

Outcomes of the specific needs and expectations of stakeholders

Activity 1.3
Deliverable 1.3.1

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Introduction

This deliverable presents the results of Activity 1.3 "Identification of Stakeholder Needs", carried out to better understand challenges, barriers and support needs related to sustainable wastewater and stormwater management in the Danube River basin.

Background

Sustainable wastewater and stormwater management remains a significant challenge across many small settlements in the Danube Region. While European environmental policies increasingly promote integrated water management, climate resilience and nature-based approaches, many local authorities continue to face technical, financial and governance-related barriers that limit implementation of sustainable solutions.

These challenges are particularly relevant in smaller municipalities and rural areas, where conventional infrastructure solutions are often financially demanding, institutional capacities may be limited and access to specialised expertise remains constrained. At the same time, climate change is increasing pressure on existing systems through more frequent extreme weather events, including heavy rainfall, flooding and droughts.

The D-CLEAN project addresses these challenges by supporting the development, testing and promotion of sustainable wastewater and stormwater management solutions, with particular emphasis on nature-based and decentralised approaches suitable for small settlements across the Danube Region. Through pilot activities, capacity building, decision-support tools and policy-oriented outputs, the project aims to strengthen the ability of local and regional stakeholders to plan, implement and replicate sustainable water management solutions.

Objectives of Stakeholders needs analysis

The activity was designed to provide an evidence-based understanding of stakeholders' needs and priorities involved in wastewater and stormwater management across the Danube Region.

It supports the overall project implementation by ensuring that subsequent D-CLEAN activities are considering stakeholder perspectives. The results contribute directly to the design and detailed planning of project activities related to pilot implementation, capacity building, stakeholder engagement, use of the Decision Support Tool, preparation of Roadmaps and Policy Recommendations.

Main tool to understand these challenges and identify needs was the survey. It represents an important base for ensuring that D-CLEAN responds to actual stakeholder needs and contributes to solutions that can be applied and replicated throughout the Danube Region.

Objectives of the Survey

The survey was developed to achieve the following objectives:

- identify key technical, financial and governance-related challenges associated with wastewater and stormwater management in small settlements;
- assess stakeholder familiarity with and perceptions of Nature-Based Solutions;
- identify barriers limiting the implementation of sustainable wastewater and stormwater management approaches;
- understand stakeholder needs related to capacity building, knowledge transfer and practical support;
- gather input for the design of future D-CLEAN activities and outputs;
- identify stakeholders interested in further participation and engagement.

Methodology

Stakeholder needs were assessed through an online survey (Microsoft Forms) distributed among relevant stakeholder groups across participating countries of the Danube Region.

The survey was translated in following languages: Croatian, German, Hungarian, Romanian, Serbian, Slovakian and Slovene.

The questionnaire consisted of thematic sections covering:

- current challenges in wastewater and stormwater management;
- institutional coordination and governance aspects;
- financing and investment barriers;
- awareness and application of Nature-Based Solutions;
- implementation challenges and opportunities;
- capacity-building needs and preferred support formats;
- communication preferences and willingness for future engagement.

The survey targeted a broad range of stakeholders, including local and regional authorities, water utilities, public institutions, research organisations, universities, consultants, NGOs and other actors involved in water management, environmental protection and spatial planning.

The number of responses, geographical coverage and diversity of stakeholder profiles provide a sufficiently robust basis for identifying common trends, challenges and priorities at the regional level. While the survey does not aim to provide a statistically representative assessment of all stakeholders in the Danube Region, it offers valuable insights into recurring issues, implementation barriers and support needs that are highly relevant for the future D-CLEAN activities.

Survey overview

The stakeholder survey was conducted between January and March 2026 as part of Activity 1.3 "Identification of Stakeholder Needs". The objective was to gather insights from relevant stakeholders involved in wastewater and stormwater management across the Danube Region and to identify key challenges, implementation barriers, capacity-building needs and opportunities for future project activities.

A total of 198 responses were collected from stakeholders representing all D-CLEAN partner countries and a broad range of professional backgrounds. The survey reached representatives of municipalities, water utilities, public authorities, research institutions, universities, consultants, NGOs and other organisations involved in water management, environmental protection and spatial planning.

The largest share of respondents consisted of technical experts and practitioners directly involved in wastewater and stormwater management, followed by representatives of public authorities, researchers and policy-related stakeholders. Furthermore, the majority of respondents reported more than ten years of professional experience in the sector, providing a solid basis for capturing practical implementation challenges and needs.

The geographical distribution of responses demonstrates broad regional coverage, allowing for the identification of common trends and challenges across the Danube Region. While the survey was not designed as a statistically representative assessment, the number of responses and diversity of stakeholder profiles provide a sufficiently robust basis for identifying recurring barriers, priorities and capacity gaps relevant to the objectives of the D-CLEAN project. Figures 1–4 provide an overview of the geographical distribution of responses, stakeholder categories and professional experience of respondents.

