Irrigation Water Management and Crop Water Productivity

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ABSTRACT

This paper focuses on different ways to use less water for crops while maintaining and even increasing the productivity of crops of District Jamshoro, Pakistan by using different irrigation techniques and technologies. It analyses water use by crops, specifically taking physiological view points of crops, underlying relationships between carbon sequestration, growth and water losses. Globally, all freshwater of about 80-90% is used by humans and most of it is consumed by crop production and agricultural fields. For many years, this water consumption is unsustainable; water supplying systems are under pressure from users and are affected by climate change. A lot of efforts are being made to lessen the water consumption by crops and produce ‘’more crop per drop’’.Strategies are to be considered as a part of this activity which includes, remodeling and designing of whole the irrigation system to improve the efficiency, treating degraded water and reuse, mitigating evaporative losses, establishing site-specifications, applying managed deficit irrigation system, applying and recruiting engineering techniques to enhance water quality, to minimize leaching and water losses. Crucial examples are given to describe both the assessing and improving water use and crop productivity. We believe that there is substantial potential for more improvements owing to progress in understanding the plants physiological act of responding to water supply. We conclude that the interaction between crops plantations and environment needs a team approach looking over the discipline from genes to plants to crop productivity in their certain environment to provide improved crop water productivity and put up contribution in sustainability.

Keywords: water usage for crops, crop production, sustainability, irrigation methods and technologies, minimizing leaching, remodeling and designing for improvement.