Special Issue

The Role of Hydraulic Engineering in Sustainable Water Resource Management for Agriculture

Message from the Guest Editors

Water scarcity and climate change are reshaping the global water–food balance, with agriculture—which is responsible for almost 70% of freshwater withdrawals—facing unprecedented challenges. Irrigation remains essential for food security, but conventional practices are increasingly unsustainable due to low efficiency and excessive water consumption. This Special Issue, 'The Role of Hydraulic Engineering in Sustainable Water Resource Management for Agriculture', will explore how innovations in hydraulic engineering, from field-scale interventions to basin-wide strategies, can contribute to sustainable and resilient agricultural futures. The purpose of this Special Issue is to gather contributions that demonstrate how targeted hydraulic solutions can define, measure, and operationalize sustainability in agriculture by quantifying water savings, reducing costs, and maintaining ecological balance. By highlighting the modernization of traditional systems, this Special Issue will supplement existing research and position hydraulic engineering as a bridge between conventional practices and high-tech precision irrigation.

Guest Editors

Dr. Cosimo Peruzzi

Italian Institute for Environmental Protection and Research (ISPRA), Department of Environmental Protection, Monitoring and Biodiversity Conservation (BIO), Area for Hydrology, Hydrodynamics, Hydromorphology and Freshwater Ecology (ACAS), 00144 Roma, Italy

Dr. Fabiola Gangi

Department of Agricultural and Environmental Sciences (DiSAA), University of Milan, Via Celoria 2, 20133 Milan, Italy

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Sustainability
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
sustainability@mdpi.com

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I encourage you to contribute a research or comprehensive review article for consideration for publication in Sustainability, an international open access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. The journal publishes original research articles, reviews, conference proceedings (peer reviewed full articles) and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

Editor-in-Chief

Prof. Dr. Steve W. Lyon
School of Environment and Natural Resources, Ohio State University, Columbus, OH 43210, USA

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