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Decentralization Support in Ukraine

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Water Supply and Sanitation in Ukraine

Position paper

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Position paper: Water Supply and Sanitation in Ukraine

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Executive Summary

The objective of this position paper is to share learnings from the DESPRO experience on establishing sustainable water supply and sanitation (WSS) services in Ukraine, and provide recommendations for strategic policy dialogue in the WSS sector in Ukraine.

Urgent action is needed to address the barriers identified in order to provide safely managed water supply and sanitation services for all in Ukraine. This position paper points to a need for a paradigm shift in national drinking water supply and sanitation policy particularly in the context of decentralization reform.

National WSS policy and its monitoring should reflect the global sustainable development goals and SDG 6 in particular, which is not the case at the moment. Ukraine is currently off-track to meet the 2030 target of providing basic WSS services to all, and does not have country-led mechanisms in place to monitor its own progress. This paper also shines the light on the challenges faced by the sanitation sector in Ukraine – particularly in rural areas, where inequalities in access to sanitation services are much greater than in urban areas. The lack of adequate sanitation and wastewater management, combined with greater access to centralized water services in rural areas in recent years, is a ticking time bomb with environmental health repercussions already being felt. Weak regulation of water extraction, pollutants and wastewater discharge further contributes to poor water quality. In addition, water scarcity and droughts are becoming more recurrent in Ukraine, due to a combination of lower precipitations but also mismanagement of existing water resources.

This position paper identifies a range of regulatory and legal measures to support local WSS services provision, in relation to national and local sector policy, management models for WSS operators, licensing, taxation and construction and design standards.

Key recommendations for the strategic development of the WSS sector include:

- **There is an urgent need to address the disconnect between (i) WSS sector policy goals in Ukraine and the SDGs and (ii) the fragmentation of WSS sector policy formulation and implementation.** In the context of decentralization reform, the responsibility for WSS policy and programmes should rest at the level (local, regional, state) where they can best be effectively implemented.
- **Financial resources in the WSS sector need to better target the population most in need of services, and increase to meet the challenge of providing adequate WSS services for all.** They should not be allocated on a competitive basis (which tends to favour better-organised communities rather than the most vulnerable ones), but on the principles of equity, subsidiarity and realism in order to truly adhere to the principles of Leaving no one behind. Furthermore, state-level financial instruments to support WSS services needs to be expanded to include public loan programmes and local borrowing, which would enable the state to scale up its interventions.
- **The national WSS monitoring system should allow the country to measure the achievement of SDG 6**. At the moment, Ukraine cannot manage what it cannot measure. Changes need to be made both to the state statistics system and line ministry reporting.
- **Better coordination among state actors on shared policies:** the WSS sector in Ukraine (and the water sector more broadly) suffers from overlapping mandates, which need to be looked at in more detail through a strategic review of the sector. This is particularly evident in the context of the crisis of “transported water”, which

affects hundreds of thousands of people forced to rely on water trucks, with little coordination between responsible agencies.

At the local level, this paper makes the following recommendations:

- **Introducing some flexibility in the management models for rural water supply, including the type of service provider, its licensing, and its taxation rate**, in order to ease the administrative burden on small WSS operators and increase efficiency. Service provision should move away from the only available management model today (the "drinking water supply company") and grant more powers to local government to choose how services are delivered, provided standards are met. This could include models which are standard in neighbouring countries, e.g. direct management, private sector participation, or cooperatives. The existing licensing system should also be revised to relax some of the requirements which are difficult to fulfil for small service providers (e.g. technical qualifications could be replaced by on-the-job training overseen by a certification scheme). Finally, taxation should be lowered to be on a par with simplified taxation system similar to that used by the private sector.
- **Revising and updating norms and standards to ensure design and construction requirements** are not oversized or lead to inefficiencies. This includes water consumption norms which are too high particularly in the rural context, but also the current requirement to build sewerage networks alongside piped water networks. Communities should be given some flexibility on using the sanitation solution which meets their needs best, be it sewerage, decentralised or individual sanitation options.

Finally, this paper makes the following specific recommendations for the sanitation sector:

- **Changing the attitude of the rural population to environmental sanitation is an important consideration which needs to be prioritised in a context where piped water supply is becoming more widespread**. This will require a mix of regulatory, financing and social measures to incentivize rural residents to connect to existing sewerage networks, or invest in appropriate sanitation solutions.
- **Expanding coverage of safely managed sanitation services in rural areas** requires additional efforts, for which a strategy should be developed and given adequate resources and priority.

Acronyms

ATC	Amalgamated Territorial Community
CHF	Swiss Franc
DESPRO	Swiss-Ukrainian Decentralisation Project
IWRM	Integrated Water Resources Management
JMP	WHO/UNICEF Joint Monitoring Programme
MDG	Millennium Development Goals
SDC	Swiss Agency for Development and Cooperation
SDG	Sustainable Development Goals
UAH	Ukrainian hryvnia
UNICEF	United Nations Children's Fund
USD	United States Dollar
VAT	Value-Added Tax
WHO	World Health Organisation
WSS	Water Supply and Sanitation

1. Background

After the breakdown of the Soviet Union in 1991, rural communities in Ukraine inherited dysfunctional water systems. There were no institutional and financial set-ups in place for water supply, no working procedures, and funds for the operation and maintenance of public services, including water supply, had either vanished or decreased dramatically. Most piped systems had been constructed decades ago and had hardly been refurbished or replaced since. Most rural settlements were not serviced by piped water systems. After Ukraine's independence, responsibility for the provision of public services, including water supply, was only transferred on paper to local self-governments of villages, towns and city councils. A fully-fledged transfer did not take place as decentralization – in particular fiscal decentralization - was still lagging behind. Local self-governments in rural and peri-urban areas, highly dependent on fiscal transfers from central government, have always lacked the financial resources or autonomy to decide on investments and provide adequate levels of service.

Lack of funds and capacities led to the declining performance of water supply and sanitation services and increasing breakdown rates in water supply facilities. Although the construction and implementation of piped systems based on deep boreholes is technically challenging, the sustainable management and funding of water supply in rural areas proved to be even more of a challenge. There were major concerns with regard to the financial sustainability of investment, operation and maintenance of new water supply schemes, due to lack of public funding but also poor technical knowhow and organizational capacity at the local level. In addition, local authorities had no experience with social mobilization, community involvement and participation of the local population and local authorities.

In response to these challenges, Switzerland has been providing support to Ukraine since 1996 to ensure that the population had access to quality water supply and sanitation services. This has been done in the framework of the Swiss-Ukrainian Decentralization Support Project in Ukraine DESPRO, which is being implemented by Skat since 2007 through the provision of WSS services by decentralized structures in rural and peri-urban areas. Thanks to DESPRO, over 150 rural communities and recently created amalgamated communities have received support, and around 87,500 rural residents have directly improved or gained access to quality piped drinking water for the first time. Various implementation modalities for rural water services have been piloted and successfully implemented, including *community-based* (in the early years) and *local government-led* (in the later years) projects[1]. The experience and expertise gained by DESPRO and its partners at all levels – local, sub-regional (*rayon*), regional (*oblast*) and national – over the course of 13 years of implementation is synthesized here in order to provide policy recommendations for national authorities of Ukraine which can be of use for the strategic development of the water and sanitation (WSS) sector.

2. Objective, scope and audience

The objective of this position paper is to share learnings from the DESPRO experience on establishing sustainable WSS services in Ukraine. This position paper aims

[1] For more information on DESPRO's approach to WSS services, please refer to https://despro.org.ua/en/library/publication/, more specifically

to contribute to emerging discussions between practitioners and decision-makers from around the country to find strategic and sustainable solutions for the Ukrainian water sector in conjunction with the decentralisation of service provision. The analysis focuses on how innovative approaches to water management at the local level can both support regulation and/or direct support and help improve the performance of water schemes, with a key focus on how to create and organize technically centralized (piped) water[2] supply using an organizationally decentralized approach. However, the paper does not aim at a comprehensive analysis of national policies in the WSS sector. The analysis of the context and the development of proposals for the improvement of national policy will focus on those areas where DESPRO has had practical experience and/or conducted research.

