

Recycling and Waste Management

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Wastewater and water reuse management: A catalyzer for resource recycling transformation

Water quality criteria are an indispensable part of water recycling projects aiming to ensure the protection of public health and the environment. In addition, criteria can affect the development, public acceptance and the economic viability of water recycling projects. Currently no uniform criteria exist, but they diverge, often greatly, between countries/states. In this talk, we briefly present the evolution of recycling criteria worldwide and discuss emerging issues related to ecological and public health risks that have not addressed adequately in existing criteria. We will focus both on EU countries. In EU countries their water recycling framework and the lack of water recycling criteria cause of implementation delay will be introduced while good practices and advanced research on water reuse management will be discussed especially in the frame of agricultural uses, direct and indirect.

Capacity development schemes are instead fundamental to introduce smart and safe management strategies for water reuse. For the 70 percent of middle- and low-income countries in rural areas, agriculture is the main source of income and employment. In parts of the Global South, agriculture has transformed the region economically. But depletion and deterioration of water and land resources pose serious

challenges in sustaining this development. Using wastewater as an economic asset makes of the safe use of wastewater in agriculture (SUWA) as a cost-effective way to sustainably manage resources recycling and ensure healthy produce. This talk will bring to discussion the subject of wastewater management, focusing on the management and business aspect of the issue and analyze potential repercussions for the development of a smart agriculture. The description of good-practice examples experienced internationally will complement the scientific base of natural resource management. The interdependencies within the Water-Soil-Waste will be highlighted and Nexus thinking as catalyzer for the transformation of resource recycling defined.

Speaker Biography

Serena Caucci works as a Senior Research Associate at UNU-FLORES, in the field of waste recycling and wastewater management. Skilled in capacity development in multi-stakeholder projects worldwide on water reuse in agriculture and has developed international collaborations in the field of microbiological risk assessment related to environmental pollution management. Before joining UNU-FLORES, she worked at the Institute of Hydrobiology of Technical University of Dresden and at the Helmholtz Center for the Environment (UFZ) on issues of wastewater management and antibiotic resistance in anthropogenic environment.

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