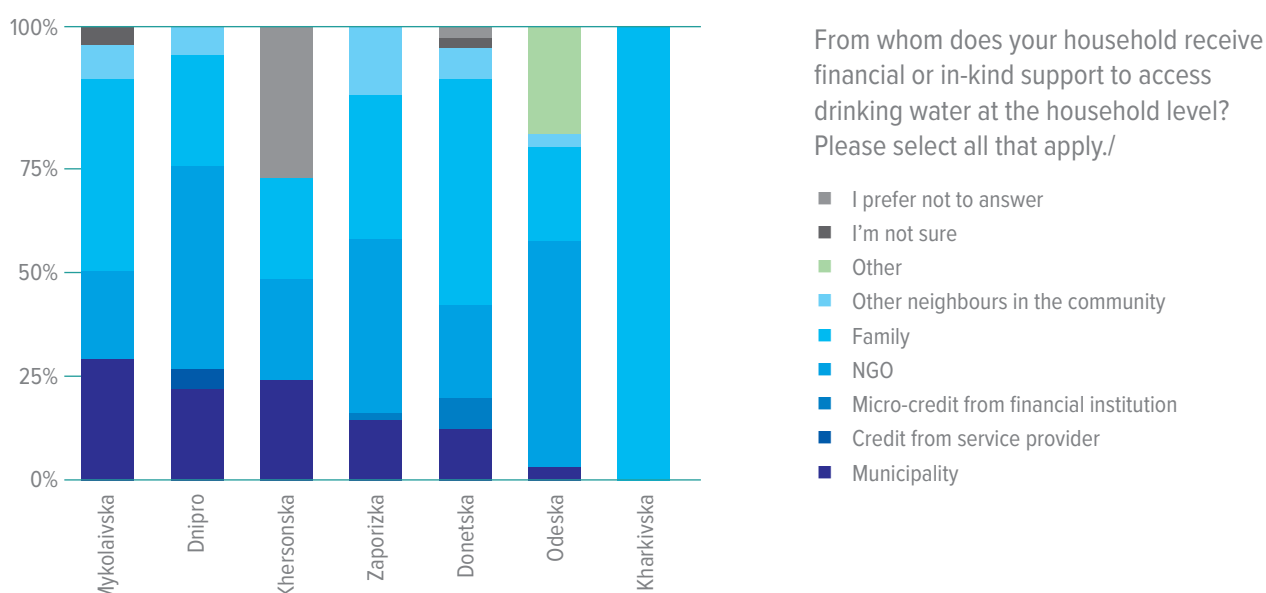
Figure 46. Financial/In-kind Support to Access Drinking Water



Residents living closer to the front line reported higher levels of support compared to other regions: 14% received occasional in-kind support, 13% received regular financial support, and 10% received occasional financial support.

The figure below (Figure 47) summarizes the sources of financial or in-kind support for those who reported receiving assistance:

Figure 47. Origin of Financial/In-kind Support to Access Drinking Water



Overall, NGOs provide support to 63% of households, family support accounts for 53%, and municipalities assist 27%. Access to micro-credits from financial institutions or service providers remains rare.

Looking at age groups, adults reported receiving more support from NGOs compared to older groups (70.5% vs. 45%). Based on key informant interviews and household surveys, NGOs are primarily focused on water interventions in urban areas (78.5%), compared to 55% in rural areas and oblast centers. Municipalities, on the other hand, are more actively supporting communities in urban and rural areas (around 35%).

The oblasts receiving the most NGO support are Dnipropetrovska (85%), Odeska (71%), and Zaporizka (64%). NGO assistance is generally consistent across regions, with higher levels observed in more remote areas (72%), areas 20-50 km from the frontline (65%), and less than 20 km from the frontline (53%), indicating lower levels of support directly at the frontline. Additionally, family support is more concentrated in households closer to the frontline, with this support doubling for those farther away. Municipalities are also making significant efforts to support communities near the frontline.

≡ SUMMARY

- When asked about the cost of their HHWT products, many respondents were either uncertain or chose not to disclose the information. The most frequently reported price range, however, was 501-700 UAH.
- A larger proportion of individuals from rural areas and those near the frontline reported receiving these products at no cost.

The graphs below (Figures 48 & 49) provide an overview of household spending on HHWT systems. The second graph offers a more detailed breakdown of how these expenditures vary across different regions. Several key trends can be observed:

- **Targeted humanitarian support:** The high percentage of households in rural and frontline regions receiving HHWT systems for free suggests that these areas are priorities for humanitarian efforts. This reflects both a need for safe drinking water in conflict-affected zones and a recognition that these regions may struggle with the financial burden of purchasing such systems independently.
- **Disparities in access and affordability:** The variation in costs across Oblasts points to economic disparities and differing access to water treatment products. Oblasts with higher incomes or more stable water supply systems may be investing in more sophisticated treatment technologies, while other areas rely on more basic systems or are heavily dependent on external aid.

Figure 48. Cost of HH Water Treatment System

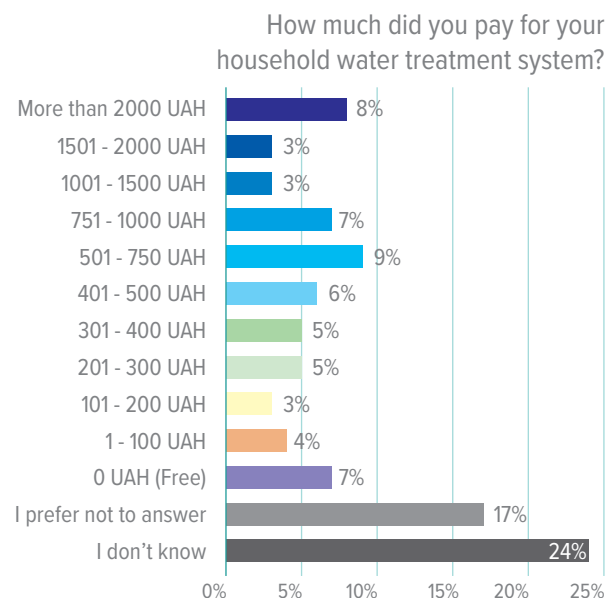
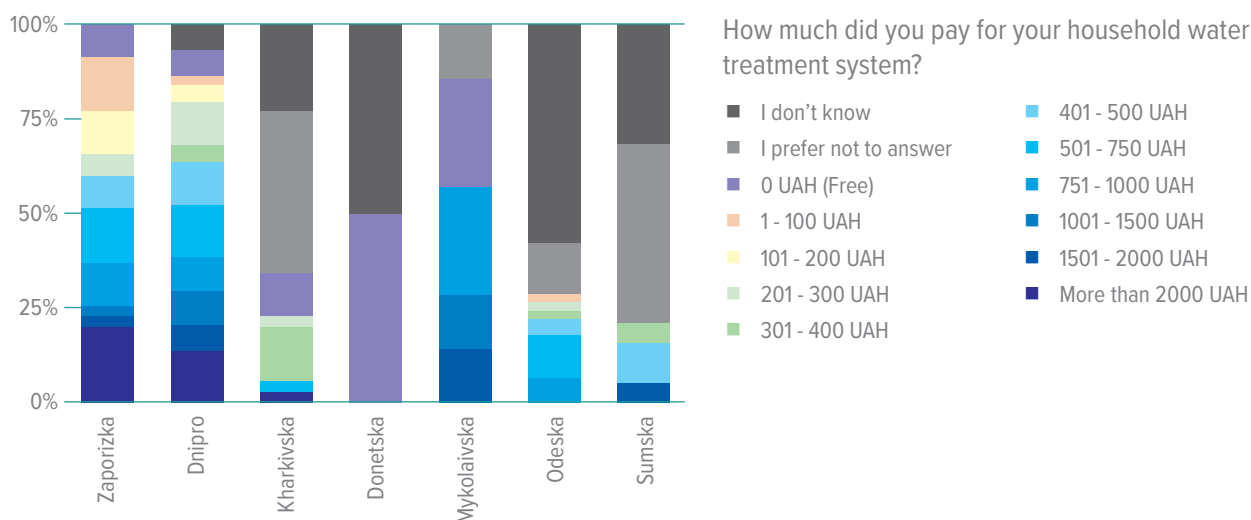


Figure 46. Financial/In-kind Support to Access Drinking Water



End User Willingness to Pay for HHWT Products

SUMMARY

- Less than a third of households expressed a willingness to pay for HHWT products and technologies, with most preferring to spend less than 200 UAH on these items.
- Implementers noted that the willingness to pay varies significantly depending on the context and location, recognizing that elderly individuals and those living closer to the frontline are generally less willing—and likely less able—to pay for these products.

Regarding user willingness to pay for HHWT products, the survey revealed that 38.5% of respondents were uncertain, 30% were willing to pay, and 15% stated they could not afford the products. These perceptions varied significantly when disaggregated:

- **Individuals under 60:** 60% expressed a willingness to pay, while 40% stated they lacked the financial means.
- **Individuals aged 60 and above:** Over 60% were uncertain, and 10% said they would not invest in HHWT products.
- **Women vs. Men:** 50% of women were willing to invest in HHWT products, compared to only 15% of men. Additionally, 37% of men were unsure about their willingness to pay.
- **Rural vs. Urban:** A greater proportion of individuals in rural areas expressed a willingness to pay compared to those in urban areas (37% vs. 20%), though 20% of rural respondents also noted they could not afford the products.
- **Proximity to the frontline:** 50% of respondents living farther from the frontline cited unaffordability as a reason for not investing in HHWT products.

