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Commentary

Impact of Climate Change on Irrigation Water Quality

Sean A Nejadhashemi*

Department of Biosystems and Agricultural Engineering, Michigan State University, East Lansing, MI, United States

DESCRIPTION

The quality of irrigation water is increasingly vulnerable to climate change. Factors that cause climate change such as CO_2 emissions, CH_4 emissions, industrialization, population growth and human activities affect water quality through the addition of heavy metals, drugs pesticides, organic pollutants and other sediments. Climatic conditions such as rainfall, temperature, floods, and droughts affect the quality of irrigation water. Water quality parameters such as micronutrients, pathogens, pH, and dissolved oxygen are directly influenced by climatic conditions, such as rainfall, temperature, flooding and drought.

Droughts, floods and rising temperatures are expected to have a negative impact on water quality. Water quality and availability are susceptible to changes in precipitation. Flooding increases water pollution by depleting surface and ground water. Flooding accelerates runoff in urban areas and introduces huge amounts of toxic pollutants into freshwater sources and degrades its quality. A large proportion of industrial pollutants enter rivers contaminating the quality of irrigation water and making it unsuitable for use. High percentage of heavy metals likes lead, CD, etc. contaminates the quality of irrigation water and thus affects the growth of crops.

Countries round the arena are more and more confronted with the venture of dealing with the growing dangers and bad environmental influences of weather alternate and urbanization. By 2050 it's far expected that 67% of the arena populace is predicted to be residing in city regions, with the maximum speedy ranges of urbanization taking region in growing countries. It is likewise likely, that notwithstanding our quality efforts, the bulk of destiny city increase might be in casual regions as governments battle to hold up with the growing call for fundamental offerings such as water supply, sanitation and formal housing. Urbanization is regularly immediately related to the degradation of environmental fine, such as fine of water, air and noise. Concurrently, it's far now extensively widespread that globally temperatures will growth and rainfall turns into greater variable, thereby affecting nearby climates internationally and that this could be in large part attributed to human influences. Within city regions, it's far usually expected that the growth in worldwide temperatures related to weather alternate might be exacerbated because of the city warmth island impact because of the change of herbal surfaces, wherein plant life could have decreased warmth.

Quality of fresh water is also affected by drought because of less availability of water to dilute the concentration of contaminates in the waters. In draught condition people are compelled to use that contaminated water for self-use and for their crops and animals which leads to several disease in their plants and animals. The practice of using clean water for both drinking and irrigation is necessary for the health life of inhabitant of country. Rainfall also affects irrigation water quality. During the season of monsoon rainfall, the rainfall deteriorates water quality because of the addition of organic pollutants, pathogens, and pollutants mixing with irrigation and drinking water resources during the season of monsoon rainfall. Higher rainfall carries more pollutants from one area to another and degrades water quality. In the case of low rainfall, less water can dilute contaminated water. Water quality also decreases with increasing temperature due to low flow, stable temperature, higher settling capacity of phosphorus and other nutrients. Increased temperature with low flow leads to increased microbial growth that degrades water quality. Rising water temperature affects the biochemical processes that occur in the water reservoir. Global warming can influence concentration of oxygen in water reservoir. Increase in temperature will negatively affected water quality.

Agriculture can negatively affect water quality, especially in rural areas in both developing and developing countries. Crops are often irrigated with contaminated wastewater from domestic and industrial wastewater containing heavy metals, which can potentially be absorbed by vegetables and other crops, becoming part of the food chain. The literature reports the potential toxic hazards of heavy metals to public health from the consumption of contaminated food. Urban agriculture has significant human health effects in terms of greenhouse gas emissions and the spread of water-related diseases such as malaria. Antonio Nkondjio points out that urban agriculture plays an important role in the spread of resistance to pesticides and malaria. Chemical pollution can be minimized by natural fertilization and sustainable agricultural principles in general.

Correspondence to: Sean A Nejadhashemi, Department of Biosystems and Agricultural Engineering, Michigan State University, East Lansing, MI, United States, E-mail: Nejadhashemi.sean@gmail.com

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