Figure 1. Responses by country

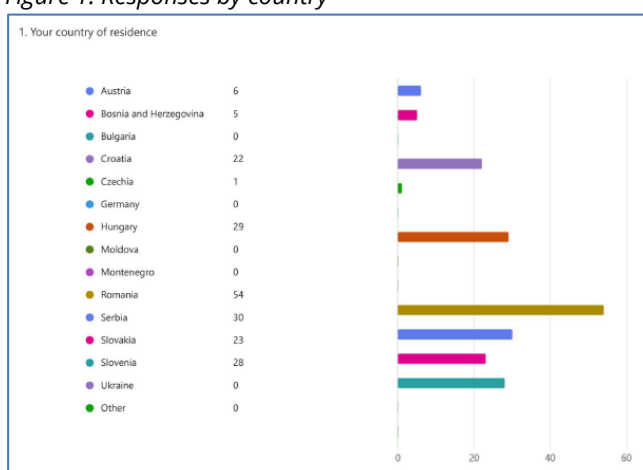


Figure 2. Type of organisation

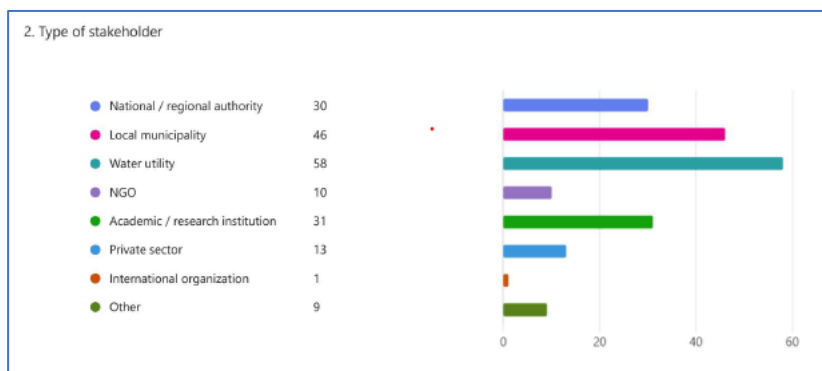


Figure 3. Professional role

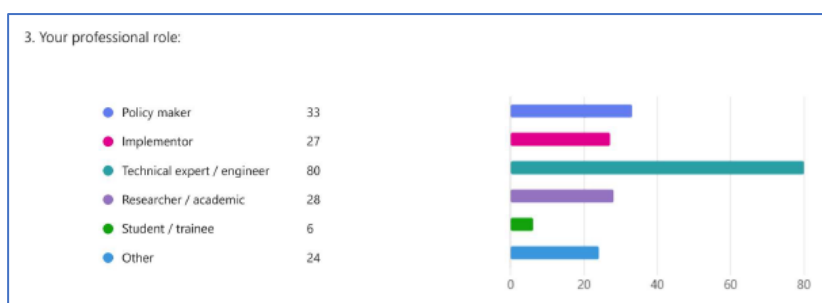
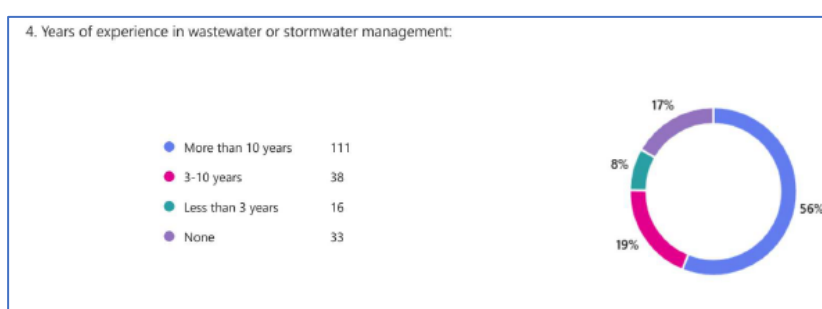


Figure 4. Years of experience



The survey results reveal a high degree of consistency across stakeholder groups and countries, particularly regarding investment needs, infrastructure challenges, governance barriers and capacity-building priorities. These findings provide a valuable evidence base for shaping future D-CLEAN activities and ensuring that project outputs respond to the practical needs of stakeholders throughout the Danube Region.

Key findings

The survey revealed several consistent trends across countries, stakeholder groups and professional profiles. While the specific local context may differ, respondents identified several common challenges and priorities related to wastewater and stormwater management in small settlements throughout the Danube Region.

Infrastructure and investment gaps remain the dominant challenge

The survey confirms that insufficient investment and ageing infrastructure remain among the most significant barriers to improving wastewater and stormwater management. Respondents consistently highlighted limited financial resources, the need for infrastructure upgrades and difficulties in securing long-term investment as key constraints affecting implementation.

These findings suggest that many municipalities and service providers continue to face difficulties in maintaining and modernising existing systems while responding to increasingly complex environmental and climate-related challenges.

Stormwater management requires increased attention

Among all assessed areas, stormwater management received the lowest overall evaluation from respondents. Stakeholders frequently highlighted insufficient infrastructure, lack of strategic planning, spatial constraints and limited investment as major barriers.

The findings suggest that stormwater management remains less developed than wastewater management in many parts of the Danube Region and may require additional policy attention, capacity building and investment support in the coming years.

Governance and coordination barriers are as important as technical challenges

The survey demonstrates that stakeholders do not perceive existing challenges as purely technical. Respondents frequently identified unclear responsibilities, weak cooperation between institutions, low public awareness and limited political commitment as significant implementation barriers.

These findings highlight the importance of strengthening governance frameworks, improving stakeholder coordination and supporting integrated planning approaches alongside technical interventions.

Nature-Based Solutions are widely recognised but implementation remains limited

The results show a generally positive perception of Nature-Based Solutions (NBS) and their potential contribution to sustainable wastewater and stormwater management. However, stakeholders also identified several barriers limiting wider implementation, including financial constraints, insufficient technical knowledge, planning challenges and limited awareness among decision-makers.

This indicates that while awareness of NBS is growing, additional efforts are needed to support practical implementation and mainstreaming of these approaches.

Stakeholders prioritise practical implementation support

Respondents expressed a clear preference for practical and application-oriented support measures. Demonstration projects, study visits, networking opportunities, technical guidance and digital planning tools were among the most highly valued support formats.

The findings suggest that future capacity-building activities should focus on practical implementation, peer learning and transfer of real-life experiences rather than awareness-raising alone.