The intended audience for this position paper is the national Ministry responsible for WSS services (Minregion), as well as other international, national and local sector partners. This paper is intended to be used as reference document that can be fed into strategic policy dialogue in the water sector. As part of the process of drafting this position paper, a consultation was carried out with local, regional and national DESPRO partners, and key findings presented to Minregion.

In its thematic scope, this position paper will cover issues of organising piped (or '*centralized*' as it is commonly known in Ukraine) water supply in rural areas and small towns/ amalgamated communities as a public service. It will cover all aspects of service provision: institutional, financial, technical as well as social, before proposing policy recommendations to address the challenges identified in the analysis.

The following key questions/messages will form (but will not be limited to) the contextual basis for this paper:

1. *How can local actors be supported in undertaking their functions? What measures should be introduced at the level of national policy? Besides introducing support mechanisms, are there any institutional and/or financial barriers that can be removed to make the 'improvement path' smooth?*

In villages and small towns of Ukraine, local service providers responsible for the day-to-day management of drinking water schemes have a range of challenges to address: ensuring the smooth running and sustainability of facilities and equipment, ensuring the financial sustainability of the water schemes, meeting social and environmental requirements and ensuring the transparency of the service. Ignoring these building blocks of the service may result in shortening the lifespan of these systems. The specific technical, organisational and financial management mechanisms, in particular those introduced with the support of DESPRO, have proven to be effective in helping both local authorities and service providers to improve the quality and to extend the lifespan of water services.

2. *What national policy alternatives, means and instruments of achieving policy objectives in the rural WSS sector should be defined or updated?*

The overall paradigm of national drinking water supply and sanitation policy in Ukraine requires changing in the context of decentralization reform. Transformational processes in the field of public administration, specific to decentralization reform, will certainly exert an influence on defining public policy goals (primarily strategic ones), as well as the means and instruments (e.g. programs) for adopting and implementing these.

[2] This paper uses the term centralized and piped interchangeably, as centralized is the preferred term in Ukraine.

3. *How do the proposed changes in the rural WSS sector policy sector relate to the broader water sector, and with the SDG6 agenda?*

National WSS policy is deeply connected with the global sustainable development goals, namely SDG 6. Recent research shows that at present, the SDG 6 agenda is not fully reflected in national WSS policy in Ukraine in terms of policy elaboration, implementation and monitoring (Sorokovska, 2018). This position paper will make reference to how existing policy corresponds to the concept of 'safely managed services', and presents a position on how the existing monitoring and evaluation system in the WSS sector at the national level can be adapted to the need of measuring of progress of SDG 6.

3. National WSS policy

3.1. Contextual analysis: SDG 6 progress off track – but by how much?

Access to sustainable and safe water supply remains problematic for many Ukrainians. There are significant inequalities between urban and rural populations in access to quality drinking water and sanitation. According to recent data, centralized water supply covers over 99 percent of urban and some 30 percent of rural settlements (Ministry for Development of Economy, Trade and Agriculture of Ukraine, 2020). Residents of at least 824 villages and towns mostly in the southern regions (approximately 268,000 people) still use drinking water delivered by trucks (Minregion, 2019).

After 15 years of implementation of the global development agenda (MDG, SDG), there has been no significant improvement in rural water supply coverage in Ukraine. Assuming that national indicators in Table 1 below reflect the real picture of public access to centralized water supply, the effectiveness and validity of public policies towards achieving the identified SDG targets are therefore under question. The conclusion was already highlighted by the MDG progress report (UN, 2015) stating that "serious problems with the provision of a centralized water supply to the population in rural areas [remain]; sadly this conclusion is still relevant in 2020, even since 5 years of SDG implementation.

Under the Sustainable Development Goals (SDGs), Ukraine needs to provide and measure the access, availability, and quality of water – features which go beyond public access to "centralized water supply" as was the case under the MDGs. Since 2015, Ukraine has pledged to pursue the global Sustainable Development Goal (SDG) agenda, which strives to make "universal and transformation-oriented" progress towards sustainable development. Under SGD 6[3], countries must *ensure availability and sustainable management of water and sanitation for all* through the provision of "safely managed drinking water services" for all (UN, 2017). Safely managed drinking water services consist of three elements: 1) *accessibility* (water should be available on premises); 2) *availability* (duration of supply and volume sufficient to meet drinking water needs, personal hygiene, and other domestic needs); and 3) *quality* (water should be free from primary bacterial and chemical contamination) (WHO/UNICEF, 2017).

[3] SDG 6 is composed of the following targets : 6.1 (Achieve access to safe and affordable drinking water); 6.2 (Achieve access to sanitation and hygiene and end open defecation); 6.3 (Improve water quality, wastewater treatment and safe reuse); 6.4 (Increase water-use efficiency and ensure freshwater supplies); 6.5 (Implement IWRM including transboundary cooperation); 6.6 (Protect and restore water-related ecosystems); 6.a (Expand international cooperation and capacity-building) and 6.b (Support stakeholder participation).

It is unlikely that Ukraine will meet SDG 6.1 - but no one knows by how much it will miss the target. In order to reach 100% of the population by 2030 with safely managed water services, Ukraine should already have reached 70% of the population by 2020 (Ministry of Economic Development and Trade of Ukraine, 2017), and with a push to accelerate progress to reach 95% of the population by 2025. Joint Monitoring Programme (JMP) data shows that Ukraine is currently making negative progress (i.e. receding) and is not on track to achieve 100% population coverage with basic water services by 2030. The latest national data report (Minregion, 2018) provides aggregative data for Ukraine only as coverage of *settlements* and not *population* coverage; it states that 99.2% of cities, 89.8% of towns, and 30.1% of villages are covered with centralised water services. DESPRO analysis shows that the 2018 data amounts to approximately 25% coverage of the rural *population*, meaning that 75% of the rural *population* of Ukraine (i.e. 23% of the whole population) does not currently have access to sustainable water services.

3.2. National policy formulation and financing for the WSS sector

A comprehensive analysis of national WSS policies in Ukraine is outside the scope of the DESPRO project. However, at different stages of the project, some aspects of national policy have been analysed. We would like to share some of the conclusions of this analysis, specifically on state support for the WSS sector. According to Ukrainian law, state targeted programmes should provide "financing of measures in the field of construction and reconstruction of systems of drinking water supply and sewerage and wastewater treatment". Such state targeted programmes, funded by the State Budget of Ukraine, aim at solving the most important problems of the country. During independence, Ukraine has adopted a number of targeted state, regional and local programmes for the development of drinking water supply (and sanitation).

The most significant of these programmes is the National Target Programme "Drinking Water of Ukraine" (with amendments) for 2006-2020. The Drinking Water of Ukraine 2006-2020 programme was approved for the purpose of: (i) improvement of the provision of drinking water compliant with the norms for Ukraine's population; (ii) reforming and developing the water supply and sewerage network, improving its efficiency and reliability; (iii) improving the health of the population and improving the social and environmental situation in Ukraine; and (iv) restoring, protecting and promoting the rational use of drinking water sources.

However, the National Target Programme "Drinking Water of Ukraine" was never implemented in full – with only two years of actual funding over the past decade (representing only 13% of the amount expected to be funded by the state). When it was approved back in 2011, the overall budget for the Programme implementation was estimated at the level of UAH 9,5 bln: UAH 3.0 bln were expected to be financed from the state budget, and the remainder (UAH 6.5 bln) from other sources. In practice, due to various reasons, in 2013-17 state budget funds were not allocated for the Programme. In 2018, financing was restored to a very limited extent (UAH 200 million) and then ceased again in 2019-20.

