

Abstract Information for IWRA Online Conference
“One Water, One Health: Water, Food and Public Health in a Changing World”
7-9 June 2021

* All fields in the online abstract submission process must be completed.

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| (*) Presentation Type | Online Oral Presentation |
| (*) Selected Theme | <p>Please select your sub-theme from the list below (1-5):</p> <ul style="list-style-type: none"> ○ Theme 1: How can we better manage water for food and public health in a changing world? ○ Theme 2: How can managing water in agriculture contribute to food security and public health? ○ Theme 3: What opportunities lie in the improved cooperation between water, food, and public health sectors? ○ Theme 4: What are the synergies or trade-offs between ecosystem health and human health? ○ <u>Theme 5: How can science better inform public policy, governance and capacity building for water, food, and health?</u> |
| (*) Abstract Title | Water quality and food security interactions in the global South: lessons from a conceptual framework |
| (*) Body (1 paragraph of up to 400 words) | <p>(a) Purpose of study or research hypothesis Water is a factor input for many activities of the food system such as agriculture, food processing and consumption. However, activities in the food system also affect water resources through polluted discharges of (waste)water. Moreover, the shift in focus from food security to producing enough amounts of staple foods to healthy diets encouraged local production of fresh food such as fruit, vegetables and fish. To secure local production, the use of polluted water in crop production is a solution to water scarcity, although it might jeopardize human health, which forces consumers to make a trade-off.</p> <p>(b) Key issue(s) or problem(s) addressed The aim of this study is to systematically investigate the role of water quality on the food supply system and vice versa. This provides more insight into the trade-offs within the food system related to water quality issues and increased health risks of the consumption of more fresh food.</p> <p>(c) Methodology or approach used Using a comprehensive framework, we sketched the inter-relationships between water quality and food systems with a literature study. The food system activities included were food production (crop production, livestock and aquaculture), food processing, and food consumption. Multiple contaminants were incorporated such as nitrogen, phosphorus, pesticides, pathogens, cyanotoxins, and heavy metals, amongst others. Moreover, we considered different water sources such as groundwater, surface water, wastewater and coastal water.</p> <p>(d) Results or conclusions derived from the project We found that food system activities contaminate water in several ways and these differ between food system activity and type of food produced. The impact of water quality depends on the food produced, the type of contaminant and food preparation. In addition, food is contaminated in multiple ways along the food system. Irrigation with polluted water may sound familiar, but there are examples in food processing (cleaning of equipment or food</p> |

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| | <p>products), and in food preparation (at home or by street vendors). Hygiene in food consumption is crucial to prevent faecal-oral transmission, although Water, Sanitation and Hygiene (WASH) received little attention in relation to food consumption. When local production of fresh food is encouraged to improve food security, all aspects of water quality should be analysed to avoid undesirable consequences.</p> <p>(e) Implications of the project relevant to congress themes The insights will better link the promotion of food security with required improvements of the quality of water used in the food system.</p> |
| (*) Keywords | Food systems, water quality, food security, water resources, trade-off |

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