Overall, there is a clear correlation between respondents' willingness to pay and their financial capacity. In terms of how much people would be willing to pay, 50% of respondents indicated a range of 501-700 UAH, 25% preferred 201-300 UAH, and another 25% were willing to pay between 101-200 UAH.

When asked how much they would be willing to pay for an HHWT product, half of the respondents indicated a range of 501-700 UAH, while 25% preferred a range of 201-300 UAH, and the remaining 25% chose 101-200 UAH.

The following table provides a breakdown of preferences across different groups:

Table 23. Cost Preferences for HHWT Products

Age	People older than 60 said 201-300 UAH (100%) Below 60, the preferred amount was 501-700 UAH (67%)
Gender	100% of male said 501-700 UAH Women responded equally to the three ranges of prices
Setting	100% of Oblast center responded 101-200 UAH 67% of people from rural areas responded 501-700 UAH
Oblast	Kharkivska - 100% said 101-200 UAH Mykolaivska - 100% said 501-700 UAH Zaporiska - 100% said 201-300 UAH
Distance from frontline	100% of under 20 Km - 501-700 UAH 100% between 20-50 Km said 101-200 UAH For those more than 50 Km from frontline, 100% were willing to pay 201 UAH up to 700 UAH

When examining people's perceptions of the costs they pay for HHWT products, the reported values generally align with what they actually invested, representing about 3% of their household's monthly income. However, individuals living in oblast centers and those located 20-50 kilometers from the frontline were less willing to spend more than 200 UAH on these technologies, which is notably below the actual cost of HHWT filters in the country.

The study also found that, according to implementers and humanitarian agencies, a household's willingness to pay for HHWT products is largely dependent on their economic situation. While families

recognize the importance of safe drinking water, the economic strain caused by the war has significantly affected how people prioritize their limited financial resources, making it harder for them to allocate funds for HHWT. Similar sentiments were expressed regarding families' capacity to purchase HHWT products.

Prices of HHWT Products

HHWT product prices in the market vary based on several factors, including the type of product or technology, the form of the product (particularly for consumables like chlorine or flocculants), the type and location of the store where it is bought, and the volume of the purchase (such as bulk purchases by NGOs or governments versus individual household purchases).

The table below presents an estimated price range for each type of HHWT product available in Ukraine, taking these factors into account:

Table 24. Estimated Prices of HHWT Products Available in Ukraine

Product	Range of prices in market (UAH)	Product	Range of prices in market (UAH)
Chemical coagulants	100-500	Lodine	250-300
Ceramic candle filter	1500-4000 Replacements: 80-400	UV disinfection units	30000
Ceramic pot	n.a.	Pot	300-1100
UTS	1100-5000 Replacements: 600	Electric kettle	300-1000
FM	550-3000	Wood	45-120
Membrane	1700	Gas canyster	800-5500
Jug filter	300-700 Replacement: 100-250	Coal	60-800
RO	4700-10000 Replacements: 350-1200	Bucket	80-300
Chlorine liquid	35-200	Bucket with lid	125-300
Chlorine tablets	300-100	Bucket with lid and tap	200-400
Chlorine powder	250-300		

End User Capacity to Pay for HHWT Products and Consumables

Regarding the financial investment individuals make for acquiring spare parts and consumables, 92% of respondents reported spending between 101-200 UAH. Analysis of willingness to pay for spare parts shows that individuals are not receiving these items free of charge, suggesting they are prepared to shoulder the financial cost. However, there is a noticeable gap between users' perceptions of the value of spare parts and replacements and the actual prices observed during store visits. Interviewees reported prices lower than those found in the market, with most users estimating their expenditure on filter replacements at around 500 UAH, which exceeds the amounts initially cited. Direct comparisons between perceived and actual market prices are difficult, as the cost of spare parts varies significantly depending on the technology type, the household's proximity to the frontline or rural areas, and the type of market where the product was purchased.

Households spend an average of 2% of their monthly income on spare parts or consumables for their HHWT systems, though this amount can vary depending on the specific product in use. Given that

most filtration units last several months or even years, this expenditure is generally considered a reasonable and manageable investment for most households.

Perception of HH on Affordability of HHWT Products

≡ SUMMARY

- Most households reported that HHWT products and spare parts are generally affordable.
- Households do not appear to receive spare parts or replacements free of charge.
- Implementers indicated that they do not disclose the prices of the HHWT products they distribute to end users.

Of the respondents asked about the affordability of their HHWT product or technology, 60% indicated that it was quite affordable, while 27% found it very affordable. Meanwhile, 13% stated that they considered it somewhat affordable.

These figures align with the actual spending households allocate to HHWT relative to their income, which on average amounts to 3% of their total family income. This percentage can be considered reasonable, especially when the investment in items like filters is made only every few months or years.

When examining perceptions around the affordability of spare parts and replacements for household water treatment (HHWT) systems, 60% of respondents indicated that these items are fairly affordable, while 26% found them very affordable. These perceptions align with the average investment households make in HHWT spare parts and replacements, which is estimated to be around 2% of the average household income.

Although HHWT products are generally perceived as affordable, satisfaction with the affordability of spare parts and replacements declines slightly with increasing distance from urban centers. This pattern may be attributed to income disparities, as individuals residing in more remote areas typically have lower earning capacities, influencing their perception of affordability.

When analyzed based on distance from the frontline, some notable trends emerge:

- Households more than 50 km from the frontline report the highest perception of affordability, with 77% considering HHWT products quite affordable and 15% finding them very affordable.
- Households located 20-50 km from the frontline show a more balanced distribution, with 50% rating HHWT products quite affordable and 34% very affordable.
- Households within 20 km of the frontline have the highest percentage of affordability concerns, with 8% stating that HHWT products are not affordable at all and only 23% rating them very affordable.

Figure 50. HH Perception of Affordability of HHWT Products

Perception of AFFORDABILITY of HHWT products by HH

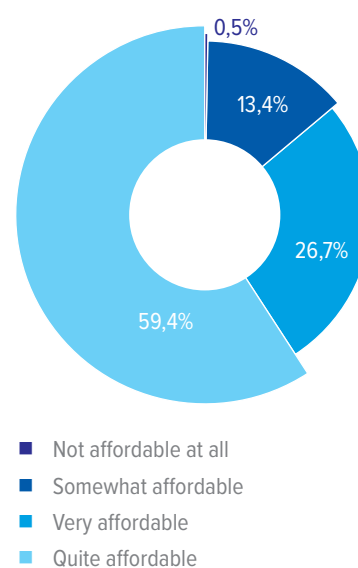


Table 25. Perception on Affordability HHWT Products and Technologies

PERCEPTION ON AFFORDABILITY HHWT products and technologies (n=186)			
	Less than 20 km	20-50 km	More than 50 km
1- Not affordable at all	8%	0%	0%
2- Somewhat affordable	15%	16%	8%
3- Quite affordable	54%	50%	77%
4- Very affordable	23%	34%	15%
Total	100% (n=13)	100% (n=111)	100% (n=62)

Affordability perceptions for spare parts and replacements follow a similar trend to HHWT products but with slightly lower satisfaction levels:

- 74% of respondents located more than 50 km from the frontline find spare parts quite affordable, compared to 53% in the 20-50 km range and 54% in the less than 20 km range.
- Very affordable perceptions drop with distance, with only 13% of respondents more than 50 km from the frontline rating spare parts as very affordable, compared to 32% in the 20-50 km range and 39% in areas within 20 km of the frontline.
- Affordability concerns are higher in frontline-adjacent areas, with 8% of respondents within 20 km reporting that spare parts are not affordable at all, though this percentage decreases to 0% beyond 20 km.

Table 26. Perception on Affordability HHWT Replacements and Spare Parts

PERCEPTION ON AFFORDABILITY HHWT replacements and spare parts (n=186)			
	Less than 20 km	20-50 km	More than 50 km
1- Not affordable at all	8%	0%	0%
2- Somewhat affordable	0%	15%	13%
3- Quite affordable	54%	53%	74%
4- Very affordable	39%	32%	13%
Total	100% (n=13)	100% (n=111)	100% (n=62)

Income distribution plays a crucial role in shaping affordability perceptions, with notable differences based on proximity to the frontline:

- Households closer to the frontline (less than 20 km) generally report slightly higher incomes in the mid-range brackets (e.g., 24% earn between 15,000-20,000 UAH, and 12% earn between 20,000-30,000 UAH).
- In contrast, households more than 50 km away show a higher proportion of lower-income respondents, with 23% earning under 8,000 UAH and 19% earning between 8,000-15,000 UAH.
- Higher-income households (earning over 50,000 UAH per month) are rare across all zones, indicating that most HHWT users are within middle-to-lower-income groups.

These income trends explain why affordability perceptions improve farther from the frontline, despite incomes being lower in these regions. In conflict-affected areas, HHWT products are more frequently provided through humanitarian aid, reducing direct household expenditure. This suggests that the reported affordability in frontline areas may be artificially high due to reliance on free distribution rather than actual purchasing power.

