



HYDROUSA

H2020-CIRC-2-2017

Water in the context of circular economy

Full project title:

Demonstration of water loops with innovative regenerative business models for the Mediterranean region

Deliverable: D37

Relative Number in WP9 D6.2

Social impact assessment models

Due date of deliverable: 30 June 2023

Submission date: 30 June 2023





DOCUMENT INFORMATION

Deliverable	Number	D6.2	Title:	Social impact assessment models
Work Package	Number	WP6	Title:	Evaluation of HYDROUSA demonstration systems and services

Due date of deliverable	Contractual	M60	Actual	M60	
Version number	1.2				
Format	MS Office Word document				
Creation date	10 June 2023				
Version date	30 June 2023				
Type	<input checked="" type="checkbox"/> R	DEM	<input type="checkbox"/> DEC	<input type="checkbox"/> OTHER	<input type="checkbox"/> ETHICS
Dissemination Level	<input checked="" type="checkbox"/> PU Public			<input type="checkbox"/> CO Confidential	
Rights	Copyright "HYDROUSA Consortium". During the drafting process, access is generally limited to the HYDROUSA Partners.				

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Brief Description	This report is the full evaluation of the social impact assessment models that were explored during the period M1-M60
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Keywords	social impact; community activities; outcomes; evaluation
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Version log			
Rev. No.	Issue Date	Modified by	Comments
1.0	10/06/2021	Errikos Ovadias (IHA)	First Draft



This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No 776643



1.1	26/05/2023	Dimitris Kokkinakis (IHA)	Edit and Update
1.2	30/06/2023	Dimitris Kokkinakis (IHA), NTUA	Review and final editing



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EXECUTIVE SUMMARY

This document contains a detailed report of the social impact assessment models that have been explored and implemented in the total of 60 months of the HYDROUSA project. HYDROUSA, by actively contributing to the transition to a more circular model of natural resources management has developed solutions that are economically viable, contributing to environment sustainability and promoting social prosperity. In this report we analyse (a) The Methodology for the social impact assessment for HYDROUSA systems and services (b) The Social indicators and factors, for citizen engagement and customer satisfaction and public acceptance (c) The Results from the social impact assessment models.

For Social Impact Assessment during the project, we follow the Theory of Change approach, applying assessment and evaluation models and methodologies. The method is adjusted to the respective inputs and to the targeted stakeholders, ensuring that the design and its implementation strategy emerges through direct participation of the users and other relevant target groups in HYDROUSA activities. In this way we ensure the respective engagement and the ownership of the suggested solutions from the community (technical, non-technical, public, private-commercial), as a solution that can have economic, but also environmental and societal benefits. The report aims to surface the transformative potential of the project's outcomes for our communities in terms of resource management toward a more circular and sustainable future, but also to capture the current status quo of the respective audience towards the suggested solution. Through the analysis of results the goal of this deliverable for the Social Assessment Model is to quantify/determine the status of public acceptance.

The initial positioning, the outreach strategy and the target audiences that HYDROUSA focuses on, are extensively outlined and described in the Dissemination and Communication Plan (DCP) (D9.1). The extended activities that were targeting those audiences are also described in the section of communication, dissemination and community building activities. Each activity was contributing to the transition towards a more conscious and aware society where circular solutions for water, energy, and food management are replicated at scale.

This report is showcasing the specific social impact assessment models that were used, evaluating the outputs and outcomes of those activities focusing on education and capacity building and on stakeholders' engagement, with specific outputs summarizing the collective effort achieved based on sub-activities delivered by the partners of the consortium.

The initial findings of this deliverable were outlined at the middle of the project, in order to evaluate the impact assessment strategy towards the specific formats.

The report is starting with an introduction of HYDROUSA, revisiting the mission, the approach and the solutions provided, that are directly linked with our social impact assessment efforts. All HYDROUSA partners were contributing constantly with the organisation or with their participation in scientific, local meetings/conferences/workshops/trade-fairs/pitching events etc. in order to spread the message, raise awareness, spark new partnerships, and ensure transferability, thus contributing to positive social transformation.

With 28 partners in 10 countries, we have achieved an immense number of 632 reported dissemination activities reaching more than 1,000,000 people, activities that directly contributed to the establishment of the project, contributing to the transition to a more resource conscious society.



This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No 776643



Overall WP6 focus includes the evaluation process for Life Cycle Assessment (LCA), Life Cycle Costing (LCC), and Social Impact Assessment Models. These methodologies aim to serve as a holistic map of the systems' performance, environmental footprint, along with its societal aspects.

Through questionnaires and interviews we quantify inputs, outputs, and outcomes, this evaluation captures the immediate effects but also the potential long-term intentions of change. This data-driven analysis was applied through 213 inputs from stakeholders to support us to make informed decisions for the exploitation of the solutions and the optimization of these systems in terms of performance and required outputs. Furthermore, the analysed results identified through this evaluation provide actionable insights for maximizing the potential of successful implementation with positive impact for the community. By assessing public acceptance and willingness to apply circular approaches for water management, the report empowers users to align their strategies with community preferences, fostering a sense of ownership and collaboration.

Deliverable 6.2 serves as an insightful guide for the HYDROUSA project's commitment to circular resource management. By applying an integrated approach, leveraging the Theory of Change methodology, with user-data evaluation, this report presents the narration of how innovative and circular technologies can serve societal benefits. As the findings emerge through communities, the potential for positive impact becomes evident, aligning technical ingenuity with social advancement.

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ABBREVIATIONS

AGENSO	Agenso Technologies
DCP	Dissemination and Communication Plan
IHA	Impact Hub Athens
ICT	Information and communications technology
LCA	Life Cycle Assessment
MEMIRA	Memira Genesis Ltd
NBS	Nature-based solutions
NTUA	National Technical University of Athens
SROI	Social Return on Investment
ToC	Theory of Change

1. INTRODUCTION: INNOVATIVE, REGENERATIVE AND CIRCULAR WATER SOLUTIONS

1.1 ABOUT HYDROUSA

Water management in Mediterranean regions is currently fragmented and there are several barriers, which need to be overcome in order to close water loops and contribute towards the environmental and economic development of these areas.

Mediterranean regions face significant challenges in terms of water management and conservation. Water reserves are scarce, while the high touristic activities during the summer months stress the limited water reserves.

To overcome these challenges, HORIZON 2020 project, HYDROUSA is creating innovative, nature-based and nature-inspired water management solutions for different types of non-conventional water sources, characterised by low energy footprint. The whole water value chain benefits from this innovative approach of turning a problem into a solution.

Clear water loops are demonstrated, recovering added value products, while integrating and interacting with the local society and market. HYDROUSA not only develops and demonstrates innovative water services, but revolutionises the water value chains in Mediterranean areas from water use up to sewage treatment and reuse.

HYDROUSA will change the human water cycle by valorising non-conventional water resources, which are currently not being exploited.

The project goes beyond the current water and wastewater management practices reimagining a water resilient economy, mitigating climate change and reforming the agro-food system (Figure 1.1).

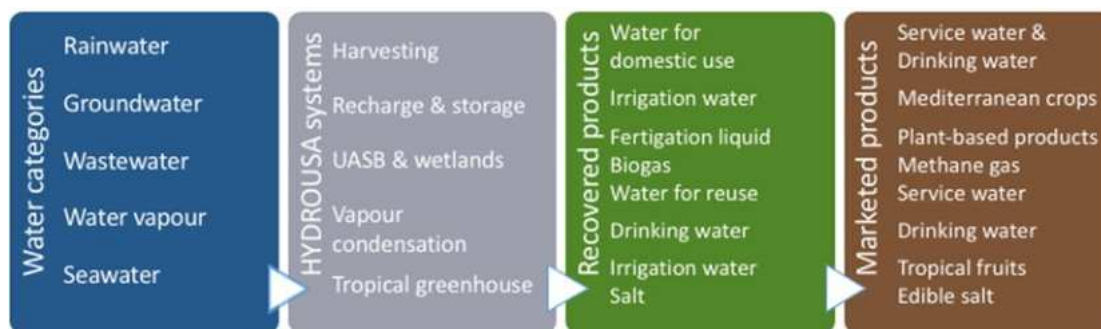


Figure 1.1 The HYDROUSA Practice

HYDROUSA MISSION

HYDROUSA aims to create a community of 'water allies', which believes and works on shifting the development paradigm of our world from an open market society based on economic profits to a world where local communities are empowered to develop tailor-made solutions to improve their wellbeing, while regenerating the local environmental ecosystems. This gives the opportunity to local operators to develop economic, social and environmental services based on closed water loops where decentralised, low-tech systems are favoured.



HYDROUSA SOLUTIONS

HYDROUSA solutions provide several services and integrated technologies which are based on traditional handcraft and ancient methods combined with modern nature-based solutions (NBS), ICT connection and automation systems. The proposed solutions show a perfect combination of building green infrastructures to make use of the plant-bearing benefits and generating green growth within an existing and demanding market while restoring ecosystems.

HYDROUSA COMMUNITY APPROACH

Hence, HYDROUSA activities are focusing on the positioning of HYDROUSA among a diverse range of key stakeholders from policy makers, to the scientific community, the wide public and the industry. All of them constitute an active “community or water allies” that can create a more systemic change when it comes to water management towards more circular solutions. The goal is to have conscious citizens that advocate, adopt and implement circular solutions for resource management.