As a result, the expected outputs of the Programme have not been obtained (Accounting Chamber of Ukraine (2016). State funds to finance this program were deemed "not effective" by a 2016 State Audit. The State Audit also put on question the issue of water governance, concluding that "current legislation does not provide for comprehensive regulation of the provision of drinking water to citizens". These conclusions are shared by independent expert studies (Sorokovska, 2019), which highlight the inadequacy of the performance indicators of the Programme. Many performance indicators focus on quantitative outputs, with no attention paid to the quality of the service. For the six out of nine identified results, including

"Ensuring 24/7 provision of quality drinking water to the population with access to centralised water systems", no performance / efficiency indicators have been established at all. The Programme's objectives and activities include the provision of centralized drinking water supply to rural settlements. As the data in Table 1 below shows, the Programme has not led to significant changes in the provision of quality drinking water to the rural population, and do not support implementation monitoring.

Lack of funding remains the most significant barrier to achieve the objectives of the Programme. This conclusion is shared by the SDG baseline report for Ukraine (Ministry of Economic Development and Trade of Ukraine, 2017), which highlight that "the situation of the most vulnerable and marginalised groups demonstrates a significant gap between the legal and regulatory framework and its practical application and management [for water and sanitation], especially in terms of funding". While some financing to the Programme has been restored, the amounts and preliminary results are not adequate..

State funding is allocated on a competitive basis – meaning that the realisation of the **human right to water and sanitation depends on the capacity of local authorities rather than on the needs of the population**. As funds in the framework of the Programme are distributed on a competitive basis, communities with a higher level of organisational and financial capacity have better opportunities than others to fulfil the conditions of the call for proposal (including the provision of their own contribution and preparation of the necessary package of documents). Communities with a lower level of capacity are not even able to prepare the necessary package of proposal documents, let alone implement such infrastructure projects alone. Obviously, more financially prosperous and successful communities will have better opportunities to prepare and lobby for their projects and, consequently, a better chance of accessing budget funding. This approach does not tally with the concept of "leaving no one behind", i.e. to focus on the most vulnerable and address their needs in priority.

Public policy formulation and implementation is fragmented – leading to suboptimal water supply and sanitation services. An example of this is the situation which has affected millions of people in Ukraine for the past 20 years: that of water transported by tanker trucks for drinking water supply, which is estimated to affect currently at least 268,000 people in Ukraine - mainly rural residents from small settlements in Ukraine (see Box 1)

Limited budget financing and the lack of a coherent sectoral policy significantly exacerbate the drinking water supply and sanitation situation. Since 2000, several programmatic documents have been adopted at national level to provide targeted rural settlements with access to centralized water supply. However, DESPRO research shows that activities planned by the relevant budget programmes in the WSS sector are usually underfunded, leading to low levels of implementation and an increase in the number of people who suffer from poor water supply and/or are forced to use water transported by trucks. This situation is especially true for drinking water supply in rural areas, and requires significant changes in the public policy paradigm in the WSS sector.

Policy recommendations

Key principles

Box 1 : "Transported water": 20 years of emergency water services for rural residents

For the past 20 years, hundreds of settlements in rural Ukraine have been affected by the lack of centralized water supply and water scarcity, and have had to rely on a form of "emergency" water supply through the provision of water transported by trucks ("transported water").This issue illustrates the lack of coordination between state actors in the WSS sector.

While this issue was flagged under a dedicated policy, its implementation was entrusted to the State Agency for Water Resources (Derzhvodagentstvo), under the control of the Ministry of Energy and Environmental Protection (Minecoenergo), and therefore separated from the National Drinking Water Programme (under the responsibility of Minregion). Furthermore, there is little to no funding of a dedicated target programme by Derzhvodagentstvo to tackle this issue. While the overall budget was estimated at UAH 1.6 bln, only UAH 120,0 mln were allocated to funding the construction of a mere 34.6 km of network and a few items of supportive infrastructure in 2018 (Minregion, 2019). In addition, the two ministries do not, in fact, coordinate on this issue. To add to the confusion, in November 2019 Prime Minister Oleksiy Honcharuk's Government entrusted Minregion with the implementation of projects for the provision of centralized drinking water for citizens whose water is currently provided by trucks (and not to Derzhvodagentstvo or Minecoenergo).

Furthermore, the information provided by different state agencies (e.g. Minregion vs State Agency for Water Resources) differs even in the same national data sources. Until 2017, national thematic reports on drinking water supply and drinking water quality showed a steady increase in the number of people affected by the issue of "transported water". In 2017, it was reported that 950,000 people - residents of around 1300 settlements - were affected by this issue. Yet, in 2018 the numbers dropped quite significantly – to 268,000 people and 824 settlements - without any underlying explanation accounting for this difference.

The implementation of public financing for WSS should be considered using a strategic-programme approach in compliance with the following principles: equity, subsidiarity and realism. The current conceptual framework of public policy on the financing of the WSS sector is not fit for purpose and needs to change. However, there is no silver bullet, and we propose below some general principles and options that leave some room for government to select the right policy approach.

1. The principle of "equity" should give equal conditions for communities to access available budget resources to provide the population with access to safe and sustainable water and sanitation services, in order to target the most vulnerable under the principle of "Leaving no one behind". Allocating budget funds for providing the population with access to safe drinking water and sanitation should be done on a non-competitive basis. Funding should be allocated based on *the needs of the population* rather than the organisational capacity of local authorities (as is the case at the moment).

There are two options for doing so: (1) allocate subsidies to communities that meet a number of clearly defined criteria (needs) and/or (2) change the procedure for the competitive selection of projects by focusing on the goals, results and sustainability of project interventions than the capacity of local authorities. The introduction of mechanism (1) will require the definition of clear criteria, monitoring and control over the implementation of projects and the achievement of goals. For (2), procedural issues should be reviewed, and some should be scrapped. This could include for instance the requirement for the availability of design estimates: in our view, it is not always justified, and the availability of a feasibility study can be sufficient to decide on the scope of project work.

2. The principle of "subsidiarity" should ensure a clear division of tasks for the development of the sector between different levels of government. The basic principle should be that WSS programmes at different levels (local, regional, state) should address only the tasks and activities that can be best implemented by the relevant level.

It is advisable to finance (or co-finance) from the *state budget* WSS projects (1) whose impact will extend beyond the regional level and which cannot be solved through inter-municipal cooperation, including those that will have significant environmental and / or social consequences in the medium and long-term; and (2) which address national public policy priorities and targets/ goals – including the goal of inclusion and leaving no one behind. An example is the provision of centralized water supply services to the population that currently relies on water transported by trucks. The construction of centralized water supply services for this segment of the population, from our point of view, fully meets the objectives of a national public policy priority; therefore, it would be justifiable to allocate national funding to this end. Measures to be taken at the local level in response to changes in national legislation should be supported by state-level funds and implemented within individual budget programmes / environmental funds, or available resources on a revolving basis (including with co-funding from higher-level budgets).

We recommend financing the inter-community WSS services at the expense of *regional budgets*. For example, regional funds could support the construction of piped water networks, sewerage networks or wastewater treatment plants, which service several territorial communities within a region. It is important that regional funding acts as a stimulus for project implementation, complementing the budget resources of the beneficiary communities of the projects.

Local financing should be earmarked for the operation and maintenance of WSS facilities, the replacement and reconstruction of dilapidated distribution networks. These programmes should be financed from local sources: the operator's (tariff) funds, subsidies from the local budget, or other available sources of funding: sponsorship, non-repayable financial assistance, borrowing, etc. The responsibility of local authorities in preparing such programmes should be to use reliable data on the condition of water supply networks and facilities, drinking water quality in centralized and decentralized water supply sources, real water losses, and realistic forecasting for the demand for centralized water supply services among the population. Such an approach should encourage local authorities to find the most optimal financial and technical solutions, as well as a more balanced approach to tariff formation using incentive mechanisms.