Table 27. Average Household Monthly Income

AVERAGE HOUSEHOLD MONTHLY INCOME (n=809)			
	Less than 20 km	20-50 km	More than 50 km
Under 8,000 UAH	8%	14%	23%
8,000 – 15,000 UAH	25%	13%	19%
15,000 – 20,000 UAH	24%	16%	18%
20,000 – 30,000 UAH	12%	22%	14%
30,000 – 40,000 UAH	13%	14%	6%
40,000 – 50,000 UAH	11%	8%	4%
50,000 – 75,000 UAH	1%	2%	1%
75,000 – 100,000 UAH	0%	2%	0%
Over 100,000 UAH	2%	1%	0%
I don't know/I am not sure	0%	0%	0%
I prefer not to answer	4%	8%	14%
Total	100% (n=92)	100% (n=450)	100% (n=267)

Households in areas more than 50 km away express the highest satisfaction with affordability, especially for HHWT products (77% rate them as quite affordable). Frontline-adjacent households (within 20 km) exhibit the greatest concerns about affordability, though humanitarian aid may mitigate these concerns. While spare parts are generally perceived as quite affordable, fewer respondents find them very affordable, particularly in rural or frontline areas where access to maintenance services is more challenging. The affordability of HHWT products closer to the frontline may be overstated due to extensive humanitarian aid distribution. As humanitarian actors do not consistently provide information on product pricing and availability, households may not fully understand the long-term financial commitment required for maintenance and spare parts.

The findings indicate that while HHWT products are generally perceived as affordable, there are notable variations based on proximity to the frontline and income levels. Specifically:

- HHWT affordability perceptions improve farther from the frontline, despite lower income levels, likely due to reduced market reliance and a greater use of free humanitarian assistance.
- Spare parts and replacements are viewed as slightly less affordable, particularly in remote and conflict-affected areas, where access to maintenance services may be limited.
- Income disparities affect affordability perceptions, with lower-income households in non-frontline regions relying more on cost-effective solutions.
- The role of humanitarian aid is significant, particularly near conflict zones, where free HHWT distributions may skew affordability perceptions, masking actual financial constraints.

War Impacts

When assessing the challenges related to accessing and affording household water treatment (HHWT) products, 39% of respondents reported that prices have increased since the start of the conflict. This sentiment was particularly strong among people in urban areas (53%) and especially in Zaporiska Oblast, where 91% noticed price hikes. People living 20-50 kilometers from the frontline reported the highest increases in product prices.

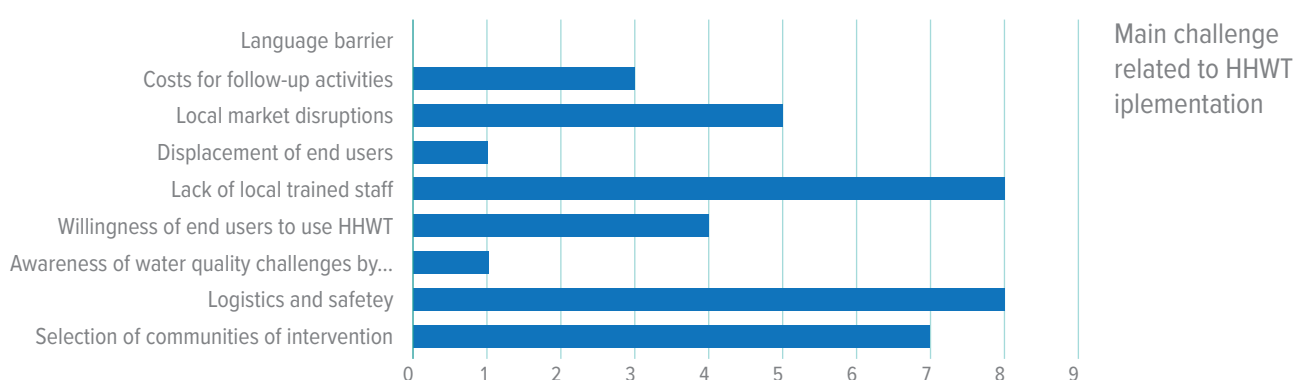
Manufacturers and distributors of HHWT products also highlighted rising costs for raw materials, transportation, and final products as key challenges. Similarly, more than half of the organizations involved in HHWT and other WASH-related programs cited price increases as the primary obstacle brought about by the conflict.

3.2.4 | Enabling Environment

Overall Challenges for HHWT Implementation

A key challenge raised by implementers, which has not been addressed in earlier sections of this report, is the lack of locally trained staff and the careful selection of intervention communities. Both are crucial factors. First, it is essential to have personnel trained in basic WASH implementation and behavior-based communication to ensure the effective implementation of household water treatment (HHWT). Moreover, as previously mentioned, HHWT can be particularly impactful in serving the most vulnerable populations, where water safety is at the greatest risk. In such cases, HHWT can offer a quicker and more cost-effective solution compared to infrastructure rehabilitation or water trucking. Even when these larger interventions are underway, HHWT can serve as an additional safeguard to ensure water quality at the point of consumption.

Figure 51. HHWT Implementation Challenges



Taxes/Fees for Importation

When discussing the import of HHWT products or raw materials for local production in Ukraine, one of the recurring challenges faced by manufacturers, distributors, and humanitarian organizations is the complexity and bureaucratic hurdles involved in bringing these products into the country.

The most frequently mentioned difficulties related to the importation of products, spare parts, or raw materials include:

The instability of local currencies was also highlighted as a significant challenge, as it affects the cost of purchasing products, leading to higher selling prices or increased operational costs when distributing them for free.

Regulations and Certifications for HHWT

Based on interviews with manufacturers, distributors, and humanitarian agencies, the authority responsible for certifying HHWT products in Ukraine is the State Service of Ukraine on Food Safety and Consumer Protection. Locally produced HHWT products must undergo a verification process to ensure they meet quality standards. Internationally produced HHWT technologies may carry certifications and laboratory studies from their country of origin.

However, key informant interviews reveal that both humanitarian actors and manufacturers are either unaware of or not prioritizing the WHO Scheme for HHWT products and technologies. This scheme provides an assessment process to evaluate product performance in terms of pathogen removal and quality assurance.

Key Stakeholders

When manufacturers and distributors were asked about their primary clients, they mentioned international and local NGOs, UN agencies, local government bodies, national and local distributors, and retail stores. Some of the UN agencies and NGOs specifically referenced included UNICEF, OXFAM, Samaritan's Purse, Cáritas, ICRC, Water Mission, ADRA, Red Cross, and USAID.

The relationship between the private sector and the government primarily involves the government purchasing products for distribution. Additionally, government agencies are responsible for conducting water quality tests to evaluate the performance of the technologies and validate them. They also oversee water quality surveillance at both the community and household levels.

The private sector's engagement with end users varies depending on the company's size and local presence. Companies with a local presence are more likely to have direct interactions with their clients and provide feedback channels, primarily through social media or their websites.

Out of the five private companies interviewed, only two were members of the WASH cluster. One of these actively participates in both national and subnational clusters, while both engage with the cluster when they need relevant information.

When HHWT implementers and other humanitarian organizations were asked about their key partners in water treatment programs, their responses included:

Figure 52. Product Importation Challenges

Challenges related to importation of products

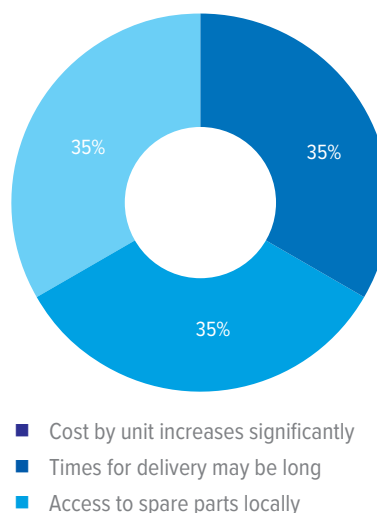
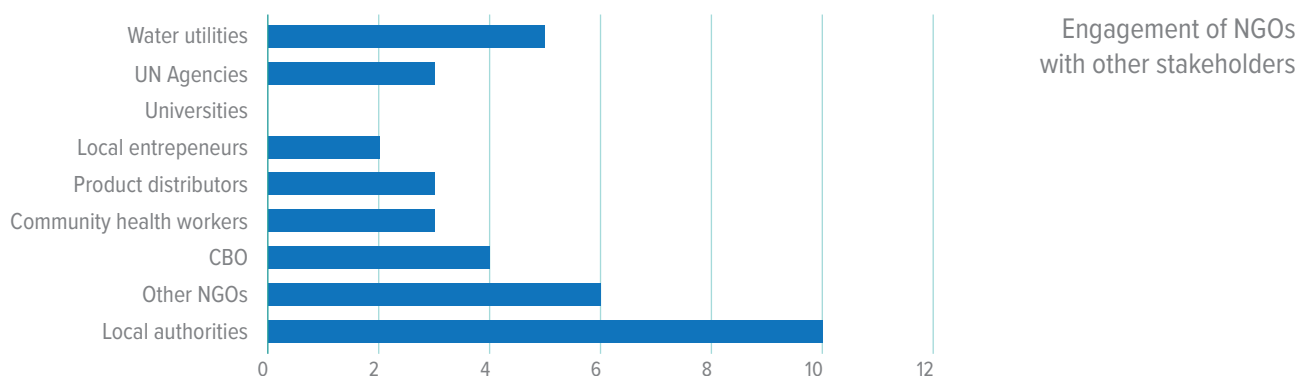


Figure 53. NGO Engagement with Other Stakeholders

The role of local authorities primarily involves supporting NGOs in selecting intervention communities, raising awareness by conducting water quality assessments, and engaging affected populations. They also assist with follow-up activities at the community level to help sustain demand for HHWT interventions. When asked about the private sector's role in HHWT implementation, NGOs provided the following key responses:

- Ensure products are delivered to a central location in Ukraine and handle customs and international shipping processes.
- Provide information packages on product usage and maintenance in the local language.
- Ensure products reach local implementation areas.
- Conduct training sessions for end users on how to use their products.
- Manage supply chains to guarantee that products and consumables are available in local markets.