The combination of the technical advancements of HYDROUSA systems and its potential impact on society and the environment, goes beyond periodic quantitative measurements as our goal is to holistically evaluate the implications of these systems. The transition towards circular water management has both technical and cultural aspects that we try to capture in order to assess the potential of implementing those systems.

Recognizing that nature-based solutions and technological advancement should align with the willingness from the users, the utilities and the community to apply circular practices (including reclaimed wastewater), but also should inform policy to adjust the regulation, the report assesses the social aspects of the triple bottom line – environment, economy, society – to foster the integration of those sustainable solutions. This integrated approach provides a roadmap for translating technical achievements into tangible benefits that positively shape communities and enhance the overall well-being of society.



2. HYDROUSA: SOCIAL IMPACT ASSESSMENT MODELS

2.1 Introduction

Choosing the appropriate social impact assessment model for the HYDROUSA project involved careful consideration of various factors and adherence to key principles. As it is a complex project engaging a variety of stakeholders, aiming to transition from a dominant model to an emerging one that is more environmentally friendly and more people oriented, we had to follow a process to identify the most suitable method. A systematic approach that guided our selection:

Revisiting HYDROUSA Objectives:

We started by clearly defining the objectives of the HYDROUSA project - as they are outlined at the proposal and grant agreement. The specific social impacts that HYDROUSA is aiming to assess and measure, are directly connected with the set of activities and solutions suggested. Understanding HYDROUSA project's goals was crucial for method selection.

Stakeholders Identification and Engagement:

In HYDROUSA “water allies” we involve project stakeholders, including local communities, partners, and beneficiaries. Our goal was to understand who are directly and indirectly connected or affected by the project but also study their perspectives and concerns regarding the implemented solutions. Since the impact goal of HYDROUSA is to inspire and enable systemic change, we needed to mobilise different groups in this journey. Furthermore, as its project is unique according to the respective local context, we ensure that the chosen method is culturally sensitive and relevant to the community's values and priorities. While identifying and engaging citizens, it is also important to ensure that the applied social impact assessment model is inclusive and participatory, including marginalized or vulnerable groups to capture a diversity of perspectives.

Consider Project Scale potential:

Part of the method selection is the assessment of the scale and scope of the HYDROUSA project. It is a local & regional initiative with global replication and this scale influences the assessment methods. As the project is implemented in 60 months, we create impact assumptions based both on the results of the applied solutions and possible results that will unfold after the completion of the project, establishing a method that will be followed to assess outputs and outcomes with the potential of societal impact.

Data Availability:

The relevant data and information are more accessible and available for some methods. We create a hybrid model that relies on existing data, while acquiring primary data collection through interviews and questionnaires.

Integrate Multiple Methods:

At HYDROUSA we were open to use a combination of methods to provide a more comprehensive assessment. This involved both quantitative and qualitative approaches maintaining flexibility to adapt the model as the project evolves. Social Impact Assessments models are dynamic and responsive tools adjusting to changing



circumstances, iterative improvements to the assessment approach were made based on feedback, emerging data, and changing project dynamics.

2.2 Social Impact Assessment Models

Through different industries and sectors there are several tools and methods that have been used to capture the social impact of a project, entity or activity. The models that were studied for the formation of HYDROUSA metrics and approach are outlined below:

2.2.1. Theory of Change (ToC)

ToC is a dynamic, participatory approach that helps organizations and projects map out how they believe change happens. It focuses on understanding the causal links between project activities, outcomes, and impacts. ToC is particularly useful for clarifying the underlying assumptions and theories that guide project design. It encourages stakeholders to think critically about the intended impacts and how they will be achieved. ToC is a complex tool developed, requiring ongoing adaptation as the project progresses. It also focuses on assessing how a project affects a specific community's well-being, livelihoods, and local culture, ensuring that local communities are at the centre of impact assessment. ToC can provide insights into the social fabric and cultural aspects that may be influenced by the project. This is the method that was selected to capture the transformation that HYDROUSA is aiming to achieve.

2.2.2 Qualitative and Quantitative Surveys:

Surveys, questionnaires and interviews, are data collection methods used to assess social impacts, attitudes, and perceptions based on the model that is defined above at the ToC. Surveys were used as versatile tools for collecting both quantitative and qualitative data in order to provide insights into changes in income, employment, access to services, and community perceptions by designing effective surveys and ensuring representative samples for robust results.

The choice of a social impact assessment method aligned with the project's objectives, scale, stakeholders, and available resources. The selected model was TOC while deploying techniques and combining methods to provide a comprehensive understanding of the social impacts and ensure a balanced assessment. The engagement with stakeholders throughout the process through the co-creation, communication, dissemination and community-based activities was essential to consider the local context and to make informed decisions about the applied method.

2.2.3 Other complementary Methods

Social Return on Investment ([SROI](#)):

SROI is a financial modelling tool that assigns monetary values to social, environmental, and economic impacts. It quantifies the return on investment from a social perspective. SROI provides a tangible way to communicate the social value generated by a project through its financial viability. It is effective for comparing different interventions and determining where resources can be most effectively deployed. The monetary values that are connected and compared to the existing solutions are mainly analysed in WP8, assessing the HYDRO solutions according to the outputs and outcomes.



Life Cycle Assessment ([LCA](#))

In Task 6.1 and 6.3 a Life Cycle Assessment (LCA) was conducted assessing the environmental impact of HYDRO solutions throughout their life cycle, including production, use, and disposal.

LCA provided a holistic view of HYDROUSA sustainability by considering its entire life cycle, helping identifying hotspots of environmental impact in order to guide decisions on resource use and design. The results of this analysis in combination with the models described at D6.2 can lead to a clearly defined blueprint to support entities or organisations that want to implement HYDROUSA solutions by taking informed decisions regarding their environmental and social impact potential.

2.3 HYDROUSA Theory of Change (ToC)

At the centre of social impact assessment for HYDROUSA lies the integration of the Theory of Change (ToC) methodology. By mapping the pathways and streamlines from inputs to desired outcomes, the ToC approach provides a structured understanding of the levels of effects that the solution activities enclose, in order to achieve the implementation of the suggested alternative, and at scale a transformative system change. This integration offers a logical framework for understanding how HYDROUSA systems contribute to sustainable development for the community. The set-up highlights both the technical intricacies and the human dimensions, emphasizing the interplay between technology, behaviour, and social progress.

Through the ToC scope, we evaluate the current interest and the willingness to adapt and apply a more integrated solution, highlighting the interconnections of the areas that we need to emphasize (Pains and Gains of the users), that can catalyse positive impacts and drive the systems' adoption and acceptance.

2.3.1. Objectives

As mentioned above, there are many different tools to assess the Social Impact of the project or of a suggested solution, useful tools that can help clarify goals and communicate the basics of how an initiative works towards others. ToC takes these approaches further: it requires more specificity about goals and about the conditions needed to reach them. Therefore, it is hard work and results in a more useful guide for your work than most other processes.

The main objectives of the implementation of a ToC are the following:

Assess Acceptance and Perception: Evaluate the willingness of communities to accept and adopt the end-products of the water management and treatment systems and understand their perceptions and attitudes towards these solutions.

Identify Stakeholder Impacts: Identify potential positive and negative social impacts on diverse stakeholders, encompassing local communities, technical users, and public and private entities (e.g., water utilities).

Analyse Societal Benefits: Quantify beyond the economic and environmental aspects, towards the broader societal benefits that can result from the adoption of the HYDROUSA systems, emphasizing on job creation and local economic development.

Enhance Engagement and Ownership: Evaluate the level of community engagement and ownership in shaping the design and implementation of the wastewater treatment systems, ensuring alignment with stakeholder preferences.



Inform Strategy and Policy: Provide actionable insights to water utilities and project stakeholders to align strategies with community preferences, enhancing public acceptance, and driving policy adjustments for successful and sustainable implementation.

2.3.2. The benefits and applications of HYDROUSA - Theory of Change:

Benefits of ToC:

- Clear and testable hypothesis about how and what change will occur that not only allows to be accountable for results, but also makes results more credible because they were predicted to occur in a certain way
- Visual representation of the change you want to see in your community and how you expect it to come about
- Blueprint for evaluation with measurable indicators of success identified
- A common agreement among stakeholders about what defines success and what it takes to get there
- A powerful communication tool to capture the complexity of your initiative

Applications of ToC:

- A framework to check milestones and stay on course
- Document lessons learned about what really happens and what is the current quo, understanding and level of acceptance by the community.
- Keep the process of implementation and evaluation transparent, so everyone knows what is happening and why
- A basis for reports to funders, policymakers, boards

The approach

Theory of Change Method Analysis

Theory of Change is essentially a comprehensive description and illustration of **how and why** a desired change is expected to happen in a particular context or system. In HYDROUSA we focus on the potential of integration of circular water treatment and management solutions that can lead to the mainstream use of reclaimed by-products (including water, energy and organic fertilisers) to cover community, households or commercial needs. The application of such solutions revolutionizes the current linear process of resource management leading to a more conscious driven community that aligns with sustainability for the environment and goes beyond the overexploitation of natural resources.

The method is focused in particular on mapping out or “filling in” what has been described as the “missing middle” between what a technology solution does (as an activity or intervention with specific outputs) and how these lead to desired goals being achieved for societal or transformative impact.

