SUWANU
EUROPE

Deliverable 2.5
German Regional Working Group Report

Contents

Executive summary

In recent years, water scarcity has become a serious problem in Sothern Europe and in some other EU Countries. In several EU Regions and territories are suffering from water shortage; even in some of them there is still a regime of drinking water use in the respective mayor cities.

In the light of these circumstances, finding alternatives is crucial for agriculture, agrifood industrial sites, daily life and the economy as a whole. In our SUWANU EUROPE view, the creation of a Regional Working Group is crucial to overcome the problems and to generate a Regional Action Plan to promote the use of reclaimed water in agriculture and in other uses.

The results and the experiences gained by the Regions here involved from the 8 Countries - France, Italy, Spain, Portugal, Germany, Greece, Bulgaria, Flanders. Belgium – have been proven to be useful to spread in other sites of their countries.

But still there are also local peculiarities in the functioning of the administration, economy and interconnections with stakeholders, in particular farmers, authorities, NGOs and citizens, in different regions/countries.

The specifics of the organization of the relationships, the flow of information in the field of water reuse, as well as the main players, were clarified in WP 2 . Tasks 2.2, 2.3, 2.4 and AKIS analysis.

In this regard, the establishment of a RWG for the different regions as in our task 2.5. was consistent with the involvement of a wide range of actors who play a key role in the design and coordination of the regional action plan.

Stakeholders from the administration, local authorities, universities and research institutes, farmers, NGOs and others were involved. Each group of these actors has an important contribution to play in drawing up the regional action plan, in task 2.6.

On the other hand, all of the selected representatives in the RWG are settled and located in the territories, which will ensure a very good coordination, too. The engaging of relevant stakeholders started since the beginning of the project.

This aim resulted in 18 meetings in various regional organizations and relevant institutions with the idea of involving competent organizations to participate in SuWaNu Europe project and goals, explaining the approach and objectives of the EU project and the role of each internal partnership and external organization into.

The 2.5. Report elaborated by Confagricoltura tries to identify the main activities and conclusions that RWGs offered to our partnership and our European stakeholders, with the strategy to contribute for the common interest of water reclamation and sustainable water use.

1 Introduction

The Regional Working Groups (RWGs) are the result of an intense contact with actors of the water and agriculture sectors in order to engage them in the SUWANU EUROPE project activities. These contacts started from the very beginning of the project in each region/country.

In the first stage the engagement consisted in sharing the information of the project objectives and foreseen activities. The organization of the participatory workshops in different regions pushed the consortium for a more intense contact. Several activities were organized to engage the stakeholders, such as sending the invitation letters, telephone calls, in some countries drafting a newsletter to disseminate the workshops, to extend the audience and to multiply the dissemination of the information.

The purpose of the work was to ensure a participatory process in the development of action plans and to guarantee an effective transfer of knowledge in the next project steps by the active participation of stakeholders.

Therefore, relevant actors have been involved in the process and engaged as RWG members in each region: farmers using or interested in reused water, regional and national authorities, wastewater treatment operators, rural development groups, researchers, agri-food industries, consumers associations, NGOs and private companies, engineers, advisory groups.

In terms of definition, Regional Working Groups are precisely groups of actors *out of the consortium* that have been engaged to participate and to provide feedbacks to the SUWANU EUROPE project and that have been involved in some relevant project activities such as the development of the Regional Action Plans of the task 2.6. The role of the Regional Working Group (RWG) in different regions is fundamental *to build the participatory actions and the Regional Action Plans*.

In different Regions, the Partners have defined a strategy and an implementation plan to involve the main actors, including the following activities:

- Initial contact with stakeholders
- Regional revision of key documents by key stakeholders
- Invitation of stakeholders through news/letter/phone call
- Regional meetings with RWG members
- Materials dissemination, documents, leaflets, summaries, power points
- Draft versions of the regional action plan to get feedback from RWG members
- Final version of the regional action plan for validation
- Presentation in a regional/national event/fair/conference,workshop etc.