Humanitarian organizations were asked about their engagement with the WASH cluster and the specific activities they were involved in. Of those surveyed, 80% confirmed their participation in the cluster: five reported active involvement in national-level meetings, while 10 participated at the subnational level. Additionally, 60% of the organizations mentioned reaching out to WASH cluster staff when they needed specific information.

Water Quality Surveillance

Typically, product manufacturers and distributors do not conduct water quality surveillance at the household level. Instead, they perform water quality analysis in laboratories during product testing or when seeking certification from national authorities, such as the State Service of Ukraine on Food Safety and Consumer Protection. Once their products are validated, further testing is usually only conducted if changes occur in the assembly process, as they generally rely on the inherent quality of their products. For HHWT implementers, water quality monitoring is primarily conducted during the duration of their programs, with national authorities handling broader water surveillance. The evidence gathered highlights the complexity of water surveillance in Ukraine, where multiple agencies are responsible for different types and purposes of water testing. Although the State Service of Ukraine on Food Safety and Consumer Protection is responsible for household-level water quality, enforcement of these regulations, especially in frontline and rural areas, is challenging.

NGOs and foundations often monitor water quality through community-based reporting systems, ad-hoc sampling when alerts arise, and seasonal testing when water quality is likely to fluctuate. However, they do not typically establish regular monitoring as part of their programs. Instead, they rely on observational checks, such as visual inspections of water infrastructure. Most NGOs depend on utility companies (Vodokanal) and municipalities for water testing, and occasionally hire certified laboratories when official validation is needed. Water quality testing by NGOs is most commonly conducted at the start and end of their projects.

The WHO and CDC have conducted an evaluation of all certified laboratories in Ukraine, assessing their certification levels and the parameters they are capable of testing. The NGOs involved in HHWT interventions typically focus on testing the following parameters:

Regarding the locations where water samples are collected, 60% of the organizations interviewed reported taking samples at the water source, 45% collected samples from distribution systems (such as piping and storage points), and 25% sampled directly from water taps. However, none of the organizations mentioned taking samples after the HHWT technology was applied, and sampling at storage points was uncommon. These water testing methods are more suited for monitoring centralized water supply systems rather than for evaluating HHWT implementations, where there is a lack of real data on the actual effectiveness of these technologies in improving water quality.

Figure 54. Water Quality Parameters tested by NGOs

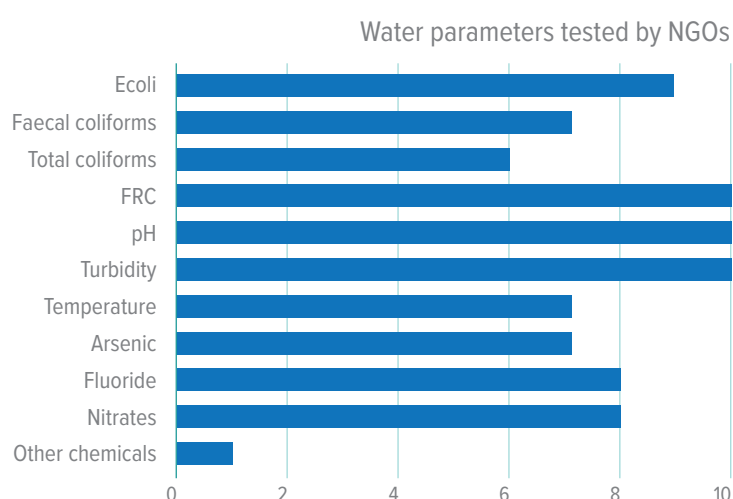
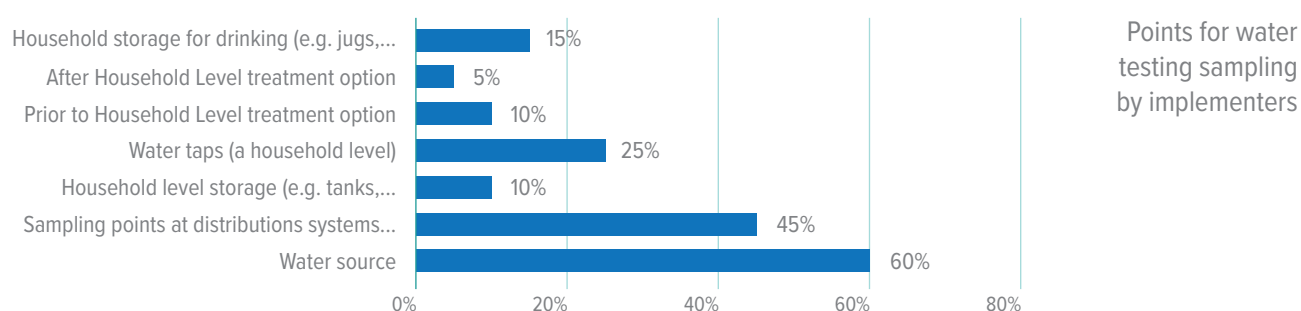


Figure 55. Water Testing Sampling Points by Implementers



How Humanitarian Response May Affect Market Dynamics

The impact of humanitarian interventions on local markets and their dynamics is a subject of ongoing debate. Some manufacturers claim that their demand has decreased due to the free distribution of water treatment technologies by NGOs and humanitarian agencies. However, while such interventions may potentially disrupt markets in urban areas or among economically capable users, humanitar-

ian efforts are primarily focused on vulnerable populations, such as those affected by conflict and the elderly, who cannot afford these technologies. Additionally, the products distributed by humanitarian organizations are often different from those found in local markets and are considered temporary solutions to address urgent water quality issues. Humanitarian agencies recognize the importance of local businesses and markets in providing sustainable access to safe drinking water over the long term.

Presence of Innovative Market-based Approaches

To understand the current use of market-based approaches in humanitarian assistance, implementers and humanitarian agencies were surveyed about their involvement in such methods for distributing HHWT products. All respondents indicated that they do not pilot or implement market-based approaches for HHWT distribution, as these products are provided to end users free of charge. However, there were discussions in some cases about potential collaborations with local distributors to strengthen supply chains or the use of vouchers for WASH products and services, though these conversations were not specific to HHWT.

4 | CONCLUSIONS

Accessibility

- **Access to water:** Humanitarian efforts are primarily focused on restoring infrastructure, as HHWT programs remain limited due to cost constraints and the number of people they can reach. Water shortages, particularly in areas like Donetska and Khersonska force people to store large amounts of water.
- **Practices related to safe storage:** The study reveals significant gaps in safe water storage practices, even when treated water is provided through centralized systems, leading to risks of re-contamination and public health concerns. Inadequate cleaning of storage containers is a recurring issue, particularly in areas experiencing frequent water shortages, where these practices are most critical. Institutions, including governmental and humanitarian agencies, do not prioritize promoting or distributing materials on safe storage practices, especially at the household level.
- **List of available technologies/products in the local markets:** The most common technologies include jugs with activated carbon cartridges, under-the-sink filtration systems, reverse osmosis systems, faucet-mounted systems, and counter-top units. These products are designed for various levels of filtration, primarily to improve water taste and remove excess chlorine, with RO systems being particularly popular due to their affordability. While these products are readily available in national markets, the study was unable to confirm their quality or pollutant removal efficiency due to limited data from manufacturers. International HHWT products, such as Lifesaver Cube, Nazava filters, Katadyn, Aquatabs (Medentech), are present but mostly accessible through official channels and not commonly found in local stores.
- **Availability of spare parts and consumables / Location of stores and distributors:** Spare parts and consumables for HHWT products are widely available in Ukraine, with products being manufactured or assembled and sold in both large hardware chains in cities and smaller stores in rural or frontline areas. Although accessing these products is more challenging near the front line due to longer distances, security concerns, rather than availability, are the main barrier. International products and brands are distributed through national offices, usually located in major cities like Kyiv, but they are less accessible in rural or remote areas. Domestic producers also have regional offices near their production facilities, allowing for broader distribution across the country.
- **Imported vs. local production:** Most domestic HHWT products in Ukraine are either fully manufactured locally or assembled using imported components, such as membranes. The quality control of these products largely depends on the quality of the imported parts, which are crucial for their functionality.
- **Supply chains:** The study identifies a communication gap between the private sector and humanitarian organizations when it comes to purchasing HHWT technologies. Companies supply products but are not informed about the end users, which hampers the development of stronger supply chains and customer relationships. Local manufacturers and distributors rely on their own network of stores across Ukraine, with well-known brands like Ecosoft being widely available, even in rural and frontline areas. However, logistical challenges, such as transportation costs, can drive up prices in more remote locations. International brands rely on national distributors, often based in major cities like Kyiv, or through agreements with humanitarian agencies, and are less accessible in local markets due to their perception as temporary crisis solutions rather than long-term household products.