Strong interest exists for continued stakeholder engagement

The survey also revealed a high level of interest in continued participation within the D-CLEAN project framework. A significant number of respondents expressed willingness to engage in interviews, focus groups and future project activities, while many voluntarily provided contact information for further communication.

This demonstrates the existence of an active stakeholder community that can contribute to the co-creation, testing and dissemination of project outputs throughout the remaining project implementation period.

Overall, the survey confirms the relevance of the D-CLEAN approach and highlights the need for integrated solutions that combine technical innovation, governance improvements, strategic planning, capacity building and stakeholder engagement. The findings provide a strong evidence base for tailoring future project activities and ensuring that project outputs respond to the practical needs of stakeholders across the Danube Region.

Detailed analyse

This section presents the main findings emerging from the survey. The analysis focuses on identifying patterns, frequently reported challenges, stakeholder priorities and implementation barriers related to wastewater and stormwater management in the Danube Region.

The survey collected 198 responses from stakeholders involved in wastewater, stormwater and related processes. Respondents mainly represent water utilities, local municipalities, academic/research institutions, and national or regional authorities. The most represented professional profile is technical expert/engineer, followed by policy makers, researchers/academics and implementers. Most respondents have more than 10 years of experience, which gives the results strong practical relevance. Full survey results are available in the annex 1.

Current situation and main technical challenges (Q5–Q8)

The overall rating of the current situation remains moderate to weak across all analysed fields:

- Wastewater treatment: average rating 2.95/5.
- Stormwater treatment: average rating 2.59/5.

The lowest rating was given to stormwater treatment, suggesting that this area is perceived as particularly underdeveloped.

For wastewater treatment, the most frequent challenges were:

- insufficient investment for upgrading wastewater systems: 139 responses;
- ageing or insufficient infrastructure: 130 responses;
- lack of technical knowledge or staff capacities: 59 responses;
- lack of strategy/action plans: 53 responses.

For stormwater treatment, the most frequent challenges were:

- insufficient investment for upgrading stormwater systems: 138 responses;
- ageing or insufficient infrastructure: 119 responses;
- lack of strategy/action plans: 72 responses;
- lack of technical knowledge or staff capacities: 54 responses;
- spatial constraints for implementing solutions: 51 responses.

A recurring pattern is that both wastewater and stormwater management are constrained by infrastructure deficits, insufficient investment and limited strategic planning.

Governance, institutional coordination and funding (Q9–Q12)

- Institutional coordination and public support: average rating 2.79/5.
- Access to funding and resources: average rating 2.63/5.

For institutional coordination and public support, the most frequently selected challenges were:

- unclear roles and responsibilities: 106 responses;
- low public awareness: 97 responses;
- weak cooperation: 83 responses;
- low political commitment: 75 responses;
- operation and management issues: 51 responses.

For access to funding and resources, the most frequent challenges were:

- budget limitation for investments: 146 responses;
- lack of co-financing or pre-financing capacity: 101 responses;
- complex procedures: 95 responses;
- lack of long-term financial sustainability: 87 responses;
- lack of technical knowledge: 30 responses.

These answers show that the financing challenge is not limited to the availability of funds. It also concerns administrative capacity, co-financing readiness, long-term sustainability and the ability to prepare fundable projects.

Familiarity with NBS and its implementation barriers (Q13–Q18)

The survey shows a relatively positive perception of Nature-Based Solutions, but also a clear gap between awareness and implementation capacity.

Regarding familiarity with NBS:

- 81 respondents reported “some understanding”;
- 46 had heard of NBS but did not know much;
- 30 had worked with NBS;
- 22 declared expert-level knowledge;
- 19 had never heard of them.

Regarding the potential of NBS to address local wastewater and stormwater challenges, the average rating was 3.34/5. Most respondents rated the potential as medium to high, suggesting that NBS are seen as relevant, but not yet as a fully mainstreamed or easy-to-implement solution.

Most relevant NBS options for wastewater treatment:

- constructed wetlands: 68 responses;
- soil infiltration systems: 68 responses;
- waste stabilisation ponds: 35 responses.

Most relevant NBS options for stormwater management:

- vegetated infiltration systems/swales: 63 responses;
- retention ponds: 61 responses;
- permeable pavements: 33 responses;
- raingardens and wetlands: 26 responses.

Most relevant NBS options for green infrastructure:

- urban green spaces: 123 responses;
- buffer strips: 40 responses;
- corridors: 27 responses.

Main barriers to implementing NBS:

- funding/high initial cost: 117 responses;
- low awareness among decision-makers: 100 responses;
- spatial planning/area availability: 63 responses;
- lack of technical know-how: 58 responses;
- land ownership: 49 responses;
- legal/regulatory obstacles: 35 responses;
- maintenance concerns: 34 responses;
- public acceptance: 28 responses;
- lack of performance data: 26 responses.

Recurring write-in answers (“other”) also pointed to missing infrastructure, lack of prioritisation, fragmented institutional responsibilities, difficulties with small settlements, political decision-making, unclear maintenance responsibility and limited applicability of NBS in specific contexts.

Capacity-building and communication preferences (Q19–Q21)

The strongest support needs were practical and implementation-oriented.

Average ratings for support formats:

- demonstration projects and study visits: 4.28/5;
- networking and knowledge exchange with colleagues: 4.28/5;

- in-person trainings and workshops: 3.90/5;
- technical guidelines and manuals: 3.86/5;
- digital tools for planning and implementation: 3.84/5;
- online platforms/courses/communities of practice: 3.70/5;
- video recordings and podcasts: 3.34/5;
- online webinars: 3.21/5.