At the first step the task is to identify the desired long-term goals and then work back from these to identify all the conditions (outcomes) that must be in place (and how these relate to one another causally) for the goals to occur.

These are all mapped out in an Outcomes Framework (5 step approach). The Outcomes Framework then provides the basis for identifying what type of activity or intervention will lead to the outcomes identified as preconditions for achieving the long-term goal. Through this approach, the precise link between the outputs of the suggested solutions and the achievement of the long-term goals are more fully understood. In this way we can inform our exploitation strategy, adding new activities as inputs in order to meet more effectively and efficiently the future goals. Those suggestions can be found at the conclusion section based on the responses received by the participating stakeholders.

The Outcomes Framework leads to better planning, as it gives a detailed understanding of how change actually happens and how each activity, input or output is linked to the bigger picture/mission. The framework can also lead to better evaluation, as it is possible to measure progress towards the achievement of longer-term goals that goes beyond the identification of program outputs.

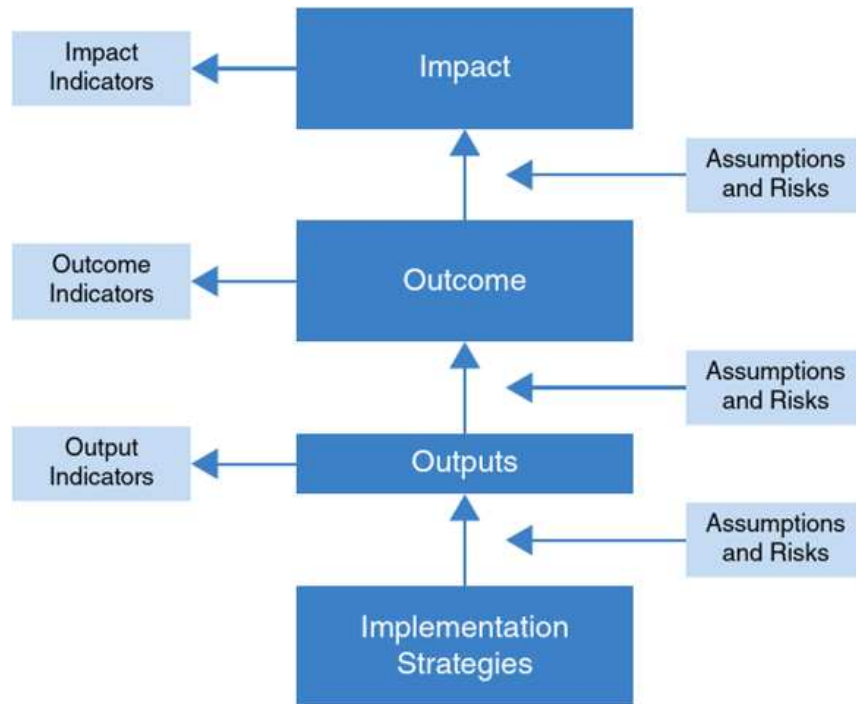


Figure 2.1 The ToC Approach



3. SOCIAL INDICATORS AND FACTORS

3.1 Outcomes Framework - A 5 steps approach

The ToC process hinges upon defining all the necessary and sufficient conditions required to bring about a given long term outcome. ToC uses backwards mapping, requiring planners to think in backwards steps from the long-term goal to the intermediate and then early-term changes that would be required to cause the desired change. This creates a set of connected outcomes known as a “pathway of change”. A “pathway of change” graphically represents the change process as it is understood by the consortium and is the skeleton around which the other elements of the theory are developed.

During the process of creating the pathway of change, everyone is required to articulate as many of their assumptions about the change process as they can so that they can be examined and even tested to determine if any key assumptions are hard to support (or even false).

There are typically three important types of assumptions to consider: (a) assertions about the connections between long term, intermediate and early outcomes on the map; (b) substantiation for the claim that all the important preconditions for success have been identified; and (c) justifications supporting the links between program activities and the outcomes they are expected to produce. A fourth type of assumption which outlines the contextual or environmental factors that will support or hinder progress toward the realization of outcomes in the pathway of change is often an additional important factor in illustrating the complete theory of change.

ToC approach to planning is designed to encourage very clearly defined outcomes at every step of the change process. When the tool is applied in specific populations or communities, every time you specify a number of details about the nature of the desired change — including specifics about the targeted community, the amount of change required to signal success, and the timeframe over which such change is expected to occur. This attention to detail often helps both the solution implementers and the adopters (municipalities, water utilities, households, farmers) reassess the feasibility of reaching goals that may have initially been vaguely defined, and in the end, promotes the development of reasonable long-term outcome targets that are acceptable to all parties. Below in 5 steps we outline the ToC model of HYDROUSA that is the centre of our analysis for the specific deliverable. It's important to mention that the current assumptions and indications will be adapted according to the site-specific community or municipality that is explored for the implementation of the circular solution, in case of replication.

1. Identification of the long-term goal

The formulation of the long-term goal was articulated as follows in the first 18 months of the project as follows: *“Through HYDROUSA project we want to change the human water cycle by valorising non-conventional water resources, which are currently not being exploited. We go beyond the current water and wastewater management practices reimagining a water resilient economy, mitigating climate change and reforming the agro-food system.*

We want to solve the water supply issue, the wastewater problem, the biodiversity and nutrient loss, the availability of jobs and the flush of difficulties that infrastructure must deal with at the peak of the tourist season, resulting in the unsustainable water demand.”



Expected Impact: The local community and municipality adopting the nature-based solutions gaining access to high-quality reclaimed water resources and by-products. The goal is to tackle water scarcity and fully utilize available water resources for the benefit of the community, employing a sustainable and long-term circular approach. The local community utilizes 100% of the reclaimed products, enhancing the economic and environmental profile of the area while improving the well-being of the local population. This familiarity with circular solutions for natural resource management contributes to the community's growing appreciation of sustainable practices and is applied to further community needs (energy, waste management, sharing infrastructure etc.). This is a clear and testable hypothesis about how change could occur that allows us to be accountable for results, but also makes results more credible because they were predicted to occur in a certain way representing the change you want to see in the community and how it could possibly look like. The above hypothesis goes along with a blueprint for evaluation with measurable indicators of success identified. This also may serve as an agreement among stakeholders about what defines success and what it takes to get there. This statement is a powerful communication tool to capture the complexity of the initiative, sharing the longer aspects and benefits from its implementation.

2. Backwards mapping and preconditions or requirements necessary to achieve the above goal

- Regulation is in place allowing for the reuse of reclaimed water (e.g., municipal wastewater, rainwater, ground water, seawater, stormwater)
- Framework developed for the applications of the reclaimed by products and the potential uses that are approved.
- Citizens actively understanding the necessity and advocating for the reuse of reclaimed and recovered towards the public entities.
- Investment canalization towards these solutions and their application with European regulations incentivising circular technologies for their further expansion and improvements.

3. Identifying basic assumptions about the context.

- Citizens have access to the respective knowledge and are educated about the specifications and implications of the suggested solutions and the reclaimed by products.
- There is sufficient and accessible knowledge, and education related to circularity and natural resource management with adequate explanations of the issues (pros and cons) to local community.
- The infrastructure can be developed and installed by the respective local entity/professionals with the right guidance of experts that are assisting and consulting the project.
- The development of alternative nature-based solutions is affordable and have a financial return on investment outlined.
- The solution has a clear implementation and exploitation scenario that is proved and can be adjusted and scaled into regions, outlining the positive economic, environmental, and social aspects.



4. Interventions performed to create your desired change.

- Raising awareness on circularity and resource reuse, for the local population including farmers, students, households, businesses, policy makers and the wide public.
 - Indicator: # No. of people reached through HYDROUSA communication and dissemination activities - informed about HYDROUSA
 - Indicator: # No. of people participating in informative sessions about HYDROUSA
 - Indicator: Percentage of people who are willing to undertake future circular initiatives contemplate implementing circular economy principles, in their personal and/or professional contexts
 - Indicator: Percentage of people who declare that their participation in HYDROUSA was a useful experience for their personal life
- Capacity building for stakeholders (including citizens, municipalities and water utilities) for the application of such systems
 - Indicator: # No. of people participating in community focused educational activities
 - Indicator: # No. of professionals/farmers participating in educational activities
 - Indicator: # No. of training programmes conducted
 - Indicator: Percentage of people who declare that their participation in HYDROUSA was a useful experience for their professional life (acquisition of new skills)
- Enabling individuals and teams to lead circular initiatives with a sustainability focus
 - Indicator: # No. of people participating in educational activities related to entrepreneurial support
 - Indicator: Percentage of people who are willing/considering leading - implementing initiatives for circularity
- Upskilling local population in technical skills for circularity
 - Indicator: Percentage of people who acquired new knowledge for their personal/professional life
 - # of new job positions filled in by beneficiary groups by the offered programmes & structures
- Overall representation, satisfaction and referrals
 - Indicator: Percentage of people who would recommend HYDROUSA to their peers
 - Diversity - # of men, women, vulnerable groups, businesses involved or represented in engagement activities in decision-making and participating in HYDROUSA
 - Returning users/ loyalty (Intention validation)
 - Users participating in more than one structure/activities/programmes



5. Indicators to measure your outcomes to assess performance.

Direct beneficiaries

- # of early adopters - users who are using the by products from the reclaimed water
- # of users from wide public who are willing to follow more circular practices and use the by products
- # of professional farmers who are willing to use reclaimed water
- # of citizens who have being trained on circularity or the importance of water-reuse among the community
- # municipalities/water utilities who are willing to transition to more circular models

Diversity

- # of men, women, vulnerable groups, businesses involved having access to more affordable water
- #returning users/ loyalty, #users regularly using reclaimed water instead of network or groundwater

Environmental Social

- 100% of the reclaimed water is reused for community or commercial uses
- %of citizens trusting the reclaimed water and is their priority-preference in the agreed or the dedicated uses
- # of professionals/farmers participating in educational activities
- # of new job positions filled in by beneficiary groups in changes in participant's knowledge and skills;

* In the case of HYDROUSA the suggested solutions stand as pilot cases, prototyping solutions and measuring its outputs and outcomes based on selected interventions. As our defined impact goal is to achieve a transformative and systemic change for water treatment and management, we could assess the indicators that are connected with our interventions as described in step 4 through the life span on the project. Those are the indicators that we can influence and assess during the implementation phase of the project M1 - M60 evaluating the current quo towards circular solutions and capturing the pain and gains and intentions of the participants.