- **Demand creation:** In promoting HHWT practices, the private sector leads efforts to generate demand, motivated by the need to maintain a customer base for revenue. In contrast, NGOs and municipal authorities focus on immediate crisis response, providing assistance without collaborating to create sustainable demand for long-term products and technologies. This is particularly challenging in the context of the ongoing conflict, which limits access to HHWT products. The private sector tends to market these products more for improving water taste and odor rather than addressing serious public health risks like microbiological or chemical contamination. This marketing influence shapes household perceptions, potentially leading to the overuse of advanced systems like reverse osmosis, even when simpler solutions might suffice. Additionally, deficiencies in the technical information presented on some national product websites could cause misunderstandings for consumers and humanitarian agencies alike, contributing to misinformed choices regarding water treatment technologies.

Acceptability

- **Perception of water contamination:** Most respondents are more concerned with the organoleptic properties of water, such as taste and odor, rather than its actual quality or contamination risks. While people worry about the deterioration of water supply services and the potential impact on public health, health concerns are rarely the primary motivation for water treatment. Over two-thirds of the population do not treat their water at home, indicating low concern or awareness about contamination risks. Additionally, there is a notable lack of knowledge regarding the quality of water sources, which hinders efforts to create demand for improved water treatment practices and ensure accountability in interventions.
- **Users' preferences:** While there are concerns about the taste and smell of water, many households believe their water is adequate and do not see a need for treatment. Urban residents are more likely to treat their water compared to those in other areas. The demand for HHWT products is primarily driven by the desire to improve organoleptic qualities rather than concerns about contamination. Activated carbon-based systems (e.g., jugs, under-the-sink units, and reverse osmosis systems), are popular due to their effectiveness in improving taste and ease of use. Users tend to prioritize affordability and local availability when selecting water treatment products, with boiling remaining a widely accepted traditional practice during emergencies. Humanitarian agencies also prioritize ease of use and maintenance when selecting HHWT products, often overlooking more technical aspects related to contamination removal.
- Overall, jug filters, UTS, and RO systems are the most preferred water filtration options. Jug filters are favored by nearly 70% of people over 60, while adults under 60 prefer UTS filters (30%) after jug filters. Women tend to favor UTS filters (33%), while men show a stronger preference for RO systems (24%). Preferences remain consistent across both urban and rural areas. Closer to the frontline, half of the population prefers RO systems, with similar preferences for UTS, jug, and counter-top filters (33%).
- **Social and cultural aspects from different target groups (urban vs. rural vs. IDPs):** The study highlights key social and cultural differences in water treatment practices among various groups. Urban residents show a greater awareness of water contamination risks and are more likely to treat their water compared to rural populations, who tend to rely on traditional practices like boiling, especially older individuals. Filtration systems are more popular in urban areas, while women are more inclined to treat their water than other groups. Chlorination at the household level is not commonly practiced or prioritized across any demographic. In areas closer to the frontline, reverse osmosis systems are more frequently used, though boiling remains the most widely employed technique in those regions.

- **Accessibility to information on water quality and product availability:** The study reveals a significant gap in the availability of information regarding water quality and HHWT technologies. Most users rely on authorities and service providers for water quality information, while NGOs play a minor role in this area. Households face challenges in accessing comprehensive details about available HHWT options, particularly in frontline areas where information is even scarcer. Websites and social media serve as the primary sources of HHWT product information. Local producers also increase product visibility through hardware stores and independent marketers, with nearly half of reverse osmosis users selecting products based on local availability. Humanitarian organizations mainly provide information during product installation, along with a training session and pamphlet, but there is little consultation regarding the available HHWT options before users receive a product.

Affordability

- **End user willingness vs. capacity to pay for HHWT products:** Most individuals who received HHWT technologies did so for free through humanitarian organizations or donations. Individuals in vulnerable areas, such as those near the front line or in rural settings, expressed a greater willingness to pay, even if their financial means were limited. Despite this willingness, economic constraints are still a significant barrier, particularly for more expensive systems like reverse osmosis. In areas like Kherson, many households cited financial limitations as the primary reason for not treating their water. While some users might have the financial capacity to afford HHWT products, other priorities in the current context of the country often overshadow their willingness to invest in such technologies.
- **Prices of HHWT (compared to other basic goods):** Drawing conclusions about the prices of HHWT products is challenging due to limited information from local manufacturers. The cost of these technologies varies based on the complexity of the treatment process, making it essential to first assess water quality to select the most suitable treatment method and avoid unexpected expenses. Both the initial purchase price and ongoing costs, such as operation, maintenance, and replacement parts, should be considered when comparing HHWT products. Imported products come with extra costs, further affecting affordability. Traditional practices like boiling or home chlorination offer significantly lower-cost alternatives to household water treatment systems, making them appealing options for reducing treatment expenses.

Enabling environment for HHWT

- **Taxes/fees for importation:** The study encountered challenges in gathering detailed information regarding taxes or fees associated with the importation and production of HHWT products due to limited access to government authorities and organizations involved in this sector. However, discussions with key stakeholders suggest that the primary issue lies in the rising costs of raw materials and transportation rather than taxes or tariffs. One international company reported that they manage importation through a local intermediary to avoid financial and logistical complications when bringing their products into the country.
- **Regulations and certifications for HHWT:** The State Service of Ukraine on Food Safety and Consumer Protection is identified as the authority responsible for certifying and validating water-related products. Local brands indicated that they follow necessary procedures to validate their products and obtain operational permits, but specific details about these processes were unavailable. Additionally, accessing reports, laboratory studies, or technical data on the quality of locally produced HHWT products was challenging, with most information obtained from commercial websites, often lacking detail or technical accuracy.

- Key stakeholders:** The key stakeholders involved in the distribution of HHWT products in Ukraine include humanitarian organizations, community and religious groups, United Nations agencies, the private sector (both national and international), government authorities, water utilities, and private laboratories responsible for water quality monitoring. Humanitarian agencies and the private sector reported minimal collaboration with local authorities, with their cooperation mainly limited to identifying areas for intervention. Private sector companies generally do not engage actively with the WASH cluster, viewing it as not aligned with their sales interests and avoiding transparency about their products and market strategies. Some private companies even perceive humanitarian actors as competition, fearing that free product distribution could disrupt their markets. This perception hinders the development of cooperative relationships between the private sector and WASH cluster members.
- Water quality surveillance:** Current water quality surveillance in Ukraine primarily focuses on centralized water supply systems, monitored by government agencies and humanitarian organizations. While HHWT manufacturers test water quality during product design and initial quality control phases, there is no ongoing field monitoring once products reach end users. Humanitarian agencies also have a very limited role in monitoring HHWT product effectiveness, leaving a gap in understanding how well these technologies work in the current Ukrainian context.
- How humanitarian response may affect market dynamics:** Humanitarian organizations in Ukraine primarily focus on infrastructure rehabilitation to reach as many people as possible, and few include HHWT in their programs. When HHWT products are distributed, they are provided free of charge, but without spare parts or information on replacement costs, making long-term use challenging for end users. Although distributing HHWT products for free can disrupt local markets, the impact is limited in this context because the products used by humanitarian agencies are often imported or locally produced brands that are not widely available in local shops.
- Presence of innovative market-based approaches:** Currently, there is no evidence of innovative market-based approaches, such as microfinance mechanisms, to help households access HHWT products in Ukraine. This is due to the ongoing conflict, where the priority is emergency assistance, and technologies are typically provided free of charge to end users. While some households receive vouchers or cash assistance, purchasing water treatment products is not a top priority for affected populations, who tend to focus on other pressing needs. This is particularly true in cases where the perceived health risk from water contamination is low, further reducing the demand for HHWT products.
- War impacts on HHWT markets:** The war has had several significant impacts on the HHWT markets in Ukraine. Centralized water systems have been heavily affected, leading to increased water contamination and shortages, which could create opportunities to raise awareness about the importance of HHWT for ensuring water safety. However, while the population has expressed concern over water quality and availability, this has not translated into a widespread increase in water treatment practices. Other consequences include rising prices for HHWT products due to shortages of raw materials, higher fuel costs, and transportation issues. Logistical challenges, such as road blockages and security concerns, further complicate the distribution of HHWT products. Water quality regulations have also become less stringent as a result of shifting priorities among local authorities. Additionally, the private sector views humanitarian interventions related to water treatment as disruptive to existing markets. Finally, the deteriorating water quality has raised concerns about the effectiveness of current HHWT products, and the economic pressures on households make it difficult to sustain demand for these technologies in such a complex environment.