In particular every Regional Working Group, following the Agreement and the WP 2 task 2.5, *in the first beginning*, had to:

- Involve actively all the partners of the Consortium
- Ensure a stakeholders engagement through a deep analysis of the key actors and the accession to other relevant organizations to be involved
- Disseminate intensively at local and regional level using appropriate channels to reach the identified stakeholders
- Ensure a multi actor and a participatory approach that make regional actors feel part of the Suwanu Europe project, and the Suwanu Europe project activities.

The RWG *second step* had to:

- Contact the regional, national and european relevant associations such as Copa Cogeca, the farmers and agrocooperatives Umbrella confederation in Bruxelles and in each region/country, EURAU and ANECOOP with their wide regional/national networks:
  - ✓ to better align the Suwanu Europe project with their national and european objectives and cooperation actions and
  - ✓ to better identify national / regional memberships and reference organizations;
- Identify at least five members out of the Consortium
- Organize frequent meetings during the running of the Suwanu Europe project, at least five

The RWG *third last step* will:

- Elaborate together with the Consortium Partners the preparation and implementation of the Regional Action Plans, under task 2.6
- Facilitate the Implementation of water reuse solutions
- Seek new opportunities to perform collaborative/cooperative projects
- Seek also new opportunities to build operational groups in the framework of EIP Agri
- Consolidate the Regional Working Groups after the project ends
- Create therefore a permanent cluster in each region to adopt and disseminate water reuse solutions.

2 Strategy for the engagement of the RWG

The aim of this strategy at this stage of the project is to present a strategy for the engagement of the Regional Working Groups (RWGs) which will be applied throughout the second period of the project. Experiences and lessons learned emerging from first period RWGs has been taking into consideration keeping this a dynamic process that can be updated during the project.

This collection of information will be used to engage identified stakeholders in the RWGs and will be used to stimulate discussions within the RWGs. It will serve to promote the joint development of strategic thinking, the two-way exchange of ideas between the different stakeholders and will also feed with practical recommendations for the formulation of the Regional Action Plans (task 2.6).

2.1 Functioning of the RWGs

The facilitator from each RWG will enroll the stakeholders in the active participation in the meetings, preparing a set of topics to be discussed and the activities to be implemented following a multi-actor approach and a participatory approach. This can be done with the prior discussion with the members, so that there is a consensus on the topics to discuss during the meeting so to actively engage the stakeholders from the beginning.

It is vital that the objectives and the expected outcomes of the RWGs are perfectly clear to all members that take part in the meetings and that the roles of engagement are also clear. The members of the Regional Working Groups, following the Agreement and the WP 2 task 2.5, must among others to:

- Propose practical recommendations for the formulation of the Regional Action Plans (task 2.6)
- Disseminate intensively at local and regional level the SuWaNu Europe project results and outcomes, through their own communication channels;
- Be engaged in the implementation of reclaimed water use solutions;
- Seek new opportunities to perform cooperative projects and to build operational groups in the framework of EIP Agri.
- Create permanent clusters in each target region of the project, to adopt and disseminate reclaimed water use solutions.

2.2 Role and responsibilities of the project partner facilitator

The facilitator will be a project partner of each region and their main responsibilities are collected in the following table:

Table 1: Role of the project partner facilitator

Responsibility	Expected Contributions	Outputs
Setting-up of the RWG	▪ Invite and enroll active members (multi-actor approach) ▪ Prepare topics for discussion ▪ Plan activities (participatory approach)	▪ Invitation letter/email to potential members ▪ Prepare program of the meeting
Running the RWG	▪ Explain the objectives and expected outcomes of the RWGs and members expected responsibilities ▪ Oversee the meeting runs as planned ▪ Ensure that all members actively participate in the discussion	▪ Report with practical recommendations for the formulation of the Regional Action Plans (task 2.6)
Communication and outreach	▪ Organize and contribute to communication and dissemination activities	▪ Send inputs for the SuWaNu Europe website (brief description of the RWGs, members, calendar of events, scientific articles, news, etc.) ▪ Publish at least 1 social media post per RWG meeting (before, during or immediately after) ▪ Register RWGs members as followers of the SuWaNu Europe social media accounts and relay social media posts published by the central communication team to increase outreach

2.3 Stakeholders engagement support tools

In order to actively engage stakeholders during the meetings, there are several tools that follow a participatory methodology, and that facilitate effective engagement of target stakeholders. The activities aim at promoting the engagement of stakeholders, collaboration and in a participatory approach.