To capture the full scope of the project's influence and to assess the successful adaptability of its solutions in diverse contexts we would need to assess the impact post-project (step 5.). To achieve this, a ToC would ideally be developed and adjusted for any replication. By aggregating those data, we are gaining a holistic understanding of the lasting effects, based on the results of each of the replication sites. The metrics as shown above are linked with scalability in new locations acknowledging the dynamic nature of social and environmental initiatives, where impact can significantly vary based on local conditions while attributing to common metric and results that align with HYDROUSA's goal. A Social Impact assessment shall be defined for any early adopter in order to assess the project's effectiveness, reach, and influence on a broader scale, creating a global shift towards more sustainable water and resource management.

The specific indicators mentioned, including metrics related to direct beneficiaries, diversity, and environmental and social impacts, encapsulate the multifaceted nature of HYDROUSA's goals and provide a comprehensive framework for evaluating its success. The 5-step approach under the framework of ToC shall be agreed at the early stages of implementation and conceptualization of HYDROUSA solution and shall be regularly revisited.

4. TARGET AUDIENCE

4.1 User Centred - Identifying the audience

When we identified the objectives of the Dissemination and Communication strategy, we implemented a thorough analysis of the potential stakeholders involved (Figure 1.1 Figure 4.1), customizing the key messages and the “*tone of voice*”. The networking and marketing activities have been designed in order to address the specific segment of the target audiences and stakeholders, maximizing awareness of HYDROUSA objectives, positive outreach and impact. For the Social Impact Analysis, the relevant audience groups are:

		EUROPEAN	GLOBAL	NATIONWIDE	LOCAL
LOCAL COMMUNITY	Farmers associations, farmer cooperatives				*
	Municipalities				*
	Business Owners				*
	Water Users				*
INVESTORS	Private Investors	*	*	*	*
	Banks	*	*	*	
ACADEMIC COMMUNITY and NGOs	Scientific community	*	*	*	*
	Environmental / water related NGOs	*	*	*	*
	Educational institutions (schools & universities)	*	*	*	*
	Other H2020 and FP7 related projects	*		*	
POLICY MAKERS	European Commission	*			
	Water utilities and water regulators	*	*	*	*
	Ministries			*	
PUBLIC	Wide Public	*	*	*	*
	Supporters	*	*	*	*

Figure 4.1 Target Audiences identified



5. RESULTS

5.1 Raising Awareness

Custom Interventions - Impact Enablers

Communication & Dissemination Activities

HYDROUSA was delivered by a consortium of 28 partners in 10 countries, the dissemination of the project is multiplied through all the member's communication channels and through a series of activities, including presentations in local and international conferences, workshops, trade-fairs, exhibitions, pitching events, press releases, articles and networking - stakeholders' events. HYDROUSA went beyond the regular practices, introducing a series of formats and methods that actively involved a multi range of stakeholders creating a more water conscious and informed society, industry and policy. We are proud of our collective results as we achieved an immense number of 632 reported dissemination activities with more than 1000000 people reaching. Awareness is one of the main interventions of the HYDROUSA's ToC that can lead to potential actions and change. The extended results of informative and raising awareness activities are described in deliverable D9.4 Updated Report on Dissemination and Communication for the full length of the program.

5.2 Mass media Communication

HYDROUSA Online and Offline Presence

HYDROUSA has been published in more than 146 press releases and media briefings. Total estimated reach exceeds 870,000 in 12 different countries and 3 continents.

Website

The project's website was developed as the main communication platform to introduce the project and its progress, the project's news, the consortium and its innovative services (www.hydrousa.org). The website has been updated with the project's activities, demonstration sites progress, news and events, demonstrating the development and the achievements of the project, acting as an information portal for the nature-based solutions of HYDROUSA.

Since January 2019, we have had **43,089 page views** recorded on the website. 60.58% (in comparison to 53.5% at the middle-term review) of all the website sessions comes through organic search (Google), while social media is responsible for 7.9% of the total incoming traffic to the website.

The average time that a user spends in HYDROUSA website is 2 min and 21 seconds, while the average Sessions per User benchmark is around 1.4 min sessions per user (the top 20% of websites report 1.6 sessions per user, while the top 10% report 1.9 sessions per user. This is based on a 2022 report from Littledata surveying more than 6 k websites), listing us as one of the most engaging and content active websites for users. The website was created during October and December 2018 (M4-M6). With the support of MEMIRA, NTUA and AGENSO, the website and the architecture were designed with a user-friendly approach and according to target audiences that were outlined in the Dissemination and Communication Plan.

The content of the website was regularly updated by the NTUA and IHA team, adding all the relevant information for the progress of the demo-sites, at the phase of construction, and the operating phase. Additionally interesting events, activities and exciting news were shared through the blog section of the website.



The 3 most visited pages other than the homepage are:

- The demo sites page (<https://www.hydrousa.org/demo-sites/>)
 - (8,471 page views June 2023 | 2,406 page views June 2020)
- The partners page (<https://www.hydrousa.org/partners/>)
 - (5,573 page views June 2023 | 1,926 page views June 2020)
- The about the project page (<https://www.hydrousa.org/about-the-project/>)
 - (5,388 page views June 2023 | 1,199 page views June 2020)

5.3 Online Social Media

By M60 we have achieved more than **1.5K posts** and more than **6.5K followers** | **+131%** above the total project goal - 1200 followers, providing informative content, for circular economy, practical solutions, learning opportunities and knowledge tips that can support the followers to be inspired, acquiring new knowledge on nature -based solutions of HYDROUSA. In detail:

Table 5.1 HYDROUSA Social Media Outreach

Social Media Platforms	2023
Facebook [https://www.facebook.com/Hydrousa]	- 2,7K likes - 2,8 followers
Twitter [https://twitter.com/Hydrousaproject/]	- 1796 followers - 743 tweets
LinkedIn [https://www.linkedin.com/company/hydrousa/]	- 1767 followers
YouTube [https://www.youtube.com/channel/UC9W6tSUW MUhLswdfTe0BVdA]	- 28 videos of the project which have been uploaded, which include TV broadcasts of HYDROUSA, videos showing the demonstration sites, interviews, etc. - 7,473 views

Animation Video

HYDROUSA animation video has been viewed through the Twitter, LinkedIn and Facebook platforms having more than 12,000 views in total. On M60 we had **2,907 views** in the HYDROUSA YouTube channel, extending our goal by 485% raising awareness on the project objectives and goals.



5.4 Communication Actions in Conferences, Events and Workshops (including presentation in Academic-Scientific Conferences, stakeholders' meetings, trade fairs, Workshops, Seminars)

In total by M60 the total activities related to the content of HYDROUSA were 420, including Participation in Conferences [Joint events with other EU projects, Academics, Scientific, Public Conferences] - 185, Participation in Workshops - 136 [Seminars, Workshops], Participations to Events other than a conference or a workshop - 99 [Trade Fairs, Stakeholders Meetings, Pitch, exhibitions].

Publications

Targeting also the academic community we have 17 peer-reviewed scientific publications in journals. HYDROUSA has contributed significantly to the academic and scientific community with a total of 17 publications from October 2019 to July 2023, collectively reaching an estimated audience of over 5,000 individuals and representatives from the academic community, organizations and institutions.

Dissemination

A series of dissemination event took place including an inauguration event with more than 140 participants, 6 noticeboards, 6 technology videos, and the final conference WICC (www.wicc.gr) an immense success involving more than 220 key stakeholders and experts from across Europe, around all the burning topics of water management, treatment and reuse.

Open Days

After the completion of the DEMO sites installation, several open days were organised to each of the locations to introduce the technologies to various stakeholders including, local authorities, farmers, young professionals, researchers and local population. The DEMO site leaders were preparing guided tours to showcase each stage of the circular solution, while there was always space for interactions and questions. More than 285 individuals have visited and interacted with our demo-site technologies in more than 10 activities and have experienced the efficiency of the practices that HYDROUSA apply to tackle water stress.

5.5 Networking, marketing, clustering events

HYDROUSA partners through their participation in local and international conferences, workshops, pitching sessions and trade fairs, actively were networking and promoting the mission and the activities of HYDROUSA, in order to create a more systemic change to inform about the solutions, inform and influence industry and policy, contributing to the ToC of HYDROUSA. Most importantly HYDROUSA played an immense role contributing and informing policy on circular practices for water management, but also got awarded and recognised by established institutions and networks for its contribution to the circular transition. A total of 1280 people participated in those events.