5

PROPOSED RECOMMENDATIONS AND PROGRAM ACTIONS

Recommended direct ‘household-level’ interventions for WASH partners

- **WASH partners should improve their product selection and procurement processes for HHWT systems** by considering a broader range of criteria beyond user acceptance and affordability. While price remains an important factor, the primary focus should be on the technical effectiveness of the product in removing contaminants and ensuring optimal water quality, whether through a single technology or a multi-stage treatment process. Additionally, factors such as product durability, shelf life, spare parts availability, and access to local markets are crucial for ensuring sustainability. WASH partners should also evaluate the total cost of ownership, not just the upfront purchase price. This includes expenses related to logistics, distribution, and long-term operation and maintenance. By balancing both economic and technical considerations, WASH partners can ensure that HHWT interventions are both effective and sustainable over the long term.
- **WASH Cluster partners should focus on training local communities in the operation and maintenance of HHWT systems.** This approach will promote self-sufficiency within communities and empower them to manage their own safe water solutions, minimizing reliance on external support for repairs and upkeep. By equipping families with the necessary skills, the demand for humanitarian interventions, such as water trucking, can be significantly reduced. Moreover, widespread use of HHWT systems offers a sustainable, long-term alternative to traditional water delivery methods, helping NGOs overcome logistical challenges, particularly in remote or hard-to-reach areas.
- **When selecting HHWT technologies, it is essential to consider the supported population’s ability to operate and maintain the equipment over the medium to long term.** Beyond the availability of spare parts, factors such as the affordability of replacement parts and consumables, as well as how frequently they need to be purchased, should play a key role in product selection. HHWT systems should be chosen to minimize these challenges for households, ensuring sustainability. The common practice of distributing HHWT products for free may unintentionally hinder market development and user adoption. When products are provided at no cost, users may undervalue them, leading to inconsistent or improper use. To encourage sustained engagement, it’s important to balance free distribution with strategies that promote a sense of ownership and long-term usage.
- **Implementing small-scale pilot projects can help assess the effectiveness of HHWT practices and technologies** in targeted areas, such as conflict zones or densely populated urban regions with high water demand. To facilitate broader adoption, innovative financing mechanisms—like micro-credit schemes and cash vouchers—should be explored to help communities overcome financial barriers and improve access to safe water solutions. While these approaches may not always be feasible in humanitarian contexts, WASH organizations can encourage voucher recipients to invest in HHWT products by emphasizing the potential long-term savings on healthcare and bottled water costs. By promoting the benefits of HHWT at the point of distribution, families are more likely to view these products as valuable investments, ensuring continued access to safe water while freeing up resources for other essential needs.
- **WASH partners should assess the feasibility of maintaining reverse osmosis systems against alternative water sources.** Reverse osmosis systems are common and affordable in Ukraine, effectively removing salts and chemical contaminants. However, they require ongoing maintenance

and electricity, which may be challenging in areas with frequent power outages or for vulnerable populations.

- **WASH partners involved in HHWT programs should enhance follow-up activities by incorporating regular water quality testing** to demonstrate the benefits of treated water and encourage user adoption. Awareness campaigns should educate target populations about the risks of water contamination, particularly those heightened by the environmental impacts of the conflict, to promote wider use of water treatment practices. Water quality testing results should be shared with WASH Cluster partners to build a collective understanding of HHWT effectiveness and foster transparency and accountability. When capacity is limited, organizations can collaborate with local groups or government authorities to conduct testing. This evidence-based approach not only strengthens the credibility of HHWT interventions but also supports informed decision-making for future programming.

Recommended demand and market based interventions for WASH partners

- **WASH partners implementing HHWT technologies should verify that spare parts and consumables are easily accessible in local or national markets** before deploying any new technology. This ensures long-term sustainability and ease of maintenance. Exceptions should be limited to urgent, short-term interventions where the immediate priority is providing access to safe water, and long-term upkeep is not the primary concern.
- **When selecting HHWT products, WASH partners must carefully consider the limited availability of imported options and the logistical challenges** associated with their delivery, including customs delays and distribution to end users. If international products are chosen, it is essential to ensure that local distributors and spare parts are readily accessible and that prices remain competitive with locally produced alternatives. To enhance usability, all product instructions and maintenance guidelines should be provided in the local language. Prioritizing durable, high-quality products is crucial for ensuring long-term effectiveness.
- **The selection of HHWT products—such as reverse osmosis systems, jug filters, and under-the-sink filters—should be based on comprehensive technical data** detailing their contaminant removal efficiency, supported by independent laboratory and field studies. To ensure informed decision-making, the WASH Cluster and its partners should advocate for greater transparency from private sector suppliers by requesting certifications, technical documentation, and third-party testing results for HHWT products. This increased transparency will help build trust and improve the quality of product selection. Furthermore, academic institutions should be actively involved in the WASH Cluster’s efforts, offering valuable expertise in technology testing, research, and validation to strengthen the overall effectiveness of water treatment interventions.
- **WASH partners collaborating with private sector companies in Ukraine should encourage greater transparency by sharing information on the locations of sales agents, distributors, and available products**, especially with national and sub-national WASH Cluster members. This improved information flow will help humanitarian agencies identify and access essential HHWT supplies more efficiently. The WASH Cluster can serve as a neutral intermediary, facilitating the collection and distribution of this information while ensuring impartiality and avoiding the endorsement of specific brands or products to prevent conflicts of interest.
- **In areas where the capacity to pay is lower but WASH vulnerability remains high, WASH partners could collaborate with private sector companies to implement targeted subsidies.** This approach would help families access essential HHWT products while maintaining market stability and reduc-

ing the negative effects of widespread free distribution. To further support sustainable use, WASH partners and private sector companies should establish collaborative agreements that improve access to spare parts and consumables. These partnerships can facilitate mutual outreach to families, provide discounts on spare parts, and increase awareness of associated costs from the outset. By balancing support between high-need, low-capacity areas and regions with stronger purchasing power, these interventions can promote equitable access, stimulate local demand, and encourage the long-term use of HHWT products.

Recommended actions for the WASH Cluster Coordination unit [inter-sector and authority focused recommendations]

- **The WASH Cluster Coordination unit should map groundwater sources at the Hromada level to identify contamination risks and guide communities toward safer water options**, particularly in areas using untreated sources. Clear guidance should be provided on alternative sources with lower contamination levels. Training local authorities or community groups in basic water testing and providing necessary tools will strengthen monitoring. While water quality monitoring at the household level can be resource-intensive, simplified approaches can make decentralized monitoring more manageable. These strategies include using Sanitary Inspection Forms (SIFs) for HHWT, implementing operational checklists, and providing targeted training to local authorities or community organizations in basic water testing techniques.
- **National authorities should establish strict quality control measures, including legislation, to regulate both HHWT products and their spare parts.** Without proper oversight, substandard components could enter the market, compromising water quality and posing health risks to users. Ensuring that all products meet established specifications is vital for protecting public health. To support these efforts, the WASH Cluster should adopt a multidisciplinary approach by collaborating with key government institutions, particularly within the health sector. This partnership can help drive legislative developments that highlight the role of HHWT in addressing Ukraine's current water quality challenges. Joint efforts should focus on revising and strengthening water quality monitoring protocols, as well as improving the validation and certification processes for HHWT products to ensure consistent standards and safety.
- The assessment revealed a weak demand for water treatment, particularly HHWT, largely due to limited public awareness of water safety. This underscores the **need for intensified awareness-raising and demand generation efforts, especially among vulnerable groups in frontline areas.** To address this, coordinated actions between WASH partners and local authorities, particularly in the health sector, are crucial. Greater intersectoral collaboration can help prioritize and promote household water treatment by integrating health representatives into WASH Cluster activities, developing shared objectives, and launching joint action plans and campaigns. By working together to raise awareness about water security and the importance of consuming safe water, WASH sector actors can drive increased demand for HHWT products and strengthen market dynamics.
- The WASH Cluster should adopt a stronger multidisciplinary approach, leveraging the support of its members to establish partnerships with key government institutions, particularly within the health sector. This collaboration aims to **promote legislative developments that emphasize the critical role of HHWT in addressing Ukraine's current water quality challenges.** As part of this effort, it is essential to revise and strengthen water quality monitoring protocols, as well as improve the validation and certification processes for HHWT products. Engagement with key UN agencies, such as the World Health Organization (WHO), which leads the International Scheme to Evaluate Household Water Treatment Technologies, will provide valuable technical expertise and guidance.

Partnering with WHO can also help garner increased support from the Ukrainian State Service for Food Safety and Consumer Protection—the authority responsible for the validation and certification of water treatment products. Improving these processes will not only ensure the availability of high-quality HHWT products in Ukraine but also build trust among WASH stakeholders, including humanitarian organizations, local authorities, and private sector suppliers. A clearer understanding of validation and certification procedures will boost confidence in the safety and effectiveness of HHWT technologies, promoting broader adoption and more sustainable water treatment solutions nationwide. To achieve this, the following steps can be taken:

- *Workshops and Training Sessions:* Organize regular workshops and training programs for WASH stakeholders, including NGOs, local authorities, and private sector suppliers. These sessions, led by experts from WHO, the Ukrainian State Service for Food Safety and Consumer Protection, and other relevant agencies, can cover the technical requirements, processes, and standards for HHWT product validation and certification.
- *Development of Clear Guidelines and Resources:* Create and distribute easy-to-understand guidelines, toolkits, and reference materials that outline the certification and validation processes step-by-step. These resources should be made available in Ukrainian and other relevant languages, ensuring accessibility for all stakeholders.
- *Establish an Information Hub:* Set up an online platform or resource center managed by the WASH Cluster, where stakeholders can access up-to-date information on approved products, certification standards, and validation protocols. This platform could also host FAQs, case studies, and examples of successful product certification.
- *Stakeholder Collaboration and Knowledge Exchange:* Facilitate regular meetings, forums, or roundtable discussions where WASH partners, government authorities, and private sector actors can share experiences, challenges, and best practices related to HHWT product certification. This collaborative environment will promote peer learning and a shared understanding of procedures.
- *Technical Support and Mentorship:* Provide technical assistance to local manufacturers and suppliers to help them navigate the certification process. This could involve mentorship programs or one-on-one support from experts in regulatory compliance and product testing.
- *Public Awareness Campaigns:* Launch awareness campaigns targeting both consumers and stakeholders to emphasize the importance of certified HHWT products. Highlighting the health risks of uncertified products can increase demand for validated technologies and motivate suppliers to comply with certification standards.
- **Establishing a technical working group with a specific focus on HHWT, especially at the sub-national level,** would be beneficial. This group could enhance the capacity of cluster members, government institutions, and private sector players by sharing technical knowledge related to HHWT selection, implementation, and effectiveness. Private companies may be more inclined to engage with the WASH Cluster if the focus aligns with their business interests.