Most requested support topics:

- design and planning of NBS: 124 responses;
- cost-benefit analysis and economic feasibility: 97 responses;
- operation and maintenance of NBS: 79 responses;
- digital decision-support tools: 44 responses;
- funding-oriented project preparation and coordination: 43 responses;
- legal and regulatory requirements: 39 responses;
- monitoring and performance assessment: 36 responses;
- climate adaptation and resilience: 30 responses;
- stakeholder engagement and public communication: 30 responses.

Stakeholder Engagement Potential

The survey also revealed a strong willingness among respondents to remain involved in future project activities. A considerable number of stakeholders (67) expressed interest in participating in interviews, focus groups and other forms of consultation, while many voluntarily provided contact details for future communication.

Preferred communication channels:

- email/newsletters: 95 responses;
- project website: 86 responses;
- direct communication through meetings or video calls: 74 responses;
- social media: 30 responses.

This demonstrates the existence of an active and engaged stakeholder community that can contribute not only as beneficiaries of project activities but also as contributors to the development, testing and dissemination of project outputs. Overall, the responses reveal a high level of stakeholder interest in continued dialogue, knowledge exchange and practical cooperation around sustainable wastewater and stormwater management solutions.

Country-level specifications

While the survey results demonstrate a high degree of consistency across countries, some differences can be observed.

Slovenian respondents generally provided more positive assessments of wastewater management and the potential of Nature-Based Solutions, while Serbian respondents reported the lowest ratings related to wastewater infrastructure and financing.

Slovak stakeholders expressed particularly strong concerns regarding governance, political commitment and co-financing capacity, whereas Croatian respondents reported comparatively stronger institutional coordination.

Romanian respondents highlighted public awareness and stakeholder cooperation as important challenges, while Hungarian respondents placed greater emphasis on political commitment and long-term sustainability.

Despite these differences, the survey demonstrates that investment needs, ageing infrastructure and implementation barriers related to governance and financing remain common challenges across the Danube Region.

Interpretation: what findings mean and why they matter

The survey results indicate that stakeholders do not perceive wastewater and stormwater management challenges as purely technical. Rather, the findings point to a combination of infrastructure deficits, insufficient investment, weak strategic planning, fragmented governance arrangements and limited implementation capacity. This suggests that achieving sustainable improvements in wastewater and stormwater management requires integrated approaches that address technical, financial, institutional and policy dimensions simultaneously.

The particularly low rating assigned to stormwater management indicates that this field may require increased attention in future policy and implementation efforts. Compared to wastewater treatment, stormwater management appears to be less systematically planned, less financially supported and more affected by spatial, institutional and strategic constraints. This finding is particularly relevant in the context of climate change, increasing frequency of extreme rainfall events and the growing need for climate-resilient water management solutions in small settlements.

The high frequency of responses related to insufficient investment, ageing infrastructure and budget limitations confirms that many local and regional stakeholders face structural financial challenges. However, the survey also demonstrates that funding barriers extend beyond the availability of financial resources. Challenges related to project preparation, co-financing capacity, administrative complexity and long-term financial sustainability were repeatedly identified by respondents. This suggests that improving implementation capacity requires not only access to

funding, but also stronger capacities for project development, investment planning and financial management.

Governance-related findings are equally significant. Unclear institutional responsibilities, weak cooperation between actors, limited political commitment and low public awareness indicate that implementation barriers often emerge from governance and coordination challenges rather than technical shortcomings alone. These findings highlight the importance of integrated planning processes, cross-sectoral cooperation and clearly defined roles and responsibilities among stakeholders involved in wastewater and stormwater management.

The survey also confirms that Nature-Based Solutions are increasingly recognised as promising approaches for addressing water management challenges. Nevertheless, the results suggest that NBS have not yet become fully embedded within planning, investment and implementation practices. While many stakeholders demonstrate basic familiarity with NBS concepts, barriers such as insufficient technical knowledge, lack of performance data, land ownership issues, spatial constraints and limited awareness among decision-makers continue to limit wider adoption. This highlights the existence of a gap between awareness and implementation readiness.

Finally, the strong preference for demonstration projects, study visits, networking opportunities, technical guidance and practical planning tools indicates that stakeholders place significant value on applied learning approaches. The findings suggest that capacity building is likely to be most effective when based on real-life examples, pilot experiences, peer-to-peer exchange and practical implementation guidance. This reflects a broader demand for support that moves beyond awareness raising and contributes directly to implementation and decision-making processes.

Overall, the survey portrays a sector that is increasingly aware of the need for sustainable and innovative approaches, yet continues to face substantial technical, financial and governance barriers that limit implementation. The findings underline the importance of practical support mechanisms capable of bridging the gap between strategic ambition and implementation reality.

Recommendations

The survey findings provide a strong evidence base for shaping the next phases of D-CLEAN implementation. Beyond identifying challenges and capacity gaps, the results offer valuable guidance for refining project activities, strengthening the relevance of planned outputs and maximizing the long-term impact of project interventions. Overall, the findings confirm the strategic relevance of the D-CLEAN approach and demonstrate a strong alignment between stakeholder needs and the project's planned activities.

Validation of the D-CLEAN Approach

The survey confirms that the key challenges addressed by D-CLEAN are shared across multiple countries and stakeholder groups throughout the Danube Region. Infrastructure deficits, insufficient investment, limited planning capacity, governance challenges and barriers to the implementation of Nature-Based Solutions were consistently identified as priority concerns.

Importantly, the support needs expressed by stakeholders correspond closely to the project's planned intervention logic. Respondents highlighted strong demand for practical implementation guidance, demonstration activities, decision-support tools, policy guidance, peer learning and stakeholder exchange. These needs directly align with D-CLEAN's planned pilot activities, capacity-building programme, Decision Support Tool, Roadmaps and Policy Recommendations.