3. The principle of "realism" should ensure programme planning based on realistic scenarios / strategies for attracting resources, available sources and funding tools. When

setting timeframes and quantitative indicators, it is necessary to realistically assess the financial capacity of communities to meet them, as well as the adequacy of financial instruments. If the local government is aware of the possibilities of its own budget and the maximum amount of funding it can attract from other sources (including subsidies and non-repayable financial assistance), it will be interested in using them as effectively as possible to ensure the critical operation and maintenance of the system to provide the population with an adequate level of services.

WSS Sector financing

The proposed change in public funding should be gradual, with clearly defined planning. The implementation of the principle of subsidiarity should lead to an end to public funding provided on a non-repayable basis for the implementation of local projects. In the medium term, some state funding could be allocated for purposes which meet clearly defined priorities and criteria. For example, given the differences in rural and urban access to safe water and sanitation, state funding could be maintained for rural areas, including the provision of centralized water supply to the population using transported water. Non-repayable state support should also focus on (rural) communities with a lower level of organizational and financial capacity, whereas repayable state support (e.g. government / budget loans) would be more appropriate for communities with a higher level of capacity. The share of government loans should gradually increase in the overall financing of the sector.

Financial support for sanitation in rural areas deserves special attention. It seems appropriate to create funds that would finance community initiatives to build (smaller, decentralised) sewerage systems. Selection criteria for such projects, in addition to the statutory threshold of 2,000 population equivalent, could include the following: 1) project located in rural areas; 2) where the service is created for the first time; 3) where centralized water supply already exists. International experience presents different financing mechanisms and schemes that support such policies. Some examples are presented below.

The array of state-level financial instruments to support WSS services needs to be expanded. The use of budget loans in times of transition to modernize critical infrastructure is of great importance along with traditional ways of providing state support in a number of European countries (e.g., Poland, Hungary, Croatia, etc.). In some countries, budget loans have almost completely replaced non-repayable budget financing. The characteristic features of such mechanisms are the following:

- Loan programmes are implemented through specially created institutions;
- Such institutions operate in the format of "revolving funds" – funds from the repayment of loans are reinvested in other projects;
- The interest rate is used to cover the overhead costs of managing institutions (funds);
- Loan mechanisms can include the following: loan only; a combination of loan and non-repayable assistance; the possibility of cancelling part of the loan or interest, provided that the obligations to the fund are properly fulfilled within a certain period, and so on.

In addition to their direct purpose, budget loans can play an important "learning role" in developing the capacity of local self-government bodies for project planning, as well as assisting them in maintaining a certain financial and managerial discipline in implementing investment projects. The introduction of such a mechanism will require the establishment of

state institutions, the definition of clear priorities and transparent procedures for lending, monitoring and control.

The development of public loan mechanisms is usually multiplied at the regional level. European practice shows that the existence of clear and transparent loan programmes at the state level leads to the introduction of similar programmes at regional level In Ukraine, there has only been one example of the introduction of a loan programme at the regional level for the development of WSS infrastructure (Box 2).

Local borrowing can play a positive role in the development of WSS infrastructure. Although the local borrowing market (e.g. municipal and corporate bonds) is not specific to the WSS sector alone, its development will also help to improve the funding situation in the sector. This depends on legislative changes, in particular the extension of the right for rural and urban ATCs to borrow on the national market. Such changes are driven by the need to expand investment opportunities of local communities, which are especially important in the development of decentralization (see Box 3).

Box 2: Regional loans for the « Drinking Water » programme: the experience of Vinnytsia region

In Vinnytsia region, in 2016-18, regional budget loans were provided for the implementation of measures of the regional "Drinking Water" programme at the level of territorial communities. The general administrator of the funds was the Department of Housing and Communal Services, Energy and Infrastructure of the Regional State Administration. The funds were distributed on a competitive basis and provided through the regional communal organisation "Regional Fund for Investment and Construction".

In 2018, DESPRO provided expert and consultative support aiming at improving and optimising internal policies and procedures in the Regional fund including: revision of selection procedures, training and coaching support for partner communities, and monitoring and evaluation. The idea was to turn the fund into a revolving fund in order to make the financing instrument more sustainable. However, once the preparatory work was done, the loan programme was stopped in 2019 due to the lack of financing from the regional budget. While the mechanism of this loan still requires significant development, this regional experience could be developed elsewhere and taken into account at the national level in the future.

Box 3: Legislative changes regarding development of local borrowing sector

A Stakeholder Platform was created in 2019 under DESPRO's initiative, involving key players in the local borrowing sector. The joint efforts resulted in the development of the following draft laws:

- "On bonds of local development funds"[1];
- Amendments to the Law of Ukraine "On Securities and the Stock Market", the introduction of which will accelerate the development of local borrowings to finance infrastructure projects in Ukraine;
- Amendments to the Law "On Securities and Stock Market", which will be reformatted into the Law on Capital Markets and Organized Commodity Markets and opens up new opportunities for using the Local Development Funds instrument and others

3.3. National WSS monitoring framework

The National WSS monitoring framework does not allow the country to measure the attainment of SDG6. A thorough analysis of the data on urban and rural water coverage in Ukraine is beyond the scope of this position paper. However, the analysis of the subset of data between 2001 and 2019 presenting the progress in reaching MDG/SDG water targets in Table 1 leads to the following conclusions:

- **The indicators are not currently harmonized between the global and the national level**. At the global level, "population coverage" is measured, while Ukrainian official statistics only measure "settlements coverage". The additional comparative analysis of the presented data shows that the numbers provided in global reports representing the category of 'population coverage" in the respective national reports represent the category of "settlements" coverage. From the experience of DESPRO, having piped water supply in a settlement, especially in rural areas, does not always mean one hundred percent coverage for the population in the territory of a settlement. However, population coverage and settlement coverage have been considered identical, which has a distorting effect.
- **The relative constancy of national indicators over the long term calls into question the effectiveness of the state monitoring system**. National data in the table below shows very little variation or improvement over the last eighteen years.

Indicator	Type	MDG					SDG				
		2001	2004	2007	2011	2014	2015	2016	2017	2018	2019
Share of the population with access to a centralized water supply, % of overall population	Urban	88,0	88,0	87,0	87,0	93,4	99,0	99,0	99,3	99,2	no data
	Rural	no data	no data	26,0	no data	22,2	25,0	29,0	30,0	30,1	no data
Share of the population with access to a centralized water drain, % of overall population	Urban	No specific target identified					92,0	94,0	95,0	96,1	no data
	Rural						3,0	2,2	2,5	2,5	No data

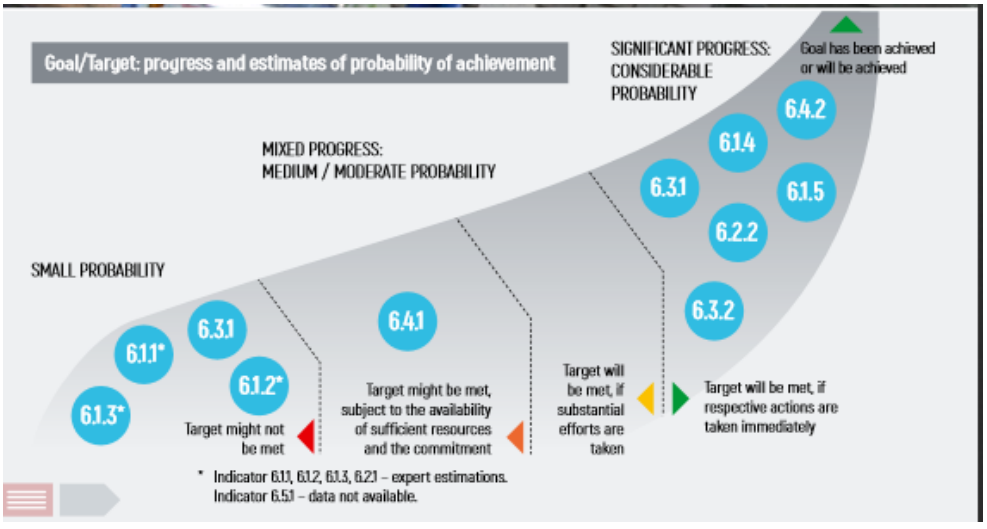
Table 1: Access to centralized water supply and centralised water sewerage/drain in Ukraine (Source: UN, 2015; Ministry for Development of Economy, Trade and Agriculture of Ukraine, 2020)

In addition, currently, national indicators are not even formulated in such a way that they are not able to assess the progress of the global SDG indicators.