These events are presented in detailed in Deliverable of WP9, D9.5.

5.6 Citizen science activities

The inputs - the outputs from the implementation of HYDROUSA Demo-Sites along with the values and the principle of HYDROUSA led to the development of an online game promoting the solutions and the applied



systems across citizens and various stakeholders. The game was developed based on the previous experience of Horizon 2020 GATES gaming platform, by AGENSO a platform developed based on a white-label practices, and with the design-principle of customisation in order to cater specific needs and requirements of the different potential customers and end-users, aiming at inspiring them and educate them on natural resource management. HYDROUSA game was inspired by all the applied solutions and systems and is based on the 6 applied demo sites, in the form of a mission -secure, manage and distribute the natural resources in the most efficient and sustainable way, to make the people of the community happy! In that sense the user is becoming the decision maker, having the power of will and becoming the solution maker for a series of externalities as game scenarios (e.g., dry seasons, labour strikes etc.). The game is optimising weather and crop simulation models, irrigation modelling, modules for economic and environmental performance analysis, offering a wide spectrum of environmental stimulus, making the user the decision maker for its community. The game offers both the satisfaction, the motivation but also a challenging frustration, making it attractive for the player. HYDROUSA game is available for mobile devices (Android, google) free of charge and is also available for download through HYDROUSA website. The development of the game and its objectives are extensively analysed in deliverable D9.7 (HYDROUSA game for increased public awareness).

The link for HYDROUSA game is: <https://www.hydrousa.org/hydrousa-game/>

5.7 Co Creation Activities

A participatory model was used in order to develop a comprehensive plan for engaging the community. The objectives of the participatory approach were: reaching out the community to get actively involved, delivering HYDROUSA's message through experiential, co-creative workshops, connecting emotionally the community with our solutions, creating loyalty and educating the community to a solution-oriented approach. The detailed approach is described at deliverable D4.1 (Plan for participatory model for community engagement) and its strategy at deliverable D9.1 (Dissemination, Communication and Community Engagement Plan). The Co-creation and Training activities reached more than **2818 people (seminars, trainings, co-creation)** that were directly involved with HYDROUSA solutions in different capacities.

The analysis of co-creation and training activities implemented during the period M1-M60 can be found at D9.6 (Report on the co-creation and training activities) measuring the overall objectives and the outcomes against the KPIs.

KPIs achieved on raising awareness

Below there is an extended analysis of the KPIs (Key Performance Indicators), as described in the Grant Agreement and in D9.1 Dissemination and Communication Plan. During the first 24 months, the majority of the goals were already met, as the HYDROUSA project had already received wide recognition among diverse networks and target audience, and by M60, all the goals were successfully met, contributing to the ToC objectives.

5.8 Questionnaires

Developing questionnaires for users as part of the Social Impact Assessment of ToC process holds significant importance as it enables the collection of valuable insights from stakeholders directly linked with the project. Users' perceptions, attitudes, and concerns are systematically captured, offering a comprehensive understanding of the potential social impacts. This holistic approach described above ensures that the assessment considers the diverse needs and priorities of the community to inform strategy or to adopt the offering. That's we created two streamlines of assessment for the people who have been directly connected



with HYDROUSA activities and the wide public. The first form was sent after the completion of community events throughout the implementation period, while the second form was available online for ongoing completion and was regularly promoted through HYDROUSA communication and dissemination channels. For the project, we collected 213 responses that offer valuable insights into key aspects of social impact assessment using two questionnaires.

More in detail: The first questionnaire (122 participants) was specifically designed for individuals who actively participated in HYDROUSA activities (including training, seminars, co-creation events, Open Days, etc., as detailed in Deliverable D9.6 - Report on co-creation, community, and training activities). It aimed to capture direct outputs of these activities and evaluate intermediary and long-term outcomes. This questionnaire was distributed after the completion of each activity, and anonymity was maintained to ensure unbiased results, the questionnaire could be completed more than once by the participants, if they were attending multiple HYDROUSA Activities.

The second questionnaire, developed in the framework of WP8 and was also an ongoing open form. It sought to assess the current status, measure the social acceptance of HYDROUSA's approach and solutions, gauge the perceived importance of addressing water scarcity, and evaluate intentions for scaling and replication. This survey was accessible online through the project's social media, newsletter, and website, and it was also distributed through the communication channels of consortium partners.

Furthermore, both the questionnaires were designed in a way to provide quantitative data that can be statistically analysed. This data-driven approach aims at identifying trends, patterns, and correlations within responses, contributing to a more rigorous assessment. By maintaining consistency across user groups, demographics, and timeframes, the structured nature of questionnaires facilitates comparative analysis, shedding light on variations in perceptions and impacts.

The objectivity of the current questionnaire was developed to evaluate the current interest of users for the transition to the new circular model. This structure reduces potential biases that can arise in open-ended interviews and it captures the current quo. The gathered insights will inform decision-making by our consortium for policymakers but also serve as baseline data for monitoring progress and changes in perceptions over time.

Respondents Profile

Age Groups: The majority of the audience is among the 18-34 and 45-54 representing 64.3% of the responses.

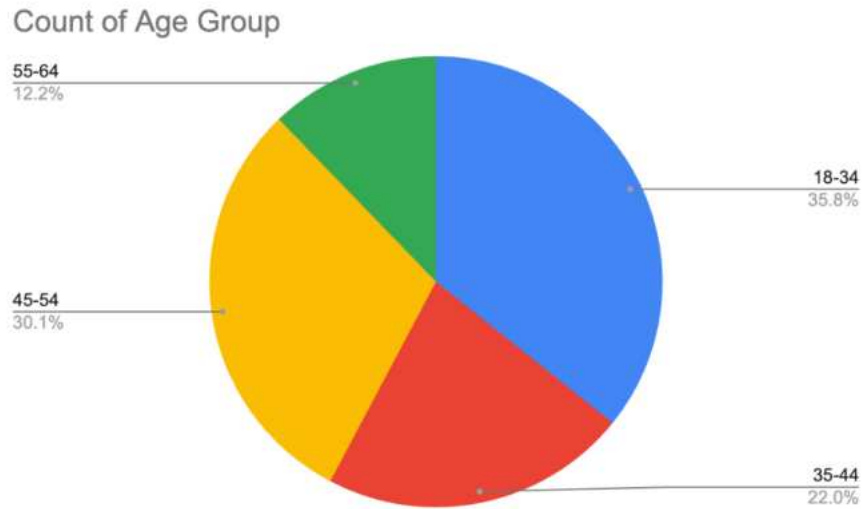


Figure 5.1 Respondents Age Groups

Gender Representation:

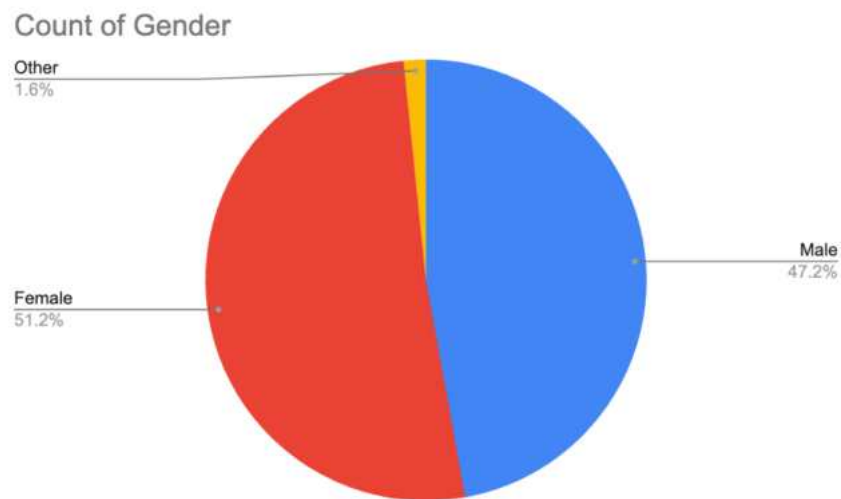


Figure 5.2 Survey Gender Representation

The individuals who took the opportunity to respond to the questionnaire hail from higher education backgrounds, constituting a diverse group representing civic society, academia, agricultural professionals, and the public sector or water utilities. This question was established to assess the access to education for the respondents, that is one of the indicators of vulnerability for the local population in coordination with the access to employment opportunities.