The survey validates the overall strategic direction of D-CLEAN and confirms that project activities are addressing issues perceived as highly relevant by stakeholders throughout the region.

Pilot Workshops and Study Visits as Core Learning Mechanisms

One of the clearest messages emerging from the survey is the strong preference for **practical learning opportunities**. Demonstration projects and study visits received the highest ratings among all proposed support formats, indicating that stakeholders place particular value on learning from real-world implementation experiences.

This finding strongly validates the pilot-based learning approach already foreseen within D-CLEAN. The planned pilot workshops and study visits should therefore be considered one of the project's most important capacity-building mechanisms.

Stakeholders expressed interest not only in understanding technical solutions, but also in learning how solutions are planned, financed, governed, operated and maintained in practice. Study visits will therefore provide opportunities to explore technical design choices, investment considerations, institutional arrangements, stakeholder engagement approaches and lessons

learned during implementation. Best examples from the region will also be included in the catalogue of sustainable solutions enabling this information to be available in written form for later consultancy and to the stakeholders who won't be able to attend study visits.

The pilot areas should be viewed primarily as practical learning and testing environments where local stakeholders can engage directly with sustainable wastewater and stormwater management approaches. Through pilot workshops and study visits, municipalities, utilities, authorities and other relevant actors will have the opportunity to discuss local challenges, explore potential solutions and gain hands-on experience with implementation processes in their own contexts.

Beyond their local impact, the pilot activities will generate valuable practical evidence and lessons learned regarding technical feasibility, governance arrangements, stakeholder engagement and implementation barriers. These experiences can subsequently inform other D-CLEAN activities and outputs, including webinars, the Decision Support Tool, Roadmaps and Policy Recommendations, thereby ensuring that future project recommendations are grounded in practical experience and stakeholder feedback.

Relevance of the D-CLEAN Decision Support Tool

The survey findings strongly validate the strategic relevance of the Decision Support Tool currently being tested within D-CLEAN.

Stakeholders repeatedly mentioned challenges related to selecting suitable wastewater and stormwater solutions, assessing local conditions, comparing different alternatives and identifying feasible approaches for small settlements. Furthermore, respondents expressed strong interest in digital planning and implementation tools that support evidence-based decision-making.

These findings demonstrate that the GIS Decision Support Tool responds directly to needs identified through the survey. Rather than being viewed as a technical instrument, the tool should be positioned as a practical decision support mechanism that assists municipalities, utilities and decision-makers in navigating complex technical, financial and spatial considerations regarding wastewater collection and treatment in dispersed settlements.

The survey also suggests that future testing and dissemination of the tool should emphasize its practical benefits. Stakeholders are not only seeking technical information but support in making informed decisions, prioritising investments and identifying feasible implementation pathways. The Decision Support Tool therefore has the potential to become one of the project's most important long-term outputs, supporting sustainable planning beyond the lifetime of D-CLEAN.

Supporting Policy Uptake and Strategic Planning

The survey results demonstrate that technical solutions alone will not be sufficient to address wastewater and stormwater management challenges in the Danube Region. Respondents

repeatedly identified governance barriers, lack of strategic planning, unclear institutional responsibilities and limited political commitment as important obstacles to implementation.

These findings reinforce the relevance of activities planned under D-CLEAN Specific Objective 3, which focuses on strengthening governance frameworks and supporting the integration of sustainable wastewater and stormwater management approaches into planning and decision-making processes.

The project will therefore place strong emphasis on translating technical experiences and lessons learned from pilot activities into strategic guidance for municipalities, regional authorities and national stakeholders. In particular, the Roadmaps and Policy Recommendations developed within D-CLEAN should provide practical support for integrating Nature-Based Solutions and decentralised approaches into local and regional planning frameworks.

The survey findings are also highly relevant in the context of the revised Urban Wastewater Treatment Directive (UWWTD), the Water Framework Directive and broader climate adaptation objectives. As implementation requirements become increasingly demanding, stakeholders will require practical guidance on how to translate policy objectives into realistic and implementable actions.

At the macro-regional level, D-CLEAN should actively contribute to ongoing discussions and processes within the EU Strategy for the Danube Region (EUSDR) and the International Commission for the Protection of the Danube River (ICPDR). By sharing lessons learned, policy recommendations and pilot experiences, the project can help strengthen regional dialogue and support wider uptake of sustainable wastewater and stormwater management approaches.

Tailoring D-CLEAN Outputs to Stakeholder Needs

The survey clearly demonstrates that different stakeholder groups require different forms of support. Municipalities, utilities, authorities, planners, researchers and practitioners face distinct challenges and therefore require tailored resources and guidance.

The project's planned outputs provide a strong basis for addressing these diverse needs.

- The Decision Support Tool responds to stakeholder demand for practical planning support and solution selection.
- The Roadmap can support municipalities and authorities in strategic planning and implementation.
- Policy Recommendations can help decision-makers strengthen governance frameworks and integrate project lessons into policy and planning processes.
- Pilot activities and case studies can provide practical examples and implementation guidance.

- Catalogue of good practices showcases available technologies responds to stakeholder demand for practical implementation guidance and accessible knowledge resources.
- Online Hub can ensure long-term access to knowledge, tools and resources developed by the project.

This direct alignment between identified needs and planned outputs significantly increases the likelihood that project results will remain relevant and useful beyond the lifetime of D-CLEAN.

Stakeholder Engagement Beyond the Survey

An important outcome of the survey is the strong stakeholder willingness for continued engagement within the D-CLEAN project framework. In addition to the high response rate, 67 respondents explicitly expressed interest in participating in interviews or focus groups, while many respondents voluntarily shared their contact information for future communication and involvement.