The assessment of the achievement of the global indicator needs to cover all three elements (*accessibility*, *availability*, and *quality*) at the same time. As is seen from the Table 2 below, current national indicators (taken from the 2020 SDG Voluntary National Review (VNR)) in their reformulated version reflect the issue of *water quality*; *accessibility* and *availability* elements are not taken into account at a full scale. The only remaining reference to *accessibility* and *availability* may relate to the "access to centralised water supply". At the same time, as centralized water supply systems in Ukraine have been reportedly shown to fail both chemical and bacteriological standards of water quality, the access to centralized water supply therefore only accounts for the global indicator partly. This challenge needs to be taken into account by the competent public authority to update mechanisms and tools for monitoring and evaluating drinking water policies.

Indicator	SDG Baseline report	SDG VNR
6.1.1.	Share of the rural population with access to safe drinking water, %	Safety and quality of drinking water by microbiological parameters (% of non-standard samples)
6.1.2.	Share of the rural population with access to affordable drinking water of assured quality, %	Safety and quality of drinking water by radiation parameters (% of non-standard samples)
6.1.3.	Share of the urban population with access to safe drinking water, %	Safety and quality of drinking water by organoleptic, physico-chemical and sanitary-toxicological parameters (% of non-standard samples)

Table 2: Comparison of changed Goal 6.1. targets formulation: SDG Baseline report (2017) vs SDG VNR (2020)



Picture 1: VNR indicators for 6.1.1. and 6.1.2. are based on expert estimates only

Policy recommendations:

The national WSS monitoring system should allow the country to measure the achievement of SDG 6. Appropriate changes should be made to both the state statistics system and administrative data. At the same time, taking into account the inclusion of relevant indicators in the system of state statistics seems to be extremely important, as the primary source of data for institutions monitoring the SDGs is national statistics. It is therefore recommended to take into account the need to measure indicators of "population coverage" and not "settlements coverage", as was the case before 2014.

The national report (on drinking water quality and WSS status) needs to include appropriate indicators. In our opinion, in the short-term, the inclusion of SDG 6 indicators in the National Report is a very realistic way to respond to the relevant challenges. The national report is formed on the basis of administrative data of various authorized structures, and is easier to change than the state statistics, for which any change requires legislative approval. We would therefore recommend the national report to adapt its monitoring framework as a first step, prior to any updates of the national statistics framework. In our opinion, it would be expedient to integrate the relevant indicators and their analysis into the structure of the National Report in the form of a separate section.

Thus, at the initial stage the focus should be on defining ways and conditions under which localised indicators of SDG 6.1 and 6.2. could be measured. It is important to pay attention to overcoming methodological differences in the assessment of key parameters - accessibility, availability and quality - in achieving global indicators of "safely managed" of water supply and sanitation services.

4. Management of water supply services

Based on our analysis, we envisage the following goals for public policy in the WSS sector at the local level:

- Increasing access to the rural population to safely managed water supply and sanitation services;
- Supporting rural communities in having access to centralized water supply systems, and ensuring the sustainability of the service;
- Participation of the community members in the planning and management of WSS services;
- Expanding the autonomy of communities (regardless of size) in choosing the method of organizing the service, not limited to the model of "drinking water supply company";
- Introducing some flexibility in the licensing system for the WSS sector thereby, ensuring compliance with service standards while taking into account the size and other parameters of water supply operators;
- Access to the simplified taxation system for all WSS service providers;
- Establishing reasonable and enforceable standards and indicators for the WSS sector in rural areas, including the design and construction of WSS systems.

Below we expand on an analysis of the current situation for WSS services provision at the local level, and propose some recommendations to address gaps.

4.1. Water supply sources in rural areas: decentralized vs centralised solutions

Due to limited access to piped water supply, at least 11 million villagers are forced to use other sources (springs, wells, shallow wells) for water supply in Ukraine. Access to safely managed drinking water supply does not make reference to a specific water supply method. This means that safely managed water services can also be provided by decentralized systems, including individual solutions such as household wells or springs.

However, the use of water from upper aquifers for domestic and drinking purposes is fraught with a number of problems. First, the cost of digging an individual well is relatively high (USD 1000 or higher), which poses an issue of affordability. Secondly, water quality in the upper groundwater aquifer is poor in many parts of the country: almost half (46.8%) of monitored public shallow wells did not conform to drinking water chemical quality standards, and one third (30.8%) to bacteriological standards (Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine, 2019). The most important issue is linked to chemical contamination of *nitrates*, as around 40% of water samples exceeded the standard threshold. This is due to the effects of the activities of industry, agriculture, as well as the lack of adequate sanitation and wastewater treatment.

The most promising technical option for safely managed rural water services therefore remains centralized (piped) water supply systems. Water treatment for private sources (especially from chemical contamination) is prohibitively expensive for rural households. Other options for water capture, such as rainwater harvesting, are not widespread. Centralized water supply systems, however, are usually connected to local deep boreholes with access to water from the lower underground aquifers, which is of good quality and can be used without primary treatment aside (aside from a few minor exceptions). Connected to a source located in or near the village, centralized water networks can be used to supply water to every household within the settlement.

4.2. Management of rural water services

The sustainability of rural water services depends on a number of factors. These include compliance with standards and requirements during the design and construction of networks, clear property rights for the water systems, and operation and maintenance of the system, calculation and tariff setting, and willingness/ability to pay. All these factors need to be included in a proper management model for rural water services.

As water supply systems are under responsibility of local authorities, rural water services in Ukraine are usually "publicly owned – publicly managed". The vast majority of communal centralized water supply systems are managed by local municipal companies (or *communal enterprise*). Other management models include service cooperatives, local private companies/entrepreneurs, etc. While water systems are *centralized* technically, they are *decentralized* from an organizational point of view, since they are usually created and managed by each community.

The management of water supply in new decentralized institutional arrangements remains challenging, **especially for rural and peri-urban communities**. Historically, the transfer from highly centralized and hierarchical Soviet systems to decentralized systems was difficult. National authorities have blamed the transfer of rural water networks to local governments for the deterioration of drinking water conditions in rural areas (Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine,

2019)[4]. At various times, and most recently in 2011, national authorities have attempted to re-centralize the water sector by promoting the idea of regionalization through the creation of regional water companies – so far without success.

4.3. Regulatory issues for rural water services

In Ukraine, the regulatory environment plays an important role in public services provision and in the WSS sub-sector in particular. Improvements to the regulatory environment are possible only through the active intervention of the state. A specific feature of regulation of the WSS sector in Ukraine is that the established standards and norms are binding for any service provider, regardless of its size or any other parameters of the service (volume of water, number of consumers). Regulatory requirements can be unrelated to the achievement of standards or indicators in the provision of service as such. Here we will focus specifically on the improved regulatory factors that affect the delivery of centralized water supply at rural and peri-urban community level, which we have identified through our twelve years of experience in implementing water supply projects.

