P01 / One Health and One Water

Topic : HEALTH POLICY

Chair : Zigmond A Kozicki (University of Detroit Mercy)

Second Chair : Stephanie Baiyasi-Kozicki (Central Michigan University)

Third Chair : Ramjee Ghimire (Michigan State University, USA)

GENERAL OBJECTIVES, RESEARCH QUESTIONS AND SCIENTIFIC RELEVANCE

ABSTRACT
One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems. It recognizes that the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and inter-dependent. One Water is an integrated planning and implementation approach to managing finite water resources for long-term resilience and reliability, meeting both community and ecosystem needs. One Water is a transformative way of viewing, valuing, and managing water. The One Water approach manages all water—whether from the tap, a stream, a storm, an aquifer, or a sewer—in a collaborative, integrated, inclusive, and holistic manner. One Water and One Health are distinct but complimentary approaches that mobilize multiple sectors, disciplines, and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems. Both of these approaches address the collective need for 1) clean water, energy, and air, 2) safe and nutritious food, 3) taking action on climate change, 4) contributing to sustainable development, and 5) preventing the spread of zoonotic disease (disease spread from animals to humans). World wellness and climate security require a commitment to population health initiatives. Safe water can be sustained during climate change using a One Water and One Health strategy.

CALL FOR PAPERS

Climate change will create the conditions to require changes. Public Health will become more influential in the regulation of zoonotic threats and the availability of drinking water worldwide. This session explores how by utilizing One Health and One Water strategies, communities can provide safe and sustainable environments. Presenters are encouraged to share existing action that promotes a One Health model. The panel should address these any if these six learning objectives: (1) Identify the usefulness of One Health and/or One Water to respond to water quantity demands. (2) Demonstrate how One Health is the emerging strategy to prevent contagious disease. (3) Identify how community resources can be leveraged to improve water quality. (4) Identify what is required to create public private partnerships that sustain a One Water & One Health policy and process. (5) Explore what can be done to develop a Water Quality and Water Quantity Index (WQQI) for communities. (6) Provide examples of how One Health and or One Water is being implemented in a community.

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Session 1

Wednesday, July 2nd 16:00 to 18:00 (B4)

Pull out from WHO? How a country's policy could impact the health of the world

Stephanie Baiyasi-Kozicki (Central Michigan University)

Donald trump pulled the United States out of the World Health Organization (WHO) most recently on January 20, 2025, by an executive order. This order is as follows:

Section 1. Purpose. The United States noticed its withdrawal from the World Health Organization (WHO) in 2020 due to the organization's mishandling of the COVID-19 pandemic that arose out of Wuhan, China, and other global health crises, its failure to adopt urgently needed reforms, and its inability to demonstrate independence from the inappropriate political influence of WHO member states. In addition, the WHO continues to demand unfairly onerous payments from the United States, far out of proportion with other countries' assessed payments. China, with a population of 1.4 billion, has 300 percent of the population of the United States, yet contributes nearly 90 percent less to the WHO.

Sec. 2. Actions. (a) The United States intends to withdraw from the WHO. The Presidential Letter to the Secretary-General of the United Nations signed on January 20, 2021, that retracted the United States' July 6, 2020, notification of withdrawal is revoked.

(b) Executive Order 13987 of January 25, 2021 (Organizing and Mobilizing the United States Government to Provide a Unified and Effective Response to Combat COVID–19 and to Provide United States Leadership on Global Health and Security), is revoked.

(c) The Assistant to the President for National Security Affairs shall establish directorates and coordinating mechanisms within the National Security Council apparatus as he deems necessary and appropriate to safeguard public health and fortify biosecurity.

(d) The Secretary of State and the Director of the Office of Management and Budget shall take appropriate measures, with all practicable speed, to:

(i) pause the future transfer of any United States Government funds, support, or resources to the WHO;

(ii) recall and reassign United States Government personnel or contractors working in any capacity with the WHO; and

(iii) identify credible and transparent United States and international partners to assume necessary activities previously undertaken by the WHO.

(e) The Director of the White House Office of Pandemic Preparedness and Response Policy shall review, rescind, and replace the 2024 U.S. Global Health Security Strategy as soon as practicable.

There is more in the paper itself to discuss implications.

(Virtual) Is it time to proceed with One Water politics?

Zigmond Kozicki (University of Detroit Mercy)

Zigmond A Kozicki (University of Detroit Mercy)

Is it time to proceed with One Water politics?

Kozicki, Zigmond A. (2025).

Abstract

One Water politics is a way of thinking about water that emphasizes collaboration, shared responsibility, and

sustainability. It encourages people to work together to solve water challenges and to value all water, regardless of its source. Considering the growth of the world population and the ongoing climate change is it time to consider water politics as a primary focus of environmental policy.

Life on earth descends from water, and water is the lifeblood of our planet. Existence, and prosperity of the mankind depends on access to safe water, and access to water has been the key to any sustainable civilization. All great civilizations have grown up and thrived around water. Not only water is necessary for drinking and hygiene, indeed it is a base for agriculture, commerce, transportation, and even defense from the foes. The growth and evolution of human culture and civilization have had a strong relationship with water resources (Hosseiny,S.H, Haddad,O.B., Bocchiola,D, 2021).