ANNEXES

ANNEX 1 | Terms of Reference

UNICEF UKRAINE REQUEST FOR A CONTRACT FOR SERVICES (INSTITUTIONS)

SHORT TITLE OF ASSIGNMENT

Market Assessment of Household Water Treatment (HHWT) Options in Eastern and Southern Oblasts (2023)

BACKGROUND

Due to the Russian full-scale invasion of Ukraine, 4.5 mln. children and their families have been displaced: 2.5 mln. have become internally displaced while additional 2 mln. have fled the country. The ongoing conflict and scale of displacement has disrupted the provision of WASH services and impacted the financial and psychological well-being of much of the population. Within this context, access to safe and clean drinking water remains one of the most significant concerns in many parts of Ukraine. To address this issue, various household water treatment (HHWT) products are available in the market.

By undertaking a market assessment of HHWT options in eastern and southern oblasts, the WASH Cluster seeks to understand the key challenges facing vulnerable populations in this area, in order to better coordinate strategies, recommendations and assistance to those same populations. As such, the Ukraine WASH Cluster – as supported by UNICEF – is seeking a company to conceptualise and support data collection at the country level, to then analyse the data and formulate actionable context-specific conclusions and recommendations

OBJECTIVE

UNICEF is looking for a company/institution to conceptualise and support the implementation of market assessment research (via desk review, comparative review, surveys/interviews, Focus Group Discussions (FGDs), etc.) and analysis of this data in order to formulate actionable country-specific conclusions and recommendations in relation to Household Water Treatment (HHWT) Options in Eastern and Southern Oblasts.

The aim of the market assessment is to analyse the availability, demand, and consumer preferences for household water treatment products in Ukraine. The findings may support WASH Cluster partners, and manufacturers, distributors, and policymakers, to better understand the market dynamics and identify potential areas for improvement in humanitarian provision. As such, the **specific objectives**¹ will be:

- To increase the effectiveness and efficiency of programme responses by promoting market-based approaches and boosting the local economy;
- To strengthen interventions by identifying new avenues to support existing market systems and structures; and
- To limit the risk of interventions causing a negative effect to communities and local markets.

Suggested **focus areas** may include:

- Products' cost; availability; ease of assembly; ease of use; capacity (in terms of volume) for purified water; filtration speed; resulting NTU (Nephelometric Turbidity Unit); maintenance; sustainability.
- Products' treatment technology (e.g. carbon and membrane filtration; ceramic filtration; chemical disinfection; floc-biofiltration; floc-disinfection.
- Non-market boiling, UV/solar options.

The research design should consider the key commodities and services available, as well as the overall functionality of the critical market systems. With that, the market assessment should focus on markets that are central to meeting households' basic and/or recovery needs. In this regard, the market assessment may consider **market definitions by product** for household level water treatment systems. For example:

- Bottled Water as primary household drinking source
- Water Trucking Services

¹ Aligned to CALP Minimum Standard for Market Analysis (MISMA)

- Point-of-use countertop (CT) systems: Countertop systems can either be placed on the kitchen counter or can be wall mounted (typically in Asia).
- Point-of-use under-the-sink (UTS) systems: The UTS systems are usually placed under the kitchen sink and do not clutter the kitchen counter.
- Point-of-use faucet mount (FM) systems: Small, relatively inexpensive, easy-install filters on the end of faucets
- Jug filter/Pitcher systems: gravity filters cartridges, relatively inexpensive, mostly made up of carbon.
- Ceramic water filter systems: clay / combustible material, and water.
- Also to be potentially considered are Point-of-entry (POE) or whole household systems (i.e. larger pre-treatment systems e.g. RO, water softeners, chlorine injection...)

Other key aspects to cover within the market assessment include:

- Analysis of how the quality of drinking water of households near the front line is currently being determined.
- The critical market linkages and market actors that remain affected or will likely be affected by future evolutions of the Ukraine humanitarian context.
- The key market actors, linkages and relationships that are crucial to the target group's needs, whether directly or indirectly.
- Relevant sociological dimensions around perceptions that encourage / discourage use of available HWTS options (e.g. related to perceived health benefits, costs, etc.)²

The scope of the market assessment should be driven by the identification of conflict-affected households in eastern and southern oblasts in terms of their strengths, their needs and their vulnerabilities in relation to HHWT. Ultimately, the research results will inform WASH Cluster coordination, strategy inputs, advocacy, communication, demand generation, and field-level decision-making by WASH agencies.

SCOPE OF WORK, ACTIVITIES, TASKS, DELIVERABLES AND TIMELINES, PLUS BUDGET PER DELIVERABLE

As part of the technical proposal, agencies are required to propose details of their technical approach to achieve all deliverables.

Deliverable 1: Inception Report – Background Research and Data Collection Preparedness

Activities/tasks	Deliverable	LoE, business days
Methodology & Inception Report Development The methodology is expected to use a mix of quantitative and qualitative methods for the purpose of robust data collection, analysis and comparison (i.e. surveys, interviews, FGDs, etc.). It is also advisable to design assessment tools considering Minimum Standard for Market Analysis (MISMA), Market Analysis Guidance (MAG) or Emergency Market Mapping and Analysis (EMMA). Research design is based on the ToR and starting secondary desk review of existing evidence and reports including but not limited to research articles, government and non-governmental organizations' reports, and any similar assessments conducted by different actors. Secondary data review should support ▪ Gap analysis ▪ Market mapping (in terms of current regulatory frameworks, market size, and key market players) Primary data collection: the company will design household survey tools (Kobo or other appropriate mechanism) and prepare checklists for Focus Group Discussions (FGDs) and semi-structured Key Informant Interviews (KIIs). In addition, this assessment will also require conducting physical observation of markets and market agents. Key stakeholders include: ▪ Crisis-affected populations (defined based on demographic and socio-economic data) ▪ Service providers ▪ Producers ▪ Government representatives and regulatory bodies ▪ Financial institutions The company are expected to come up with statistically acceptable sampling techniques that will ensure randomization and representativeness in the inception report/technical proposal.		10

² Interlinked to separate WASH Cluster planned KAP report 2023

Activities/tasks	Deliverable	LoE, business days
Key sampling reference points: - ensure representation from both urban and rural areas. - Determine the sample size based on statistical significance and feasibility. - stratified random sampling technique (though quicker purposive approaches can be justified and considered) Data collection by agreement with UNICEF might be conducted via phone or online.		
Finalise Inception Report via consultation and review of WASH Cluster and steering committee/SAG (Strategic Advisory Group) members	Inception Report	4
Planning, development and piloting of assessment data collection tools		3
Validation of assessment tools via review, consultation and approval of WASH Cluster and steering committee/SAG members		3
TOTAL WORKING DAYS		20

Deliverable 2: Data Collection and Presentation of Preliminary Findings

Activities/tasks	Deliverable	LoE, business days
1. In-country data collection		15
2. Data cleaning and analysis		10
3. PPT presentation of Preliminary findings to stakeholders	Preliminary Findings Presentation	3
TOTAL WORKING DAYS		28

Deliverable 3. Final Report

Activities/tasks	Deliverable	LoE, business days
DRAFT Report: - Review of the initial report by UNICEF and steering committee/SAG partners: identifying gaps and areas needing clarification. - Up to 2 rounds of review; with the deliverable completed based on validation of WASH Cluster and steering committee/SAG partners.		10
FINAL Report: - Analysis is finalized, and the received feedbacks are incorporated by the company. - Final Report reviewed and approved by UNICEF. The Report is proposed to have the following structure, to be reviewed once the company is selected: I. Introduction and Background: Introduction/Background - Country Context and Purpose of Market Assessment II. Market Assessment Methodology: Description of the methodology (Rationale for choice and design of methodology, data sources used, data collection and analysis methods used, major limitations, Description of roles - who was involved and in what capacity) III. Data Analysis, Quality and Results (Detailed analysis by each of the objectives/main indicators). Including Data Visualisation (maps, tables, infographics, charts, graphs, etc.) of all key areas of HHWT findings	Final Report (including all data sets)	10

Activities/tasks	Deliverable	LoE, business days
IV. The key findings of the Market Assessment. Including Data Visualisation (maps, tables, infographics, charts, graphs, etc.) of all key areas of HHWT findings V. Conclusions, Lessons Learned and Recommendations. Submission to the WASH Cluster of the complete data sets (in Excel or an agreed statistics package format) of all the quantitative data as well as the original transcribed qualitative data gathered during the exercise. These data sets should be provided at the time of submission of the final report		
National Cluster Presentation: on submission of the final report, the consultant (s) is also expected to submit a Power Point presentation summarizing the methodology, challenges faced, key findings under Market Assessment objectives, assessment criteria and main recommendations. This should be submitted together with the final report.	Presentation (National Cluster Meeting)	1
TOTAL WORKING DAYS		21
TOTAL WORKING DAYS (All Deliverables)		69 (14 working weeks approx.)