This represents both an important opportunity and a responsibility for the project consortium. The survey findings show that stakeholders expect continued interaction, practical exchange and follow-up activities rather than one-way communication only.

D-CLEAN should therefore build on this momentum through stakeholder consultations, focus groups, pilot-area discussions, validation workshops, testing of project outputs and participation in training activities. Continued engagement will not only improve the quality and relevance of project outputs but also strengthen ownership, transferability and long-term sustainability of project results.

Integration into the D-CLEAN training programme

The survey provides valuable guidance for refining the project's capacity-building activities and ensuring that future training programmes respond directly to stakeholder needs.

The first learning pathway consists of **pilot workshops and study visits**. These activities should focus on practical implementation experiences, enabling stakeholders to learn from real-life examples and explore solutions in operational settings. Considering the importance of study visits in the survey this should be carefully planned and well organized.

The second pathway consists of the **webinar programme**. The survey results indicate strong interest in topics related to Nature-Based Solutions, financing mechanisms, governance challenges, strategic planning, operation and maintenance, climate resilience and digital decision-support tools.

While pilot workshops and study visits focus on local implementation contexts, the webinar programme provides an opportunity to address broader regional challenges, and stakeholder needs that extend beyond individual pilot areas. In particular, the findings highlight the need for further knowledge exchange on stormwater management, financing, governance and implementation of Nature-Based Solutions across the Danube Region.

Future webinars should therefore complement pilot activities by combining practical experiences with wider technical, policy and governance perspectives, while also addressing emerging challenges and opportunities relevant to sustainable wastewater and stormwater management.

The third pathway is the **Training of Trainers programme**. Given the strong demand for practical implementation support, the programme should focus on developing a network of multipliers capable of supporting future implementation efforts at local and regional levels. Emphasis should be placed on practical planning approaches, implementation barriers, financing considerations and application of project tools and outputs.

Together, these three pathways create a comprehensive capacity-building framework that addresses technical, governance and strategic dimensions of sustainable wastewater and stormwater management while supporting long-term replication and uptake of project results across the Danube Region.

Suggested Webinar Topics

Future webinar activities should combine technical, strategic and governance perspectives while maintaining a **strong practical focus**. Particular attention should be given to stormwater management, which received the lowest overall assessment among surveyed topics, as well as to practical implementation aspects such as planning, operation and maintenance, financing, decision-making processes and application of digital tools.

The webinar programme should facilitate knowledge exchange across the Danube Region, promote learning from practical experiences and support stakeholders in translating technical solutions into implementable projects and policies.

The following thematic areas are recommended for consideration:

- Theme 1: Nature-Based Solutions and Sustainable technologies
- Theme 2: Stormwater Management and Climate Resilience
- Theme 3: Planning, Decision-Making and Digital Tools
- Theme 4: Financing, Governance and Policy Frameworks

Together, these themes provide a balanced combination of technical, operational, financial, governance and implementation-oriented perspectives, closely aligned with the needs identified through the stakeholder survey and the objectives of the D-CLEAN capacity-building programme.

ANNEX 1: Survey Results

Responses Overview Active

Responses

198



Average Time

18:50



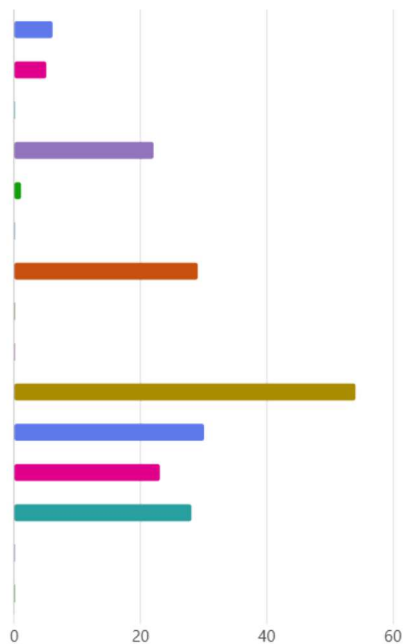
Duration

108 Days



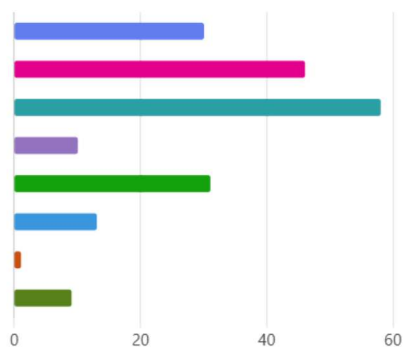
1. Your country of residence

● Austria	6
● Bosnia and Herzegovina	5
● Bulgaria	0
● Croatia	22
● Czechia	1
● Germany	0
● Hungary	29
● Moldova	0
● Montenegro	0
● Romania	54
● Serbia	30
● Slovakia	23
● Slovenia	28
● Ukraine	0
● Other	0



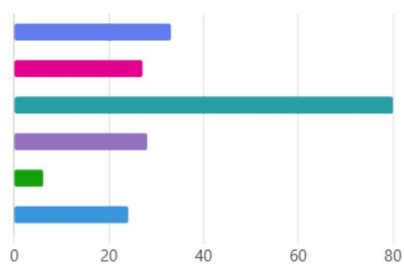
2. Type of stakeholder

● National / regional authority	30
● Local municipality	46
● Water utility	58
● NGO	10
● Academic / research institution	31
● Private sector	13
● International organization	1
● Other	9



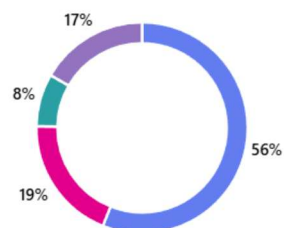
3. Your professional role:

● Policy maker	33
● Implementor	27
● Technical expert / engineer	80
● Researcher / academic	28
● Student / trainee	6
● Other	24



4. Years of experience in wastewater or stormwater management:

More than 10 years	111
3-10 years	38
Less than 3 years	16
None	33



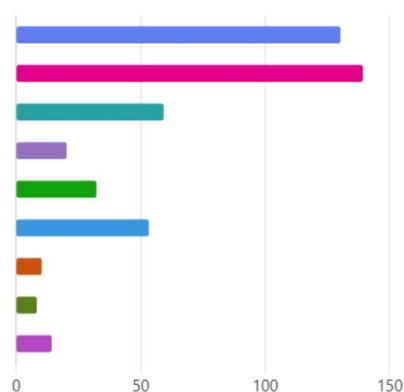
5. WASTEWATER TREATMENT: Please rate the situation and select the main challenges

(1 = very poor situation; 5 = very good situation)



6. WASTEWATER TREATMENT: Main challenges

Aging or insufficient infrastructure	130
Insufficient investment for upgrading wastewater systems	139
Lack of technical knowledge or staff capacities	59
Spatial constraints for implementing solutions	20
Regulatory gaps	32
Lack of strategy/action plans	53
Data availability	10
None	8
Other	14

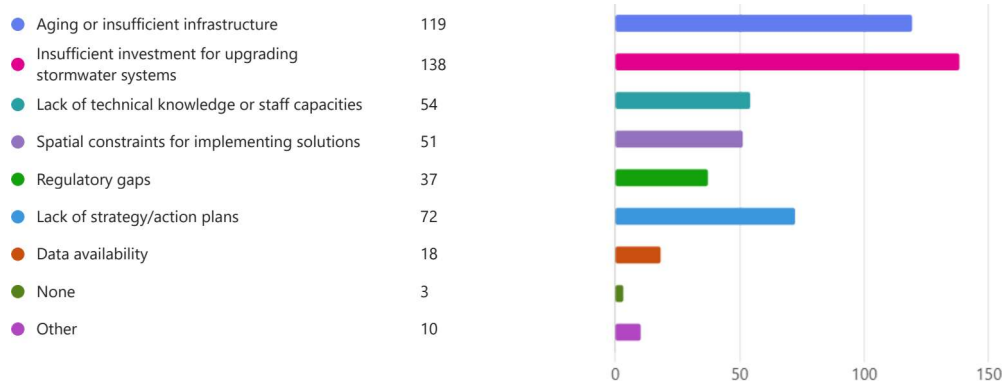


7. STORMWATER TREATMENT: Please rate the situation and select the main challenges

(1 = very poor situation; 5 = very good situation)



8. STORMWATER TREATMENT: Main challenges

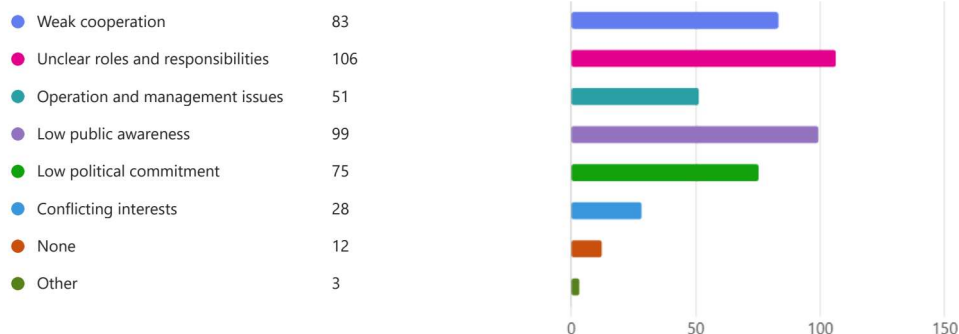


9. INSTITUTIONAL COORDINATION AND PUBLIC SUPPORT: Please rate the situation and select the main challenges

(1 = very poor situation; 5 = very good situation)



10. INSTITUTIONAL COORDINATION AND PUBLIC SUPPORT: Main challenges

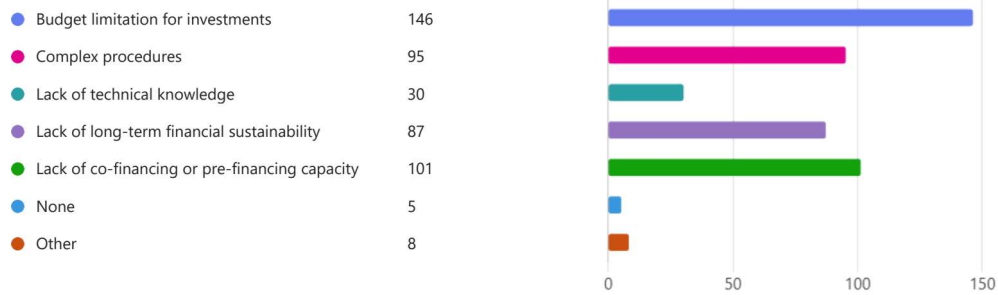


11. ACCESS TO FUNDING AND RESOURCES: Please rate the situation and select the main challenges

(1 = very poor situation; 5 = very good situation)



12. ACCESS TO FUNDING AND RESOURCES: Main challenges



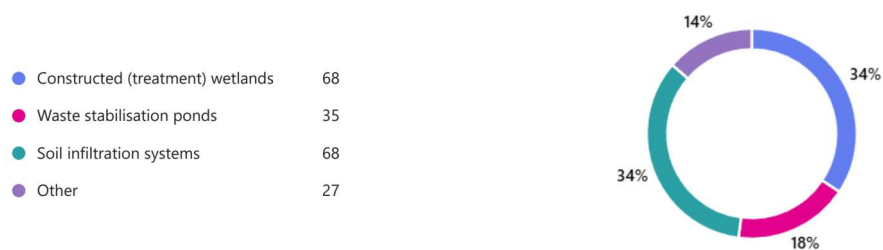
13. How familiar are you with NBS in wastewater or stormwater management?