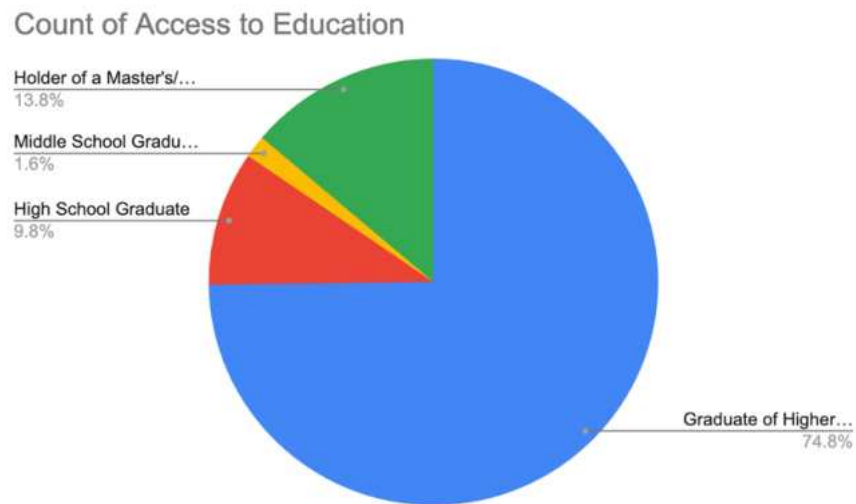


Figure 5.3 Respondents Education

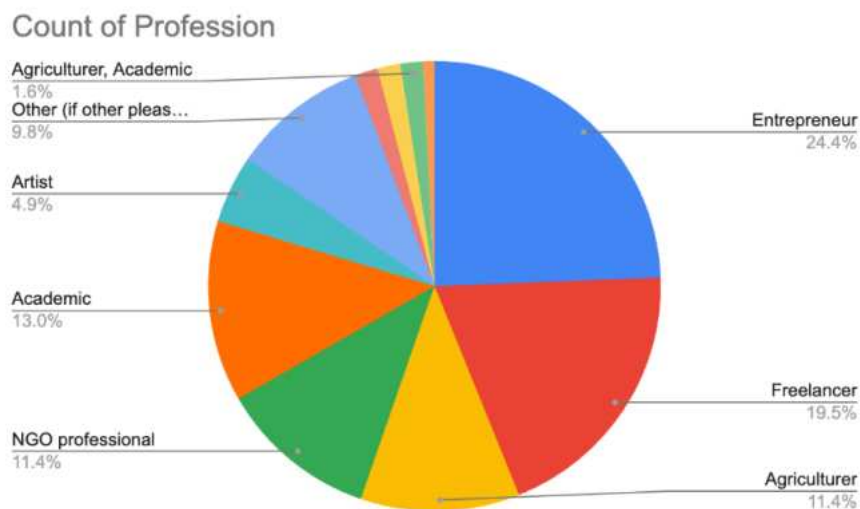


Figure 5.4 Respondents Profession



Main Results

100% of the responses recognise that water scarcity is a crucial challenge for their local context and for the broader region. 100% of the responses also highlight the importance of water treatment and management (94% of top importance and 6% of high importance. In response to the question regarding the type of reclaimed water suitable for irrigation, 25% of the respondents were unaware that reclaimed water could potentially be reused for communal or commercial purposes. However, a significant 95% of respondents expressed a positive inclination toward using reclaimed water from wastewater if a credible validation source confirmed its quality, with the remaining 5% expressing neutrality on the matter.

The data proves that there is a significant alignment and awareness in terms of the importance of water management and treatment. When individuals and communities are conscious of water scarcity, they are more likely to take actions to conserve water and reduce pollution. This can lead to a variety of positive outcomes, such as improved water quality, reduced strain on water resources, and protection of ecosystems. Additionally, increased awareness can drive innovation and investment in more efficient and sustainable water treatment technologies.

75% of the respondents claim that there is not accessible information on water related issues in their regions. This could lead to the conclusion that there is a need for further dissemination of relevant information to the stakeholders and to specific target groups.

96.8% of the stakeholders responded positively to the fact that HYDROUSA was a useful experience for their personal life, having a positive influence in their everyday habits.



Figure 5.5 HYDROUSA's influence in personal life

97.5% of the stakeholders strongly agreed or agreed with the notion that their participation in HYDROUSA activities was a valuable experience for their professional development, encompassing the acquisition of new skills, inspiration, and valuable connections.

Count of HYDROUSA Activity was a useful experience for my professional life

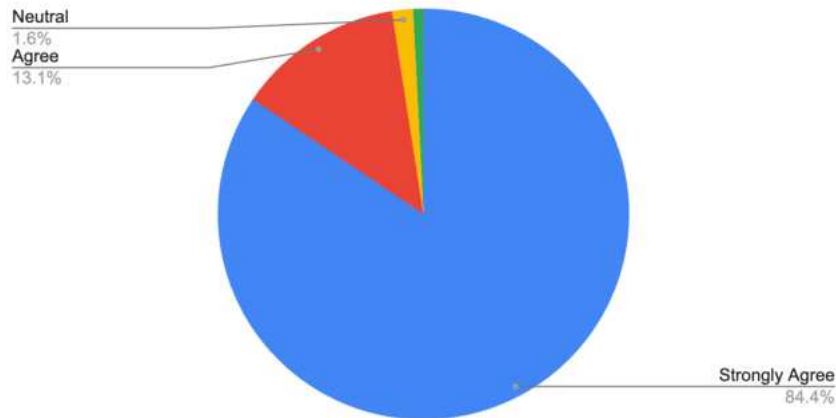


Figure 5.6 HYDROUSA's influence in professional life

In the evaluation of the overall experience, there is an assessment of both the content and sessions provided, as well as the overall coordination of the actions. The respondents express a high level of satisfaction with both aspects, as indicated in the following figure. As the program evolved, participant feedback allowed us to fine-tune and enhance the content of HYDROUSA activities. This adjustment aimed to ensure that the content could be effectively and efficiently conveyed through various formats, as extensively detailed in Deliverable 9.6, "Co-Creation and Community Building Activities" (e.g., info sessions/webinars, open days, summer workshops, hackathons, etc.).

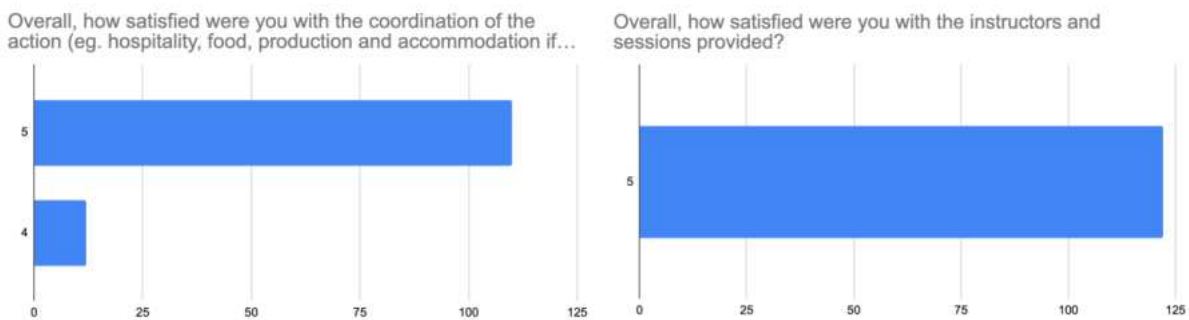


Figure 5.7 Participants Satisfaction rate

All stakeholders engaged in the processes have expressed favourable reactions to their acquisition of new knowledge, insights and information regarding HYDROUSA's core principles, notably encompassing circular economy and nature-based solutions (93.4% Strongly Agree, 6.6% Agree).

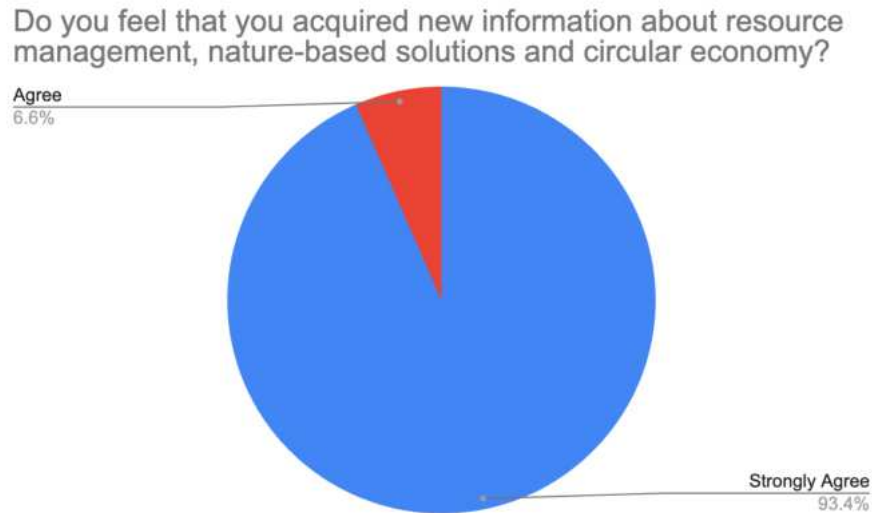


Figure 5.8 New knowledge acquired

Regarding the prioritization of resource management within the NEXUS approach for their local contexts, respondents placed water as the highest priority, given its scarcity in the Mediterranean region. Following closely behind is food, and then energy.