Such an example is the World Café method, that can be found in the http://actioncatalogue.eu/method/7402, which is a method for engaging groups, both within organizations and in the public sphere. This method is founded on the assumption that people have the capacity to work together, no matter who they are.

A World Café follows seven core design principles: (1) Set the Context; (2) Create Hospitable Space; (3) Explore Questions That Matter; (4) Encourage Everyone's Contribution; (5) Cross-Pollinate and Connect Diverse Perspectives; (6) Listen Together for Patterns, Insights, and Deeper Questions; and (7) Harvest and Share Collective Discoveries.

World Cafés can create results to generate new ideas, to enable joint decision-making on key strategic issues, to discover new ways for collaboration, to reflect on the implications of a complex issue and in identifying specific step(s) for further exploration and implementation.

The recent events related with COVID-19, called for the need to use of online tools in the organization of initially predicted physical events. There are several online platforms that can be use, and that still allow the planning of dynamics as described before.

Tools such Zoom, Microsoft Teams, Cisco Webex meetings are just some examples.

2.4 Engagement of stakeholders during RWGs

Besides the different tools that can be used during the RWGs to promote participatory process and engagement of stakeholders, there are several methodologies that creates more interactive and collaborative formats.

- Initiate the meeting with an icebreaker to get thongs started in a good way. This is particularly important if the participants don't know each other or come from a different background. This can be achieved by asking participants to bring an object or to pick a word that can in some ways define them and, in this way, they can make a brief presentation of themselves.
- Promote participatory discussions, where tools like pinup.com can be a powerful tool promoting debate and discussion.
- Questionnaires using tools like *Mentimeter* or *Sli.do*, which are live interactive applications to get feedback from the participants, that allow to create pools and Q&As, among others experiences with the participants.
- Networking is a powerful tool for having during breaks for participants to get to know each other and to exchange ideas and experiences.

2.5 Communication with stakeholders after RWGs

After each RWGs it is important to make a follow up communication with the participants to keep them involved with the project and to get them to participate in the next RWGs.

This can be accomplished simply by:

- Send an email right after the meeting thanking the participants for attending the event;
- Send an email to participants who did not show or attended and share some of the outcomes of the meeting. This might compel them to participate next time;
- Once the major outcomes of the meeting are prepared, send an email with the major conclusions and results and if possible, an indication for the next RWG agenda.

2.6 Main themes raised in RWG activities

During RWGs meetings, the critical discussion points and the axes towards which the RWG activities that the RWG Groups should be focused on were the following:

a) In terms of regional informations/data policies:

- Incomplete or updated soil map
- Irrigation water quality data monitoring systems and swap crops for irrigation water
- Reference to indicators of consumption & quality. Quantities lost/quantities consumed
- Measurable water saving elements.
- Regional problems in water supply, water transport issues - open ducts
- Basin Management Plans, how they were developed and how reliable they are
- Reference to different water supply and irrigation networks

b) In terms of harmonized methodologies/EU critical issues:

- Reflections on difficulties in water volume management and services
- Integration with main issues and subjects of the Regional Policy
- Reference to the AKIS method, (and networking) what it is and how it works
- EU guidelines/directive approved on reuse of treated water, costs and fines for non-compliance.