Goals of One Water politics

Maximize water use: Use every drop of water to its fullest potential (Moleaer, 2023)
Manage water holistically: Consider water for multiple benefits, including human, environmental, economic, and societal needs (SEMOG, 2025)
Ensure water availability: Make sure water is available for future generations (Moleaer, 2023)
Promote collaboration: Encourage people in the water industry to work together to solve water challenges (Waster Water Digest, 2021).
Promote sustainability: Manage water in a way that is sustainable and equitable (U.S. Water Alliance, 2025)

(Virtual) An Analysis of Efficient Water Resources Technique Using Optimization for Sustainable Development in Agriculture in India

Monali Mal (Virginia Commonwealth University)

Undoubtedly, India's developing economy has experienced a soar in agriculture. But it has not equally percolated to all areas of the country. The 21st century has experienced vast technological innovation. However, there is a huge gap in getting the advantage of technology among various sections of the societies. Sustainable development is the burning research area in the public policy field. But this domain is still not trickled down to middle- and low-income countries. India being the largest populated country has challenges in adopting agriculture technology. In India, the farming community is the most marginalized in terms of getting the benefit of technological advancement. The challenges and pressure on farming land have been intensifying more than ever to feed the increasing population of the country. The agricultural policy has not benefited the poor farmers. Water is a critical constraint for agricultural cultivation in the Nayagram block of India. The area has significant Indigenous farming communities that maintain traditional agricultural practices and are unaware of water-efficient modern techniques. In this paper, an attempt has been made to use a linear programming model using Gurobi optimizer to allocate an area in the block of West Bengal to various crops for judicious water management to maximize net benefits, production, and labor employment in Nayagram block and to provide sustainable production techniques to the region. A comprehensive analysis of cultivation has been made to reflect the agricultural pattern of the area by assessing the economics of crop cultivation. The research is grounded on the information obtained from government sources and farmers. The cost of farming and net benefits from the cultivation of paddy, wheat, potato, mustard, and sesame are calculated. Potato, mustard, and sesame show relatively higher net benefits than other crops. The outcome of the study can be used as an opportunity by agricultural scientists, block development officers, and policymakers to integrate water-efficient farming methods and the cropping pattern to uplift the weaker section of society by making wise decisions.

Bridging the Gaps: Research, Extension, and Education in the One Health–One Water Nexus

Ramjee Ghimire (Michigan State University, USA)

Water is a fundamental element not only for human survival and health but also for animals, the environment, and their health. Water can become deadly for humans, animals, and the environment when it is unsafe and contaminated, as contaminated water serves as a medium for pathogens, toxic chemicals, and pollutants, resulting in health hazards and ecosystem disruptions. Despite the significant role of water in ecosystems, there are not many studies investigating its interconnectedness with humans, animals, and their health, particularly in nurturing the One Water – One Health approach.

This review paper discusses the current status and gaps in research, extension, and education on One Health, focusing on water. A preliminary analysis of the literature available in PubMed, Web of Science, Scopus, and Google Scholar reveals research gaps in the integration of water into One Health frameworks, limited data on waterborne zoonoses, climate change and water-health linkages, and the extent and effectiveness of water-focused One Health interventions.

From an extension standpoint, a lack of cross-sectoral collaboration in water management, limited

community engagement and water stewardship programs, and weak policy-to-practice translation are observed. In terms of education, limited integration of One Health curricula with water studies and vice versa, inadequate capacity and capacity-building efforts in water resource conservation and waterborne disease surveillance, and a lack of public awareness of One Health and water interconnections are the major concerns.

These findings warrant multidisciplinary research, education reforms, community-led initiatives, and importantly integrated policies to incorporate water into the One Health paradigm. Strengthening collaboration among environmental scientists—specifically water health scientists—healthcare professionals, policymakers, animal health professionals, sociologists, and local communities, while promoting the One Health – One Water approach and securing political leadership support, is essential for achieving healthy ecosystems.

Additionally, this paper discusses the initiatives of the Mekong One Health Innovation Program to promote One Health in the Lower Mekong region as it relates to water health.

One Health governance: theory, practice and ethics

Stephanie Baiyasi-Kozicki (Central Michigan University)

One Health approach is a global public good (GPG) that invites governance to maximize the health of humans, animals, and the environment by shaping interdisciplinary and cross-sectoral collaboration. This paper explores the theoretical foundations, practical applications, and ethical considerations of the One Health governance architecture. At the theoretical level, One Health governance invites systems thinking and involves collaborative efforts among multiple stakeholders, applying across multi-layered scenarios and requires public-private partnership (PPP). This governance architecture transcends traditional anthropocentrism and shifts towards ecocentrism, highlighting the integrity of ecosystems and the deep prevention of diseases. Selected case studies illustrate the implementation of One Health initiatives, such as shared water resources, disease surveillance programmes, and sustainable environmental health interventions, demonstrating the added value of a collaborative efforts across sectors and regions. Ethical considerations are integral to decision-making and actions of One Health governance, with a focus on equity, inclusivity and accountability, providing moral guidelines to prioritize the health of vulnerable populations and ecosystems. Through these efforts, One Health governance is expected to improve public health globally, promote sustainable development, and achieve a harmonious coexistence of human, animal, and environmental health.