Multiple Inlet Approach to Reduce Water Requirements for Rice Production

With flooded rice culture, water usually fills the highest paddy first, and then as each paddy is filled, water flows over into lower paddies. However, that makes it quite difficult to know exactly how much water to pump so that all paddies are filled without losing any from the lowest paddy. We found that an alternative method, multiple-inlet irrigation, would save water (24% on average) and produce the same or slightly better yields. In multiple-inlet irrigation, a pipe is run through the field and holes are placed so that each paddy is concurrently watered instead of receiving overflow from a higher paddy. Saving water means saving diesel fuel and reducing irrigation costs. The irrigation water use efficiency, or the grain produced divided by irrigation water applied, was more than one-third greater with multiple-inlet than with conventional flooding. Rice producers will benefit from the lower costs associated with reduced irrigation requirements from multiple inlet rice irrigation. *The reduction in water required for irrigation and the corresponding reduction in diesel fuel used for pumping the water will conserve both of the resources for other uses.*

Vories, E.D., Tacker, P.L., Hogan, R. Multiple inlet approach to reduce water requirements for rice production. Applied Engineering in Agriculture. 21(4):611-616. 2005.
http://www.ars.usda.gov/sp2UserFiles/Place/36221500/cswq-0215-174368.pdf

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