- The new Agricultural Policy has strict restrictions and measurable terms, with constant and strict scrutiny of residues.

c) In terms of the farming systems/stakeholders/users:

- Information, behavior and irrigation systems
- Farming systems/ habits of farmers.
- Policing and controlling in agriculture.
- Use of treated water in non-edible crops-concerns- difficulties
- Industrial food processors water use/reuse
- Environment-friendly policy.
- Some proposals to facilitate farming/industrial reuse waters

d) In terms of local/regional rules:

- Licenses and re-use licenses
- Secondary treatment, effluent quality, and reuse of treated waste.

e) In terms of the economy:

- Design and problems in water transportation and unit costs
- Reliability of the processes of reuse.
- Water recycling from drainage canals-advantages and disadvantages.
- Water treatments costs/efficiency/piloting plants

f) In terms of management/new skills/gaps:

- Competencies, development planning
- key management issues, best practices to share
- Reference to remote management and its importance
- Cross-compliance of operators and consumers with irrigation processes.
- Consumer/citizenship analysis/acceptance/willingness to buy

3 Discussion and participants in the RWG meetings/events

3.1 German Working Group meetings

The Braunschweig water reuse scheme has a long history. By founding the 'Abwasserverband Braunschweig (AV-BS)' as responsible wastewater association in 1954 an official organisation structure regarding water reuse was for the first time established in the region.

Within the Braunschweig water reuse scheme AV-BS as owner of the wastewater treatment plant is nowadays responsible for the irrigation of the reclaimed water during vegetation period on an agricultural area of 3000 ha.

The legal structure of AV-BS as water and ground association provides the right to irrigate wastewater within the association territory of 3000 ha. The wastewater treatment plant itself is operated by a company from the private sector.

For almost 70 years a close network between all relevant stakeholders have been developed within the Braunschweig water reuse scheme with AV-BS as head organisation. The figure 1 represents the organisational structure of the Braunschweig water reuse scheme.

The list below shows the actors of the Braunschweig water reuse scheme are from different sectors like agricultural sector, water authority, municipalities, water and wastewater associations. All these actors are relevant for a successful water reuse scheme:

1 *Agricultural sectors/ farmers:*
- As purchaser of the reclaimed water the farmers use the reclaimed water to grow crops.
- Due to a negative climate balance in the Braunschweig region during vegetation period using reclaimed water ensures a constant harvest for the farmers.

2 *Water authority:*
- Using reclaimed water for agricultural purposed needs permission of the federal and the local water authority regarding the protection of groundwater and surface waters from pollutants and pathogens.
- The water authorities are responsible for monitoring and surveillance of the threshold values of the effluent of the wastewater treatment plant.

3 *Municipalities*
- The Braunschweig water reuse scheme is financed by wastewater fees paid by the wastewater producer like citizens and industries. The wastewater fees are manged and governed by the local municipalities.
- The Braunschweig water reuse is seen as additional cleaning stage by the local municipalities due to filtration during soil passage after irrigating.

4 *Operator wastewater treatment plant*
- The operator is responsible that the threshold values of the effluent of the wastewater treatment plant are not exceeded. The effluent represents the reclaimed water which is used for irrigation.
- Operating and maintenance of the wastewater treatment plant is done by the operator who supports AV-BS regarding the evaluation of new investments and up-grading of the plant

5 *Water/Wastewater association*
- AS head organisation AV-BS is responsible for the technical operation of the Braunschweig water reuse scheme.

- Maintenance and new investments of the irrigation systems and the wastewater treatment plant are organised and contracted out by AV-BS.
- As head organisation AV-BS is the communication center of the Braunschweig water reuse scheme where all actors come constantly together.

Within the Braunschweig water reuse scheme there are several events and activities organised by AV-BS where all relevant actors come together and discuss about recent trends and future tasks.

Besides the listed events there are currently several research projects within the Braunschweig water reuse scheme ongoing. The research projects focus on various aspects regarding water reuse and support by their results the board of directors and policymakers regarding solutions for future challenges and necessary adaptions. The Braunschweig water reuse scheme is part of following research projects:

- H2020 projects:
  - Suwanu-Europe: European network for water reuse
  - NextGeneration: European network for circular economy in wastewater sector
- National funds projects:
  - Keramesch: Elimination micro-pollutants wastewater
  - HypoWave: Hydroponic use wastewater
  - Replawa: Elimination micro-plastic wastewater
- MultiResistance. Analysis multiresistant pathogens reclaimed water
- National funds project application:
  - P-Net: Regional network for secondary phosphorus fertilisers from wastewater
  - FlexTreat: Upgrading chemical and microbiological quality reclaimed water
  - HypoWave+: Hyproponic use wastewater

Due to its organisational structure and about 70 full-time employees, the Braunschweig water reuse scheme already has a long-time working group with focus on the regional water reuse.