The legal identity of the service provider

The Law on Drinking Water, Drinking Water Supply and Sanitation in Ukraine operates under the premise of a "drinking water supply enterprise" for the organization of centralized drinking water supply. This requirement causes an additional administrative burden and leads to inefficiencies, making it impossible to organize centralized drinking water supply in any other institutional form, including “direct management” (whereby the provision of a service is provided by a local government authority without the creation of a legal entity). Currently in Ukraine one can find examples of “de facto” direct management, whereby the village council provides water services and collects fees from residents, as it is less administratively cumbersome than establishing a drinking water supply enterprise for reasons listed below (see Box 4)

As this is illegal, the state turns a blind eye; but there is no reason why this management model should not be possible in Ukraine, as it is widespread in other countries, including Germany, Italy, Moldova (Council of Europe, 2011) and rural Switzerland (Sorokovskyi and Sorokovska, 2012).

[4] “*The changing ownership and transferring rural water networks to the balance of local governments* [that made possible - ***Author***] the *aggravation of the problem of providing the population with guaranteed quality drinking water*”, as rural “*water supply systems are in poor technical condition, the population is forced to carry out repairs at their own expense; many rural water supply systems do not have treatment facilities and disinfecting plants, and there is no production laboratory control of drinking water quality*” (Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine, 2019)

Box 4. Hlynske village: Example of direct water management

In Hlynske village, Sumy region, the water supply system, built in the 60-70s by the local collective farm by 2007 was operated by a local private agriculture enterprise “Hlynske Ltd.” founded on the basis of property of late collective farm.

After the liquidation of Hlynske Ltd. due to bankruptcy, the water supply system (5 water wells and a 670-meter-long distribution water network) was transferred to on the balance of the village council. The water system ensured water supply not only to the local residents (58 households, approx. 150 people) but also for the secondary school, kindergarten, and outpatient clinic. Another issue that arose shortly after the transfer of the water system was the gradual decrease of water quality in shallow wells due to the content of nitrates, which exceeded sanitary norms by 5 to 40 times. Poor quality water negatively affected the health of the villagers, so the need to further develop the system and increase service coverage became obvious quite soon.

At the time of transfer of water system Hlynske village council didn’t have any relevant experience in managing water supply and providing the service. Because of the absence of communal utility and impossibility (low capacity) to establish a brand new one, the village council had to organize the provision of the service on their own - directly. This meant organizing relations with the consumers, approval of tariff and collecting fees, as well as accounting. The tariff was approved on the concept of ‘social tariff’: it covered only electricity costs for water lifting and distribution; no contributions for capital maintenance and system expanding were envisaged.
The village council operated the water system “directly” for four years. As the village council reported “*we were aware of illegal character of such way of management, however did not have any other affordable alternative*”. Later, starting with 2011, upon cooperation with DESPRO the affordable legal form was found and a service cooperative was established. The water project implemented with the support of DESPRO finally allowed to cover with the quality water the whole village - 1377 villagers.

The presented example of direct management was quite specific to many smaller villages and can be found in other parts of Sumy region and in other Ukrainian regions.

Policy recommendations:

Local governments should be able to choose the way in which WSS services are organised to suit their capacities, resources and established practices. Provided that the standards of service delivery and the achievement of certain targets are met, such flexibility would lead to significant positive effects. In this regard, moving away from the only available management model today (the "drinking water supply company") is a logical step. Ukraine’s decentralization reform is putting a focus on communities exercising their powers. Therefore, for a local government, being able to choose how to organise WSS services would only strengthen the capacity of such a community and ensure better access to services. This should include the ability to organize WSS services without creating a business with a legal entity, i.e. by providing services directly through the community authorities. For relatively small communities (say, up to 5,000 people), such a model of "direct management" could be an effective alternative to the model of "drinking water supply company".

Management models could include a wider variety of options. In particular, local authorities could provide the overall management of the service and be responsible for financial policy. Technical issues could be solved by outsourcing them to external contractors. As mentioned above, this model exists in a number of European countries, including Germany, Switzerland, Italy, and Moldova. In Switzerland, for example, different models of water supply management coexist effectively in communities of up to 10,000

inhabitants: WSS services are provided through local self-government bodies, through private companies, or cooperatives (typical of rural areas). There are no universal criteria for assessing the effectiveness of a model and comparing them with each other in Switzerland: each commune makes its own decisions based on local conditions, vision, goals, as well as traditions and established practice (Box 5).

Box 5 : Swiss case study : a variety of management models for small communities

The example below is taken from the book *"Community Water Supply in Switzerland: what can we learn from a century of successful operation*?" which showcases the ways in which rural communities in Switzerland ended up with different management models to ensure drinking water supply for their residents.

Wittenbach is a village 10 km from the city of St.Gallen in the north-east of Switzerland. Today, it has about 8,000 inhabitants. In spite of its vicinity to a city, it has retained much of its agricultural character. Towards the end of the 19th century, more intensive farming practices were introduced and more cattle had to be provided with water. This process, along with a period of dry years, was the main push that initiated the development of a common supply network for drinking water.

The initiative for a common water supply network came from a group of villagers, and within a short time they had set up a co-operative - a private association with a public purpose. Their main motivation was the luxury of having a piped supply of water in their houses for themselves and, during dry periods, for their cattle. Initially, the Cooperative consisted of a local elite of only 26 land owners who covered the costs of the first project. Large amounts of money were injected for this project (up to the equivalent of an average industrial wage for a year), and, in addition, the water fees were high by today's standards. In turn, members were charged at a lower rate than other consumers. Subsequently, more house connections were added and the Co-operative was obliged to accept new members, even against the will of the majority of its members. The main uses of water were domestic consumption, water for cattle, and fire fighting. For this reason, funds from the fire protection insurance payments were made available for developing the main network and hydrants. The network grew larger every year and it was necessary to connect new springs to the system. With the availability of pumps, lower-lying sources of water could also be developed. Today, every house in the village is connected to the supply network (except for some farms with their own supply), and safe water is available without interruption.

Households form the majority of the water supply customers. They use the water and pay fees to the Co-operative. Founded in 1898 as a private club, the Co-operative was required to become a public body1in 1932 to make it eligible to receive subsidies. Today, its legal and organisational frame-work are defined in bylaws, which are reviewed every five to ten years. Every adult inhabitant of the village is member of the Co-operative and can elect the members of the Executive Board (or become a member of the Executive Board). However, the right to vote and elect officials is utilised only by a minority, mainly by the landowners. It is worth mentioning that the Co-operative always succeeds in attracting community leaders who volunteer to devote a great deal of time and effort to get the best out of the limited resources of the Water Co-operative. For this work they are paid only a small fee. This readiness is due to the good reputation associated with involvement in the important business of water supply.

Source: Saladin, M and Wehrle, K. Community Water Supply in Switzerland: what can we learn from a century of successful operation?

Returning to the Ukrainian realities, it should be noted that our proposed expansion of community autonomy in choosing the best method for organizing WSS services reflects the previously defined goals of public policy. Thus, the recently approved Programme of

Activities of the Cabinet of Ministers of Ukraine (approved by the Resolution of the Verkhovna Rada of Ukraine of 04.10.2019 № 188-IX)[5] contains a political proposal to "transfer the rights to regulate the activities of utility providers to the local level", while maintaining national control functions or such that cannot be effectively implemented within a single community (*Source: Programme of activities of the Cabinet of Ministers of Ukraine, Goal 10.5. (2020)*). Changing the approach to determining the legal status of WSS service providers may also require appropriate changes in other areas of regulation, such as housing and communal services legislation.