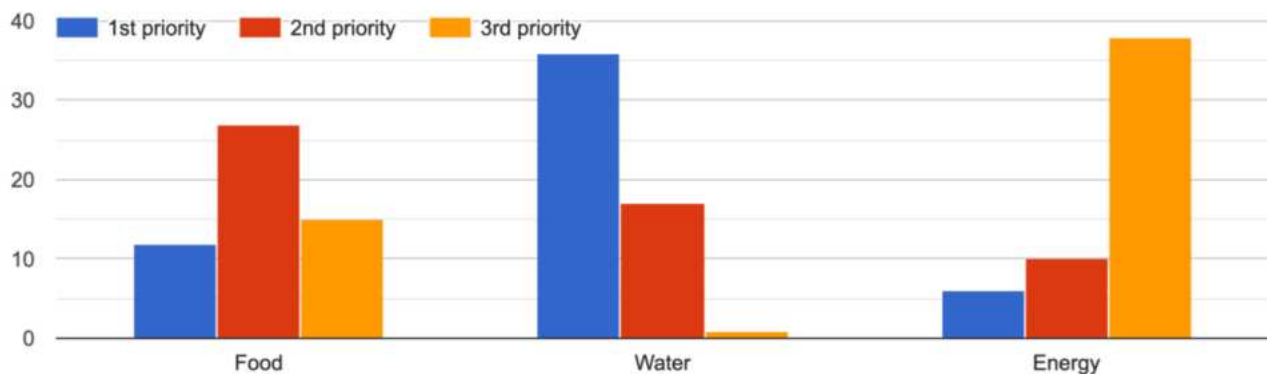


Figure 5.9 Prioritization of importance of NEXUS management

98.4% of the stakeholders involved assert that they would contemplate implementing circular economy principles or undertaking circular projects in their personal and/or professional contexts after their participation/interaction with HYDROUSA. This demonstrates that their engagement with HYDROUSA solutions has served as an inspiration for participants to embrace more circular practices, contributing to overall outcomes that lead to HYDROUSA Impact promise.

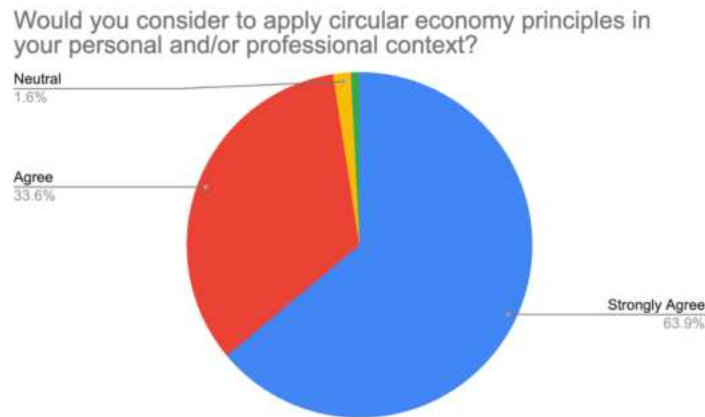


Figure 5.10 Intention validation for circular practices adaptation

HYDROUSA Overall Questionnaire

When asking, "What are the top 3 priorities for addressing water challenges in your island/region?" to understand the water-related challenges considered of high importance by the local population, the responses indicated: a. Wastewater reuse, b. Upgrading/replacing existing infrastructure, and c. Both efficiency in water supply and climate change response.

These results underscore the significance of circularity applications (water management and reuse), even if the terminology isn't explicitly used, and emphasize the importance of addressing water scarcity. Additionally, the high prioritization of the need to revisit water infrastructure presents an opportunity to restructure the system with new approaches and concepts, applying circularity from design to implementation.

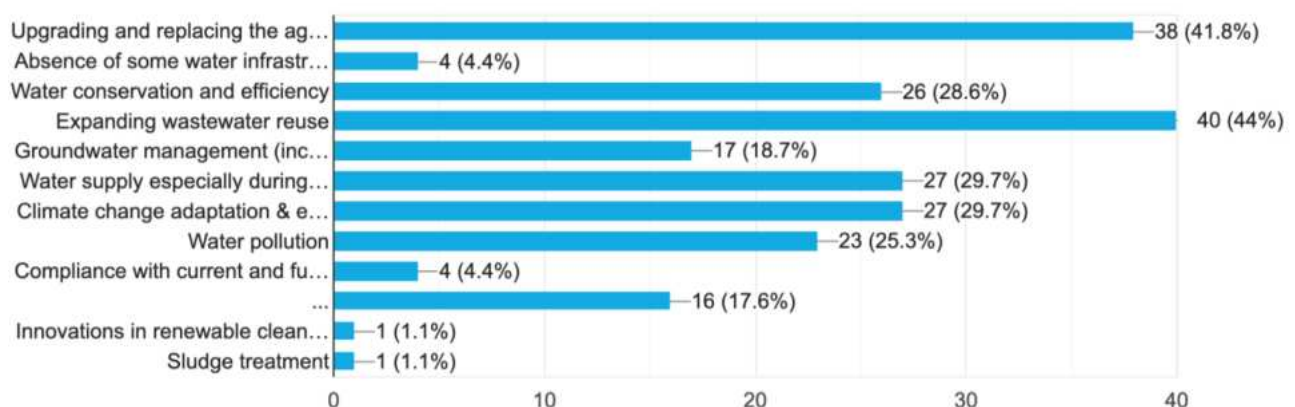


Figure 5.11 Priorities related to water management

In our attempt to validate our initial assumptions and preconditions based on the Outcomes Framework of the Theory of Change, we aimed to assess who participants believe should be responsible for implementing HYDROUSA solutions in their regions. The majority of respondents identified institutions, particularly Water Utilities (61.5%) and Local Authorities (50.5%), as the entities that should take the lead in driving the transformation towards more circular approaches. This also reflects the perception that individuals or smaller

actors within the communities may lack either sufficient resources or the primary responsibility for adapting their lifestyles within their households or local businesses. This underscores the importance of communicating the existence of low-cost and efficient solutions like HYDROUSA among the general public or other related target audiences, to achieve multi-level implementation and scaling of sustainable water management.

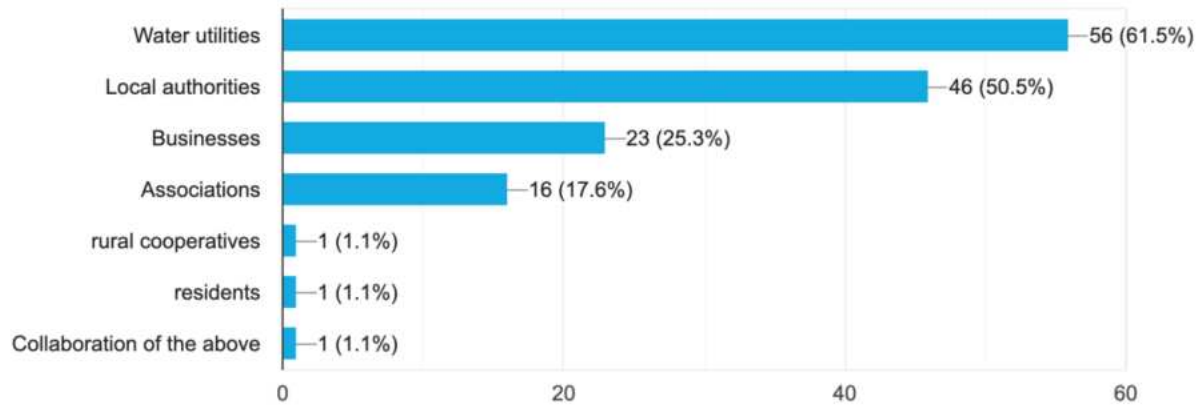


Figure 5.12 Responsible stakeholder for the application of water management solutions

According to our sample, there are some barriers connected with the implementation of HYDROUSA Solutions in their communities. The most important ones, as someone might guess, are economic, due to the lack of a variety of funding schemes towards such approaches. However, it is interesting to note that the second highly mentioned barrier is the social acceptance or/and commitment of citizens/professionals/local authorities to resource reuse and circular economy in general. This result shows that more efforts are needed to apply a theory of change strategy and community engagement activities aiming to raise awareness and to equip stakeholders with the knowledge and confidence to trust such solutions.

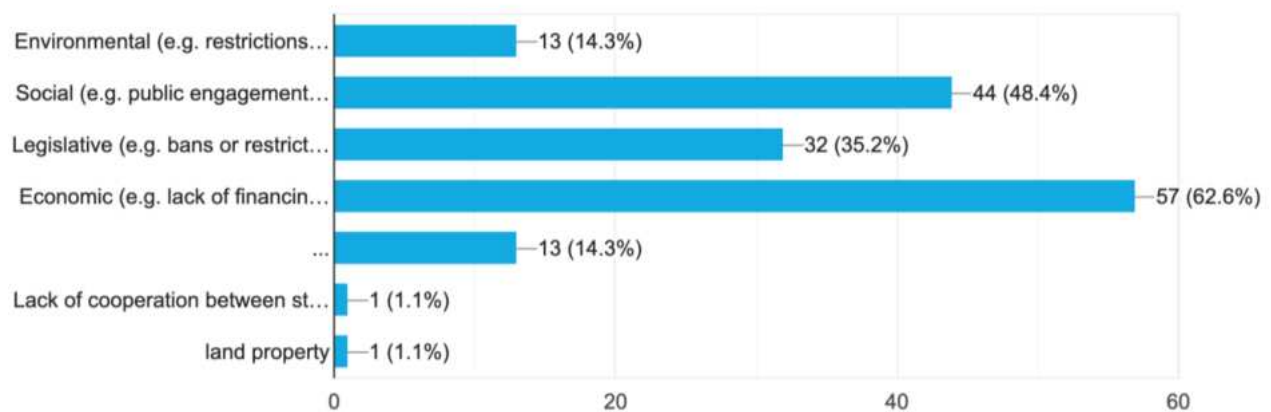


Figure 5.13 Implementation restrictions/bottlenecks

When asked if they would be willing to implement a water management project in the next three years, a large percentage (45.9%) answered maybe. Again, this shows that people need to be exposed more to such solutions and get more support- in terms of funding and training. On a positive note, 27.9 % are already clearly stating their interest in implementing a project related to water/management (e.g., Rainwater harvesting for



irrigation of urban agriculture at household scale, wastewater treatment for agriculture, management solutions in environmental impact assessment studies)



Figure 5.14 Undertaking/Leading circularity projects in the future

At the end of the survey, participants were asked to express their opinion regarding the importance of the project as a solution provider to the water related issues in the region/island. More specifically, they were asked to answer whether HYDROUSA has the ability to solve the water deficiency problem of their region/island, or not.

