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Where There's Muck There's Brass — Wastewater Irrigation near Faisalabad, Pakistan

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Abstract

Water scarcity is one of the most pressing problems for many arid and semi-arid regions. With regard to the need for a more efficient and sustainable use of the existing freshwater resources, the main focus must be on agriculture with its share of 86 % of the global water consumption.

The Indus Basin Irrigation System (IBIS) in Pakistan is the largest irrigation system in the world and the backbone of the country's economy. However, because of an increasing demand for irrigation water and lack of maintenance of irrigation infrastructure resulting in water losses, many farmers can no longer satisfy their irrigation water requirements with canal water.

In order to cope with irrigation water scarcity, farmers use different strategies. This study compares the coping strategies of farmers in two periurban villages in Pakistan's Province of Punjab. While in the village of Kehala, farmers had shifted from canal water to groundwater as their primary irrigation water type, the farmers of the neighbouring village of Chakera had taken a different path by using untreated wastewater from the nearby city of Faisalabad.

The fact that most Chakera farmers interviewed were very satisfied with their wastewater irrigation was not surprising in view of savings for fertiliser and a reliable, unlimited water supply. Moreover, wastewater was much cheaper than groundwater: in order to irrigate main crops like wheat and sugarcane, Chakera farmers saved up to 95 % of water costs compared to their Kehala neighbours.

A further advantage of wastewater irrigation was that it allowed the production of high-value crops like vegetables which require large quantities of irrigation water and fertiliser at frequent intervals but fetch high market prices.

Thus, in economic terms, the use of raw, untreated domestic wastewater for irrigation has had many benefits for farmers in Chakera village.

Keywords: High value crops, irrigation, irrigation water costs, pakistan, wastewater