Budget Per Deliverable

Package	Amount	Product or deliverable
Deliverable 1	30%	Inception Report
Deliverable 2	25%	Preliminary Findings Presentation
Deliverable 3	45%	Final Report

- Payment will be made on completion of each deliverable.
- Final reports should be provided in English and Ukrainian.
- Formalising the approach to completion of deliverables will involve coordination meetings with a Cluster study steering group (up to 3 meetings).

QUALIFICATIONS, SPECIALIZED EXPERIENCE AND ADDITIONAL COMPETENCIES

Qualification requirements

To complete this assignment, UNICEF is looking for an institution that provides a team of experts with the following profile:

For institutions:

- Expertise in designing and implementing market and socio-behavioural studies, as well as designing research exploring various drivers of WASH-related issues.
- Experience in managing similar consultancies.
- Demonstrated ability to produce high-quality results in a timely manner.

As per the international aid localisation agenda, the preference is for an experienced national Ukrainian organisation/institution who will be best placed in terms of access, stakeholder networks and contextual understanding to do the required scope of work.

For team members:

- Education background of the assessment team should have minimum qualification of bachelor's degree in economics, market research, development studies or related.
- For team leaders, at least five years of professional work experience relevant to economic and socio-behavioural research in a related field.
- Ability to form and guide a team with required experience for all sectors.
- In-depth knowledge of the context in Ukraine, particularly the most heavily conflict-affected areas
- Strong interpersonal communication skills in English, Ukrainian and Russian with excellent verbal and written communication skills
- Demonstrated experience of assessing national and/or regional level macro-economic analysis
- Experience in designing and implementing research, conducting data analysis, and developing high-quality reports and formulation of actionable recommendations.
 - In addition and more specifically:

- Excellent qualitative and quantitative analysis skills
- Proven ability to conceptualize, innovate, plan and execute ideas
- Proven familiarity and experience working with the UN (ideally with UNICEF) is preferred.

CONDITIONS OF WORK

Contractor should assure office space and all necessary technical equipment for the implementation of the assignment. Logistics, transport and other services should be included in the offer and covered by the contractor.

Ethical considerations: Applicants will need to agree to meet the standards set in the UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis. The consulting organization is required to clearly identify any potential ethical issue, as well as the processes for ethical review and oversight of the research/data collection process in their proposal. UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis can be found at: <https://www.unicef.org/media/54796/file> The procedure should be consistently applied throughout the research process. The procedure contains the minimum standards and required procedures for research, evaluation and data collection and analysis undertaken or commissioned by UNICEF (including activities undertaken by individual and institutional contractors, and partners).

The confidentiality of respondents shall be respected throughout the market assessment process including data collection, data management, analysis and reporting. No personal information shall be requested from respondents and anonymity shall be emphasized.

Ethical review should be undertaken by research institution and submitted to UNICEF before conducting the survey. The market assessment does not envision participation or analysis data of children / persons below eighteen (18) years of age.

ANNEX 2 | Assessment Matrix

Sources of information - HHWT Market Assessment				
Information category	Information details	HH Surveys	KII interviews	Checklists
ACCESSIBILITY	List of available technologies / products in the local markets	X	X	X
	Availability of spare parts & consumables	X	X	X
	Locations of stores, distributors, etc.	X	X	X
	Imported vs. local production ³		X	
	Supply chains		X	X
	Transport and storage		X	X
	Demand creation initiatives	X	X	
	War impacts	X	X	X
ACCEPTABILITY	Perception of water contamination	X		
	User preferences	X		
	Social & cultural aspects from different target groups (urban vs. rural vs. IDPs)	X	X	
	Accessibility to information on water quality and product availability	X		
	War impacts	X	X	
AFFORDABILITY	End user willingness to pay for HHWT products	X	X	
	End user capacity to pay for HHWT products and consumables	X	X	
	Prices of HHWT (compared to other basics goods)			X
	Perception of HH on affordability of HHW products	X		
	Access to HHWT through humanitarian relief channels (including hygiene kits/vouchers)	X	X	
ENABLING ENVIRONMENT	Taxes/fees for importation		X	
	Regulations and certifications for HHWT		X	
	Key stakeholders	X	X	
	Water quality surveillance		X	
	How humanitarian response may affect markets dynamics		X	
	Promotion campaigns on water safety	X	X	
	Presence of innovative market-based approaches		X	X
	War impacts	X	X	X

³ Local production refers to when the main treatment unit (e.g. filtration media - membrane, ceramic pot, UV lamp, chlorine solution) is produced in the country. Otherwise, to be considered imported regardless of if it is assembled locally.

ANNEX 3 | Desk Review Documents

- **Ukraine WASH Cluster Coordination Meetings**
- Guidelines and recommendations:
 - WASH Cluster Water Treatment recommendations
 - WASH Cluster Ukraine – Water Treatment Guidelines
 - Wartime Water Quality Standards (2022) - Ministry of Health of Ukraine
 - [International recommendations and Ukrainian legislation on hygiene-related IPC at Health Facilities in Ukraine during the COVID-19 outbreak](#)
- Response monitoring information:
 - [Ukraine Humanitarian Response 2023: Situation Report, 3 August 2023 \[EN/UK\]](#)
 - [Ukraine Winter Response Plan, October 2023 - March 2024, Issued August 2023](#)
- WASH cluster response monitoring [2023](#) and [2024](#)
- The KAP study on WASH practices served as contextual information during the desk review phase to comprehend fundamental WASH practices. Additionally, it aided in the development of data collection tools to maintain consistency with previous efforts by the WASH cluster.
- Water quality related documentation provided by CDC:
 - Authorized and accredited water quality laboratories
 - Key challenges to Groundwater
 - Areas with salinity problems
 - Systems that did not meet standard
 - Overview of WQ
- Information on water quality:
 - [Waternet website](#)
 - [Water monitoring website](#)
- Situation monitoring assessments:
 - [Study on the Quality of Water - 2 in the Government Controlled Area of Donetska oblast](#)
 - [The beginning of changes. The stable water supply and sewerage in Sloviansk city 2020](#)
 - Multi-sectoral Needs Assessment (MSNA), WASH sector, 21 June-1 August 2023
 - [Joint Market Monitoring Initiative \(JMMI\)](#)
 - [Monitoring and Environmental Assessment of Water Resources of Ukraine](#)
 - Ukraine situation report- 12 July 2024
- Economic Resilience in wartime: income, employment and social assistance in Ukraine- April 2024 (IOM)

ANNEX 4 | List of Completed Key Informant Interviews

#	Organization	Description	Lang
1	Samaritan Purse	Implementer	ENG
2	WASH Cluster UNICEF	Implementer	ENG
3	UNICEF (ex-OXFAM)	Implementer	ENG
4	UNICEF (ex-project HOPE)	Implementer	ENG
5	UNICEF	Implementer	ENG
6	We World	Implementer	UKR
7	IconLifesaver	Implementer	ENG
8	Formula of Water	Manufacturer and Distributor	UKR
9	ECOSOFT	Manufacturer and distributor	UKR
10	WISE WATER	Manufacturer and distributor	UKR
11	Ukrainian Water Association Nerex (company)	Implementer	ENG
12	Caritas Ukraine (NNGO)	Implementer	UKR
13	ACTED	Implementer	UKR
14	New Dawn	Implementer	UKR
15	Head of CO “CF “Support Kherson”	Implementer	UKR
16	Project officer of “Peacefully Heaven Kharkiv	Implementer	UKR
17	(WASH officer) Oxfam	Implementer	UKR
18	Action Against Hunger (AAH)	Implementer	UKR
19	Oxfam	Implementer	ENG
20	Red Cross	Implementer	UKR
21	Project Hope- Kharkiv	Implementer	UKR
22	Akvantis	Manufacturer and distributor	UKR
23	Project Hope- Odessa	Implementer	UKR
24	SaveUA Charity Fund	Implementer	ENG
25	Project Hope- Kherson and Mykolaiv	Implementer	UKR
26	Southern Development Strategy (SDS),engineer	Implementer	UKR
27	Aquaducks	Manufacturer and distributor	ENG
28	Centers for Disease Control and Prevention (CDC)	Implementer	ENG

ANNEX 5 | List of Incompleted Key Informant Interviews

#	Organization	Description	Reason of refusal
1	IOM	Implementer	Not working in the HHWT sector
2	WHO	Implementer	No response
3	Ministry of Health	Governmental	No response
4	State Service of Ukraine on Food Safety and Consumer Protection	Governmental	No response
5	Medentech (Aquatabs)	Manufacturer and Distributor	No response
6	Aquaphor	Manufacturer and Distributor	Not interested
7	Gaydamark	Implementer	Not interested
8	ROLFIS	Manufacturer and Distributor	Not interested
9	Global Empower Mission	Implementers	No response
10	Swiss Agency for Development and Cooperation (SDC) representative	Implementers	They implement larger infrastructure, not HHWT
11	Water Mission	Implementers	No response
12	CORE (NNGO)	Implementers	Have no permission from the management
13	HEKS-EPER	Implementers	No response
14	ORGANIC water technology	Manufacturer and Distributor	Not interested
15	Helping to Leave	Implementers	No response
16	Stichting Vluchteling	Implementers	No response
17	Nazava Water Filters	Manufacturer and Distributor	No response