Regarding the Suwanu-Europe Regional Working Group (RWG) AV-BS will use the already existing organisational infrastructure to present and implement results and proposal elaborated within Suwanu-Europe and to develop the Regional Action Plans.

Most of the RWG members will be from the organisations listed above. Additionally the RWG will be complemented by representatives of the regional agricultural authority and of the regional farmers' association in order to underline the needs and expectations of the agricultural sector.

Table 2: Participants of the RWG meeting #1

Name	Organization that represents	Position to the organization	Description of the Organisation
Mr Wolfgang Sehrt	Board of directors AV-BS, representative public sector	Chairman	Grant management, Assignment management
Mr Günter Olfe	Board of directors AV-BS, representative agriculture	Co-chairman	Grant management, Assignment management
Mrs Franziska Gromadecki	AV-BS	Director	Head organisation. Braunschweig water reuse scheme

Mr Heinrich Ripke	AV-BS	Co-director	Head organisation. Braunschweig water reuse scheme
Mr Jonas Schneider	AV-BS	Coordination research	Head organisation Braunschweig water reuse scheme
Mr Thomas Berendonk	Hydrobiological institute TU Dresden	Director	Microbiological analysis multi-resistant bacteria

As said before, the Braunschweig water reuse scheme has already a long-term existing regional working group which makes on the one hand the implementation of the Suwanu-Europe RWG easier. On the other hand this organisational structure ensures that the regional working group keeps on coming together frequently after ending of the Suwanu-Europe project.

Results and strategies developed within Suwanu-Europe will thereby not get lost and can be implemented in the Braunschweig water reuse scheme with long-term effect. The meeting focused on the prearrangement of the analysis of microbiological quality of the reclaimed water of the Braunschweig water reuse scheme regarding multi-resistant bacteria. The results regarding quantity, gene transfer and bacteria reduction during soil passage shall identify and specify the microbiological risk coming from the reclaimed water. Conclusions from the monitoring program will be used for public communication.

Participants of the meeting were two members from the board of the directors (agricultural and public sector), three members of AV-BS (director, co-director, coordination research) and one member of the institute responsible for the microbiological analysis of the samples.

The actors from the agricultural sector contributed by bringing in their knowledge regarding the right sampling method and moment with respect to cultivation management and percolation water generation. AV-BS was responsible for identifying the right sampling places within the water reuse value chain. The microbiological institute contributed by giving advice regarding the sampling moment and places and presented a potential monitoring program.

The RWG meeting had the following discussion topics:

- Presentation of the pre-analysis of the status quo about microbiological quality/quantity of reclaimed water regarding multi-resistant bacteria by Mr Berendonk (Sewage sludge which is mixed reclaimed water during irrigation will be in the future treated by thermal pressure hydrolysis reducing the microbiological activity)
- Sampling method, sampling places, sampling moments of monitoring program
- Volume of monitoring program (Number of field experiments)
- Further necessary prearrangements of the monitoring program for beginning the first field experiment in February/May 2020

The next meeting within the prearrangement of the monitoring program took place at the end of January 2020 with focus on the design of the monitoring program with respect to the irrigation interval, the soil cultivation and the crop rotation of the monitoring field.

AV-BS will therefore prepare and adapt sampling methods of former monitoring programs regarding micro-pollutants and will present the adapted sampling method at the meeting.

The agricultural representatives of the board of directors will also work on the right sampling method regarding evaporation, percolation water rate and soil cultivation and will bring in their ideas at the January meeting.

The meeting of the board of directors and AV-BS director with the environmental task force of governing party of the federal parliament was used to present the Braunschweig water reuse scheme to the federal policy makers.