In this question of the survey, respondents relied on the project and embraced it for the proper management of water issues concerning their island. The vast majority of the participants 83,5%, agree and strongly agree that HYDROUSA is able to solve water shortage of the community. Only 16,5% of the participants are not convinced yet that the project has this ability. This result reflects the potential of the current project, with the contribution of the outcomes of its solution to enable people from areas suffering from water shortage to accept modern innovative controlling methods and address the problem with the provided, decentralised and nature-based-solutions of HYDROUSA.

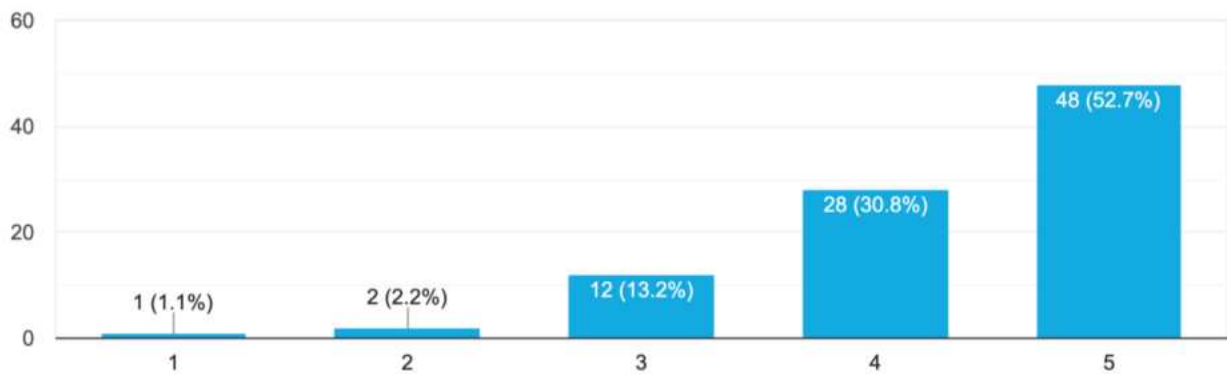


Figure 5.15 HYDROUSA's acceptance as strategic and efficient solution provider



Collectively the outputs achieved based on the questionnaire responses and the collective reporting of activities are presented in Table 5.2.

Table 5.2. Key Performance Indicators for Social impact analysis

Performance indicator	Units	Current
Community building:		
No. of participants	Number	1103
level of engagement: returning users	Percentage	98%
No. of users participating in more than one structures/activities/programmes	Percentage	19.5 % of participants
Employment:		
No. of professionals/farmers participating in educational activities	Number	1639
No. of new job positions filled in by beneficiary groups by the offered programmes & structures	Number	85
Education:		
No. of training programmes conducted locally	Number	17
Total number of locals trained	Number	502
Awareness:		
No. of Communication Dissemination and Community Building Activities	Number	632
No. of People reached	Number	1000000
Diversity: -ratio men/women, vulnerable groups, and age groups		
	Percentage	<p>Age: 18-34 35.8% 35-44 22% 45-54 30.1% 55-64 12.2%</p> <p>Gender: Female 51.2% Male 47.2% Other 1.6%</p> <p>Access to Education: Graduate of Higher Education 74.8% High School Graduate 9.8% Holder of a Master's PhD 13.8% Middle School Graduate 1.6%</p>



6. SUGGESTED STRATEGIES

Potential Next Steps to Leverage Conclusions for Social Impact Assessment Model of HYDROUSA Project and for replication, that can be a useful guide for future circular initiatives:

Tailored Stakeholder Engagement:

Based on the above results and the diversity of the stakeholders' profiles, targeted engagement strategies shall be planned for replication cases. Organization of workshops, seminars, and public forums to address concerns raised in the questionnaire and provide transparent information on safety studies, pathogen control, and the benefits of reclaimed water use.

Safety Assurance Campaign:

Is important to raise awareness highlighting the existing safety measures in place for reclaimed water use, addressing concerns raised by stakeholders. Share case studies and success stories from similar projects to build confidence among stakeholders, specifically those who expressed reservations.

Research and Development:

In response to the high importance assigned to research and development, it's important to further allocate resources to accelerate the exploration of cutting-edge water management and treatment technologies and by-product utilization methods. The collaboration among research institutions, public sector and industry experts to drive innovation is of top importance.

Pilot Replication & Implementation:

Given the positive perception of HYDROUSA among diverse stakeholders (including policy makers, public servants and water utilities that are willing to participate), it is important to initiate pilot implementations in collaboration with householders, professionals and existing water treatment facilities, regions or municipalities. These pilots can be used as tangible examples to showcase the benefits and effectiveness of the project's circular solutions among the community and the industry stakeholder, to apply this model at scale.

Partnership with Agricultural Communities/Associations:

It's important to collaborate closely with agricultural communities to establish partnerships for utilizing nature-based solutions for resource management (including using, reclaimed water, organic fertilizers derived from wastewater treatment, rainwater). It would be important to develop capacity building programs, educational materials and workshops to educate farmers about the benefits and safety of using reclaimed water and fertilizers, outline both the environmental and the economic benefits of those solutions.

Collaborative Funding Mechanisms:

Address concerns related to installation costs by exploring partnerships and funding mechanisms from EU or national state funding. It should be explored the potential engagement with government bodies, private sponsors, and potential investors to share the financial burden and facilitate wider implementation that could benefit the society as a whole.



Long-Term Monitoring:

Establish a monitoring framework to track changes in perceptions and attitudes over time. Regularly revisit the questionnaire and administer it periodically to gauge progress, identify evolving concerns, and adjust strategies accordingly.

Policy Advocacy:

Utilize the insights gained from the questionnaire to advocate for favourable policies and regulations that support the project's goals. Engage with policymakers, presenting the evidence of stakeholders' support and the potential positive impacts on the community.

A comprehensive communication strategy:

Utilize various platforms such as social media, newsletters, and public talks to maintain transparency and engage stakeholders. Organize workshops and seminars to keep stakeholders updated on the project's advancements, research findings, and technological developments. Foster a continuous learning environment that encourages stakeholder involvement and feedback. The detailed findings of the questionnaire will be shared with stakeholders, allowing them to gain self-insights into the collective perceptions and priorities. This transparency reinforces a sense of ownership and participation. Further collaborations can be established with local educational institutions to conduct educational campaigns targeting school-aged children. This approach could nurture a culture of responsible water use and environmental consciousness from an early age.

Those actionable steps inform the ToC inputs, to deliver a better action plan in order to achieve the long-term Impact Goals. HYDROUSA project harvests those valuable insights from different sources, to further align its strategies with stakeholder needs, and work toward successful implementation that positively impacts the community, environment, and society at large, through new applications and research, development and innovation programs with pilot demo-sites.



7. CONCLUSIONS

The results of the social impact assessment model for HYDROUSA have provided valuable insights and implications for both water treatment- management systems and the project itself. First and foremost, the findings underscore the critical challenge of water scarcity, as all the respondents are recognizing it as a pressing issue in their respective regions. This recognition forms the foundation for the importance of innovative and sustainable water management solutions like those offered by HYDROUSA. This validates our initial assumption of the problem identified and creates a fertile ground for the adaptation of our mission and solutions.

Leveraging on the public's openness to using reclaimed wastewater, with 95% of respondents expressing their willingness to do so if the quality was guaranteed we assume that there is a substantial level of public acceptance for reclaimed water, signalling potential for the wider adoption of water recycling systems, a core focus of HYDROUSA.

Furthermore, the results highlight a need for better information dissemination, as 75% of participants felt there was insufficient accessible information about water issues in their regions. This emphasizes the importance of effective communication and information sharing, a key aspect of HYDROUSA's outreach efforts. One of the most impactful findings is the positive effect of HYDROUSA activities on both personal and professional lives, with over 96% of participants reporting a beneficial impact. This underscores the importance of community engagement and capacity-building efforts in empowering individuals to play active roles in water management, enhancing overall effectiveness. The survey also revealed that HYDROUSA serves as a source of inspiration for circular initiatives, with 98.4% of respondents expressing their willingness to contemplate implementing circular economy principles. This indicates that HYDROUSA has successfully encouraged stakeholders to embrace more sustainable practices.

In conclusion, the social impact model findings are an initial assessment of the outputs and the intended outcomes, emphasizing the alignment of HYDROUSA's approach with the identified water management challenges and its positive reception within the community. The social impact of the project has the direct and long-term effects that will occur after the completion of the program. As all the demo sites will continue their operations either with the support of new projects or as self-sufficient initiatives, the impact will continue to evolve, reaching and engaging more people in those practices. We foresee that through HYDROUSA collective results, efforts would continue to bridge information gaps, enhance community engagement, and address economic barriers, maximizing the impact of HYDROUSA's solutions in addressing water scarcity and promoting circular economy principles.