Licensing of drinking water companies

The activities of drinking water companies are subject to statutory licensing – but the license terms are not always relevant for the service provider. License terms apply equally to all service providers. Accordingly, the license conditions do not take into account the specificities of the organization, their size or other specific parameters. The fulfilment of some requirements will not always be relevant, affordable and justified for all companies without licenses. For example, existing rules and regulations for technical staff (established in 1997) lead to overstaffing for an overwhelming number of small operators – which would have negative consequences on tariffs and therefore affordability and sustainability of the service. However, beyond standard licensing, there is no alternative way for confirmation of qualification of the water supply operator (e.g. personnel certification).

Policy recommendations

The existing WSS licensing system can also be complemented with a more flexible certification scheme for WSS small operators. Indeed, certain license conditions are too difficult for all licensees to obtain without exception, especially operators of small WSS systems. For example, the current requirement for the management and key officials of the licensed organisation to hold a tertiary education diploma (a master's or bachelor's degree with professional experience of 2-3 years) will not always be achievable for rural water supply operators, and not always relevant or justified. After all, the achievement of a qualification level sufficient for the performance of professional duties can be ensured by a lower level of education (for example, a junior specialist), and supplemented by greater work experience in the related fields.

Certification for small water operators (for example, with fewer than 5,000 consumers) would help remove these obstacles. Government would regulate this certification scheme, which would replace current licensing requirements for small water supply operators. This type of arrangement is not new in Ukraine: for example, a similar type of regulatory mechanism has already been introduced in the field of multi-apartment housing management services. Thus, special legislation requires the executor of the functions of a manager to have a certified manager in the staff (in the case of a self-employed person - to have the appropriate manager's certificate). To obtain such a certificate, the applicant must undergo training and pass qualifying examinations in a special certification body for personnel in this profession. It is necessary to constantly confirm your qualifications by passing the primary once every 3 years and re-professional certification every 5 years. It is important to note that the proposed certification system will not affect the existing licensing system, which may remain justified for all other, larger, operators, but only complement it.

The introduction of certification for small water supply operators, in place of standard licensing, would, in our opinion, have other positive effects. Since certification

[5] At the time of preparing this paper the Program of Activities of the new Cabinet of Ministers of Ukraine (Prime-Minister Mr. Denys Shmyhal) has not yet been officially approved by the Verkhovna Rada of Ukraine.

is usually accompanied by some professional training, this would allow to raise the level of qualification of small system operators in general, at least to make the training process organised and planned. Given that the proposed certification, as well as the current licensing of small operators, would be carried out at the regional level, the training component of the certification process would develop a regional training base, which is another positive effect. The proposed certification scheme could organically complement the recommendation to grant broader autonomy to communities in choosing the way of organizing the service, in particular the possibility of applying the model of "direct management". Thus, if a particular community chooses such a model and assigns the functions of the service provider to the relevant structural unit, the certification of the personnel involved would seem, in our opinion, a more acceptable option than licensing.

Taxation and VAT

A simplified system of taxation used by private entities is not available to public utilities, including communal enterprises – leading to additional costs and red tape. This especially affects the activities of small water supply system operators. For many of these businesses, accounting, taxation and related reporting under the current rules leads to additional labour and time costs. In particular, reporting value added tax (VAT) represents a daunting task. By law, all utility companies with an annual turnover of UAH 1.0 million (CHF 40,000) are required to register for VAT. In practice, utility companies are often forced to take certain organizational steps to avoid VAT registration. However, a simplified system of taxation for private companies with annual turnover of up to UAH 7.0 million (CHF 250,000) gives them the right to not register for VAT. Applying a similar system for utilities would benefit utilities serving most rural settlements, as well as those supplying town and communities with up to 20,000 residents. This system currently discriminates between public and private operators, to the benefit of the latter.

The VAT rate of 20% for water and sanitation services is among the highest in Europe (Danube Water Program, 2015). It should be lowered, given the social importance of water supply and sanitation and the need to ensure affordability of water services. Utilities should have access to a simplified taxation system similar to that used by privately owned businesses. Such a change may be relevant for all utilities, regardless of size, but the expected positive effect for small system operators will be greater. For Ukraine, the reduction of VAT relative to its base level or even to "zero" percent, for some groups of goods and services is commonplace. In the case of VAT on WSS services, the public importance of this sector, and the need to ensure the availability of water supply services, should be taken into account.

Rigid design and construction standards

Current design and construction requirements are too rigid, leading to an increase in the material costs and should be reviewed. Overdesign and excessive construction and maintenance costs are borne by communities, leading to excessive costs at the design stage, during construction and throughout the lifespan of the water supply systems. The need to implement these standards is questionable, as international practice along with DESPRO's experience of implementing more than 150 rural water projects demonstrates.

To give a few examples:

- *high rates of water consumption* foreseen at design stage (more than 200 l/cap/day) leads to oversized design and excessive construction costs. DESPRO research in partner communities shows that the actual consumption rates range from 50 to 130 l/cap/day, depending on the size of the family and the type of household. In rural Moldova, the water

projects supported by ApaSan (SDC-financed project also implemented by Skat) were designed on the basis of an estimated consumption of 50 l/cap/day.

- the set of *firefighting standards* that has to be applied for any centralized water supply leads to excessive costs: 1) the hydrants should be installed every 150 m of water supply network; 2) the main pipes should have a diameter of at least 100 mm, to ensure the capacity of the system for firefighting; 3) water towers or reservoirs should be installed for firefighting purposes.

Policy recommendations

Design and construction requirements in the centralized water supply sector should be made more flexible. In particular, this concerns the possibility of reducing water consumption norms set in the design, in order to take into account the peculiarities of water consumption in a particular area. The experience of DESPRO and other projects in the region shows that the rural population, along with centralized water supply, often continues to use water from private sources (in particular, to meet non-drinking needs), if there is such a possibility. This should be accounted for in design and construction norms and standards. The ability to optimize material costs during construction and operation should increase the availability of water supply systems for two reasons: (i) it would free up community resources for other productive uses and (ii) it is more realistic for less expensive systems to be implemented.

5. Management of Sanitation services

In Ukraine, inequalities in access to centralized sanitation (sewerage) between urban and rural populations are much greater than for centralized water supply; the issue of water supply is inextricably linked to sanitation, especially when it comes to sewerage. Thus, in 2018, the rural population's access to sewerage is estimated to be around 2-3%, while 70-80% of the urban population is connected to sewerage (Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine, 2019). According to the WHO / UNICEF Joint Monitoring Program, the high proportion of the population provided with "safely managed" sanitation is due to an increase in coverage for the urban population only. From 2000 to 2017, coverage of safely managed sanitation services almost doubled in urban areas (from 37% to 65%), while the rural population's sanitation coverage remained relatively stable, however, at the "basic" level[6] (89% in 2000 to 94% in 2017). The increase in urban sanitation coverage may also be explained by demographic factors rather than a real improvement of the situation: the total population using sewerage services actually decreased between 2000 and 2017 (30.3 million to 22.5 million (WHO/UNICEF, 2017)). All the regulatory barriers described above for centralized water supply are relevant for the organization of sewerage – and we are also convinced that certain legal barriers actively contribute to the degradation of the sanitation situation**,** especially in rural areas and small towns. Below we examine these in more details.