In order to ensure the institutional and political support for the Braunschweig water reuse scheme for long term, the politicians had the possibility to get to know features and benefits of the reuse scheme regarding environment and agriculture.

After the presentation of facts and data the delegation was invited to visit the agricultural fields, the irrigation infrastructure and distribution system on-site.

The environmental task force supports the implementation of an additional third treatment step within the wastewater treatment in order to remove micro-pollutants and pathogens. The task force works on a legal obligation for the implementation of such a treatment step and supports the idea of the Braunschweig water reuse scheme.

In this context AV-BS could present plans for a study developing a future concept for the WWTP in 2030. Furthermore, the task forces want to establish the irrigation of greywater and rain water to an increasing degree. These issues belong mainly to the Core Group of the RWG (see below).

Table 3: Core group of SUWANU EUROPE Regional Working Group for Braunschweig (Germany)

Name of main contact person	Organization that represents	Position to the organization	Role of RWG member during SUWANU EUROPE
Mr Wolfgang Sehrt	Board of directors AV-BS, public sector	Chairman	Coordinator - Provide feedbacks to Regional Action Plan
Mr Günter Olfe	Board of directors AV-BS, agricultural sector	Co-chairman	Co Coordinator - Revise regional action plan
Mr Theodor Eggers	Board of directors AV-BS, agricultural sector	Member	Provide feedbacks to Regional Action Plan
Mr Dirk Asche Baumgarten	Board of directors AV-BS, agricultural sector	Member	Provide feedbacks to Regional Action Plan
Mr Christian Müller	Board of directors AV-BS, agricultural sector	Member	Provide feedbacks to Regional Action Plan
Mrs Franziska Gromadecki	AV-BS	Director	Secretariat - Revise regional action plan
Mr Heinrich Ripke	AV-BS	Co-director	Secretariat - Revise regional action plan
Mr Martin Schorling	AV-BS	Technical department	Secretariat - Revise regional action plan
Mr Jonas Schneider	AV-BS	Coordination Research	Secretariat - Revise regional action plan
Mr Christoph Siemers	SEBS, WWTP	Director	Facilitator - Revise regional action plan
Mrs Pia Kleeberg	LWK, authority	Management	Provide feedbacks to Regional Action Plan
Mr Thomas Tretzka	LWK, authority	Management	Provide feedbacks to Regional Action Plan

Mrs Cornelia Kaniora	NLWKN, authority	Management	Provide feedbacks to Regional Action Plan
Thorsten Hartung	NLWKN, authority	Management	Provide feedbacks to Regional Action Plan
Mr Andreas Romney	Braunschweig Municipality	Management	Provide feedbacks to Regional Action Plan
Mr Horst Schevel	Landvolk Gifhorn, farmers' association	Director	Provide feedbacks to Regional Action Plan
Mrs Urte Rötz	Landvolk Gifhorn, farmers' association	Management	Provide feedbacks to Regional Action Plan

4 Conclusions for Braunschweig (Germany)

About Germany, we may say that there is a need of:

- analysis of multi-resistant bacteria in reclaimed water of the Braunschweig water reuse scheme with respect to the public discussion about antibiotic-resistant microorganism;
- new sludge treatment (Thermal pressure hydrolysis) is supposed to decrease bacteria quantity of reclaimed water when reclaimed water is mixed with sludge during vegetation period -> pre-analysis of reclaimed water reference before commissioning of new sludge treatment;
- governing federal political party as well as the opposition support the concept of the Braunschweig water reuse scheme; both political parties had the possibility to get to know the features and benefits of the Braunschweig water reuse scheme regarding environment and agriculture; both political parties want to support the Braunschweig water reuse scheme regarding future challenges like multi-resistant bacteria and implementation of further treatment steps.
- regarding the Suwanu-Europe Regional Working Group (RWG) AV-BS used the already existing organisational infrastructure to present and implement results and proposal elaborated within Suwanu-Europe and to develop the Regional Action Plans.