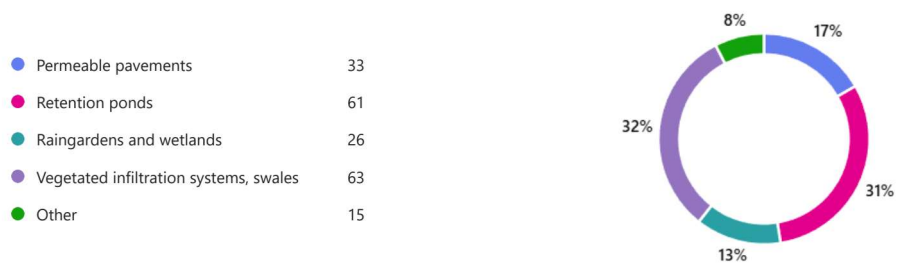
14. How much potential do NBS have to address local waste water / storm water challenges? (1 = none, 5 = very high)



15. Wastewater treatment: Which NBS solutions are most relevant for your area of work?



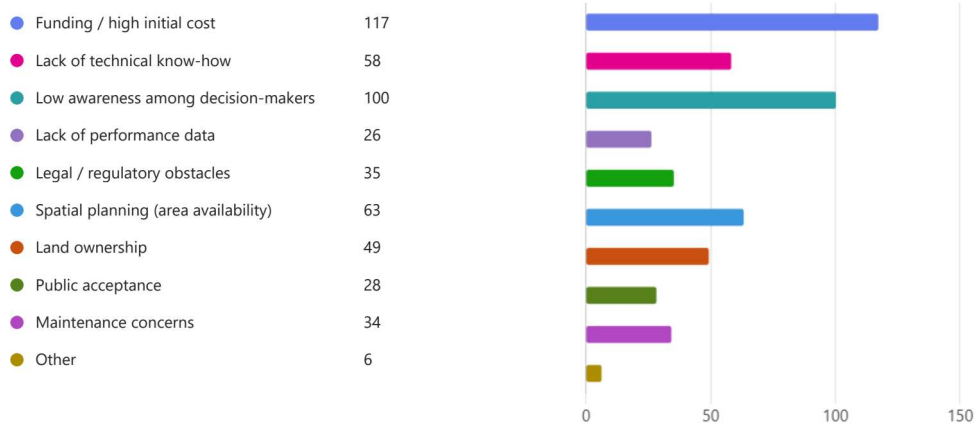
16. Stormwater management: Which NBS solutions are most relevant for your area of work?



17. Green infrastructure: Which NBS solutions are most relevant for your area of work?



18. Main barriers to implementing NBS



19. What support would help the most?

1 2 3 4 5

Online webinars

In-person trainings and workshops

Demonstration projects and study visits

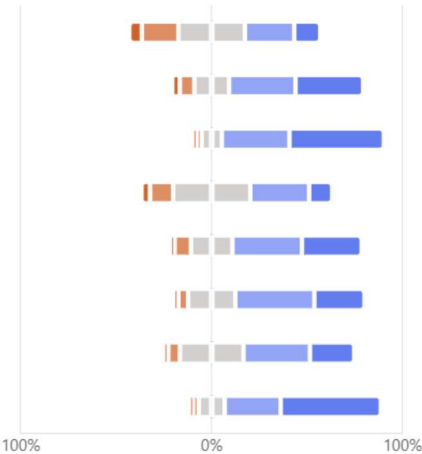
Video recordings and podcasts

Technical guidelines and manuals

Digital tools to support implementation and planning

Online platforms (courses, CoP)

Networking and knowledge exchange with colleagues



20. On which topics would you most need support related to wastewater, stormwater, and NBS?

Design and planning of NBS (technical and spatial design) 124

Operation and maintenance of NBS 79

Cost-benefit analysis and economic feasibility 97

Digital decision-support tools (e.g. modelling, mapping, data platforms) 44

Monitoring and performance assessment 36

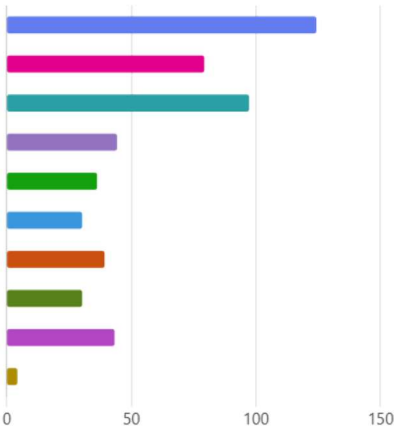
Climate adaptation and resilience 30

Legal and regulatory requirements 39

Stakeholder engagement and public communication 30

Funding-oriented project preparation & coordination 43

Other 4



21. Preferred way to receive project information

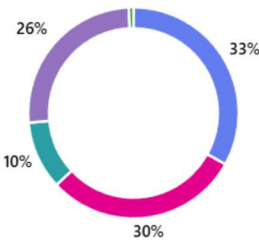
Email, newsletters 95

Project website 86

Social media 30

Direct communication (meetings, video calls) 74

Other 2



22. Would you participate in interviews or focus groups carried out in the frame of D-CLEAN project?



23. If yes, please enter your email address:

66

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