One barrier in particular is design standards: according to the State construction norms, piped water supply projects must include sewerage, with a mandatory analysis of the balance of water consumption and wastewater disposal. At the same time, under the WSS framework law, the construction of sewerage is mandatory for settlements with a population above 2000 residents. In practice, and especially in rural areas, managing (i.e. constructing and

[6] According to JMP Sanitation ladder (https://washdata.org/monitoring/sanitation) 'safely managed sanitation' represents the highest service level, whereas 'basic sanitation service' takes the position one stage lower.

effectively maintaining) centralized water supply and sewerage at the same time is an almost impossible task**.** There are several reasons for this:

- **Lack of financial resources**: the construction of a sewerage system will cost at least three times that of a water supply system of the same size.
- **Unwillingness of the rural population to make such changes**. Water scarcity directly affects households and people's livelihoods, and there are few alternatives to connecting to a piped water network. By contrast, there are several alternatives to wastewater disposal that are less expensive than sewerage. Most of these alternatives will raise questions about compliance with environmental standards. However, DESPRO research shows that rural residents do not feel the impact of this problem themselves, nor do they feel social pressure from neighbours, or regulatory pressure from authorities.
- **Willingness to pay tariffs.** If rural people are forced to accept the tariff for water supply, then the additional burden on the tariff caused by the sewerage system will not be accepted. Unlike in other countries, such as Poland, Ukraine does not have a rule on the obligation for a household to get connected to the central sewerage system where it exists.

Policy recommendations

Overcoming all the regulatory barriers to centralized water supply described above will also have a positive effect in the sanitation sector. In our opinion, this effect should be felt in rural areas and small towns, and lead to a gradual increase in the coverage of the rural population by safely managed sanitation services. Communities for which sewerage networks are financially sustainable should be supported through the introduction of a range of measures to encourage households to connect to sewerage systems**.** For residents of the urban-dominated apartment sector, there is, in principle, no alternative to sewerage. For rural residents, who mostly live in farmsteads, there will always be alternatives for sewage disposal. Under such circumstances, sewerage in rural areas will always remain risky in terms of operating costs, given the unpredictability of the customer base.

It should not be possible for a household to refuse to connect to the sewerage system, if the opportunity is provided by the local government. To this end, legal and regulatory measures should be introduced (as they are, for example, in neighbouring Poland) with the appropriate powers given to local authorities. In our opinion, without such regulation, the existing legal requirements for the construction of sewerage for settlements with a population of two or more thousand residents is unlikely to be effective, and will not lead to a significant increase in the number of sewerage systems in rural areas.

Current laws and norms make sewerage mandatory when it is not always likely to be financially sustainable. Given the risk of covering only a small proportion of households that could be technically connected the vast majority of villages and settlements of this size will likely look for an opportunity to abandon the idea of building a sewerage system than to implement it. At the moment, the law allows communities to abandon the creation of such systems in favor of such as individual or decentralized sanitation solutions, for reasons related to the "excessive costs" of sewerage construction. Our recommendation would be to make *sanitation coverage* rather than sewerage mandatory, and to base policy guidance for the construction of a sewerage network not on the number of residents alone, but on financial sustainability factors including population density and economic activity in a proposed agglomeration, as is currently the case under the EU Wastewater Directive (European Commission, 2007). This should be assessed on a case-per-case basis rather than on an

arbitrary threshold. As it was mentioned above, rural water supply systems with individual connections are required to be designed in parallel with sewerage systems. On our opinion, this requirement slows down the development of water supply systems, and should be relaxed by cancelling this requirement for settlements, leaving it up to communities to decide which sanitation solutions they would like (centralised, decentralised, individual or onsite).

This should be part of a broader strategy for improving sanitation in rural Ukraine, including through (i) the phased planning and implementation of sewerage when it is financially sustainable, whilst avoiding oversized or unsustainable investments and (ii) the introduction and promotion of improved on-site or individual sanitation solutions (e.g. septic tanks), which would allow people to move up the sanitation ladder without being constrained by the lack of sewerage. The strategy should also include faecal sludge management and regulation of on-site wastewater discharge to improve environmental sanitation.

Strengthening the control by local self-government bodies over sanitation solutions will also contribute to the improvement of environmental sanitation. The transition to a centralized water supply is gradually increasing water consumption. In turn, the load on wastewater treatment systems will also increase. In cases where it will not be possible to build a sewerage system, the influence of local self-government bodies should be focused on decentralized (local collective), individual or on-site sanitation solutions. To do this, local self-government bodies must have tools to control and influence households regarding the installation of individual systems in compliance with sanitary and environmental standards: control during construction and operation, the possibility of applying financial sanctions to violators, etc.

Changing the attitude of the rural population to environmental sanitation is an important consideration. On the one hand, with the development of piped water supply, the issue of sanitation will become more acute. After all, the existing capacity of individual solutions for sewage disposal, most likely, will not be able to cover the needs of increasing water consumption. On the other hand, the legal and regulatory measures that are proposed to be introduced or strengthened should be supplemented by other social and communication activities. Experience from other middle-income countries has shown that even when legislation to force households to connect to the sewerage network exists, it is often ineffective on its own, and needs to be coupled with (i) financial incentives and subsidies; (ii) social and communication programmes; and (iii) activities that reduce the transaction costs for households to connect (e.g., simplifying the bureaucratic process). In addition, adequate resources need to be dedicated to monitoring the effective connection of households to the network: for instance, in Brazil, a programme for connecting households to the sewerage network managed by the municipal authorities, the utility and households includes household visits in areas where sewer systems are in place in order to inspect individual connections, registering and orienting in case of irregularities. If connections are not regularized, a formal complaint is addressed to regulatory agencies, which may culminate in other administrative measures (SuSanA, 2017).

Conclusion

This position paper reflects on DESPRO's experience in the WSS sector at a critical time for Ukraine as we are approaching the mid-time point to 2030. This is an opportunity to launch a dialogue on the changes that are needed to enable sound WSS services and water management in Ukraine, which are under acute stress due to the impact of climate change as well as and the current economic and health challenges. It does not aim to be exhaustive, but proposes three broad sets of policy recommendations to influence and speed up progress in realizing safely managed water and sanitation services for all.

Policy recommendations at the national level:

- The state needs to address the disconnect between (i) WSS sector policy goals in Ukraine and the SDGs and (ii) the fragmentation in WSS sector policy formulation and implementation. In doing so, it should abide by some basic principles regarding equity (targeting the most vulnerable), subsidiarity (ensuring that the right level of government is mandated for the right objective) and realism (sticking to realistic planning and budgeting to ensure the sustainability of services).
- Financial resources in the WSS sector need to be allocated to the population most in need of services, and increase to meet the challenge of providing adequate WSS services in order to leave no one behind. In doing so, state-level financial instruments to support WSS services needs to be expanded to include public loan programmes and local borrowing, which would enable the state to scale up its interventions.
- The national WSS monitoring system should allow the country to measure the achievement of SDG 6, with changes to be made both to the state statistics system and line ministry reporting.

Better coordination among state actors on shared policies: *the WSS sector in Ukraine (and the water sector more broadly) suffers from overlapping mandates, which need to be looked at in more detail through a strategic review of the sector. This is particularly evident in the context of the crisis of "transported water", which affects hundreds of thousands of people forced to rely on water trucks, with little coordination between responsible agencies*.

Policy recommendations at the local level:

- Some flexibility should be introduced in the management models for rural water supply to give local governments more autonomy over how to provide services to their citizens. Specific recommendations include extending the type of service provider to include direct management and/or private sector participation, set less demanding licensing conditions, and lower the taxation rate of WSS service providers, in order to ease the administrative burden on small WSS operators and increase efficiency.
- Norms and standards should be revised and updated in accordance with best international practice. This is to ensure design and construction requirements are not oversized or lead to inefficiencies.

Policy recommendations for the sanitation sector:

- Changing the attitude of the rural population to environmental sanitation is an important consideration which needs to be prioritised in a context where piped water supply is becoming more widespread. This will require a mix of regulatory, financing and social measures to incentivize rural residents to connect to existing sewerage networks, or invest in appropriate sanitation solutions.
- Expanding coverage of safely managed sanitation services in rural areas requires additional efforts, for which a strategy should be developed and given adequate resources and priority.

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