Sustainable **Water treatment** and
Agricultural reuse options in Europe

Info-package 5
Consumers and General Public

Fact Sheet 5.5 – Communicating the use of reclaimed water for agricultural irrigation: How to transfer a positive image of using reclaimed water

Environmental benefits of irrigation with reclaimed water → Organoleptic studies of agricultural products irrigated with reclaimed water → Public perception and consumer acceptance → AKIS & Stakeholders analysis → **Communicating the use of reclaimed water**

SUWANU EUROPE is a H2020 project aiming to promote the effective exchange of knowledge, experience and skills among practitioners and relevant actors on the use of reclaimed water in agriculture. This factsheet is part of a total of 5 factsheets in Info-package 5 aimed at consumers and general public, that describe the benefits of reclaimed water in irrigation and the public perception and acceptance towards the use of reclaimed water.

1. How much water do we have on Earth:
Everyone knows water is a finite and precious resource. Even though 72% of Earth's Surface is covered with water, less than 1% is accessible for direct human use. Water scarcity is driven by two main factors: water demand, which continues to rise across Europe by a growing population and socio-economic developments, and climate conditions, that control the renewal of freshwater resources and the seasonality of water supply, which are even more affected by climate change.

2. How much water agriculture needs:
Agriculture is the sector that exerts the highest pressure on renewable freshwater resources, accounting for 59% of total water use on an annual average in Europe. In the Mediterranean region alone, agriculture can account for as much as 75% of total water used in agriculture.
If wastewater is treated according to appropriate standards and methods, the resulted effluent (i.e. reclaimed water) can be an alternative to conventional water resources for agricultural irrigation.

3. Advantages of using reclaimed water in agriculture:
The main advantages of using reclaimed water can be grouped as follows:

- Reclaimed water may substitute freshwater in many cases.
- Reclaimed water contributes to agricultural irrigation to address the global water deficit.
- Nutrient-rich reclaimed water is a valuable resource to farmers.
- Reclaimed wastewater is safe for agricultural use when adequately treated.
- Health and environmental aspects are very sensitive issues and important prerequisites.

Water reclamation and reuse is perceived as being more risky than beneficial. There is no "Zero Risk" solution, but existing and innovative technology offers high potential in safety issues.

The water reclamation and reuse activities in the European Union (EU) are guided by the EU Water Framework Directives promulgated in 2000 under the European Community Commission Directive (91/271/EEC). There has been many success stories of reuse of reclaimed water in agricultural irrigation, which were collected within the scope of SUWANU EUROPE project, and that can be followed in https://suwanu-europe.eu/database/.

4. Potential for the use of reclaimed water in agriculture irrigation and contribution for a Circular Economy:

More tan 40,000 million m^3 of wastewater is treated in Europe every year, but only 964 million m^3 of this treated water is reused as reclaimed water. The increase in the use of reclaimed water in agriculture is a goal to be set. It is expected that by 2030 reclaimed water reuse will reach 1.66% (>25 km^3 per year) of the total water use. Globally, more than 20 million ha of land are irrigated with reclaimed water, enhancing circular economy. The amounts are about to increase in the next decades as water scarcity intensifies. Agricultural irrigation is the main application for water reuse with 32% of the reclaimed water used for this purpose. Also, the use of reclaimed water in agriculture allows the reallocation of freshwater resources to domestic use, thus decreasing the pressure in this scarce resource. An increase in the use of reclaimed water may lead us to:

- Manage and use water sustainably.
- Be independent from climate fluctuations.
- Control water on regional scale.
- Contribute for quality and safe products.
- Reduce ecological footprint.
- Meet regulations and standards for constant water quality.
- Reduce cost in long term use.

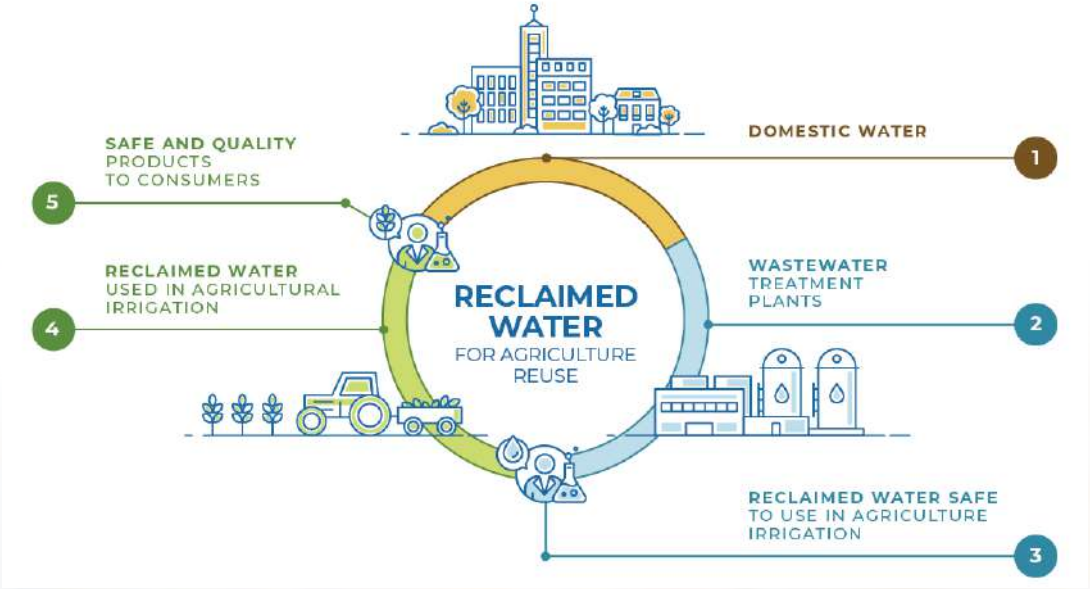

Figure 1: Circular Economy in using Reclaimed Water for agriculture reuse

Reference/further readings

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Global Water Intelligence, 2016 in Ohkuma N, 2016, The situation of the international standardization for water reuse

https://ec.europa.eu/environment/water/reuse.htm

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