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Financing Irrigation Water Management and Infrastructure: A Review

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Abstract

Many of the world's irrigated regions face the problem of aging infrastructure and declining revenues to maintain and repair irrigation structures. Policy debates over climate change, population growth, food security, and impacts of irrigation on ecological assets compound the problem, raising the urgency to invest in irrigation infrastructure. Meanwhile, a global call for full-cost recovery for water infrastructure investments increases the need to identify the economic value of sustaining irrigation infrastructure. Despite the growing debates, little comprehensive research has been conducted summarizing factors affecting irrigation investments or policy options available for sustaining irrigation infrastructure. This paper reviews research on factors affecting the level and value of irrigation infrastructure investments. It also reviews research on policy instruments for sustaining irrigation infrastructure, considering both market and institutional approaches. Several market approaches have been found to

have the potential to influence the economic attractiveness of investments in irrigation infrastructure. These include infrastructure subsidies, clearing titles to water rights, marginal cost pricing, and non-volumetric pricing. Institutional approaches described include regulatory measures, transboundary agreements, and water user associations. Results may contribute to current debates in various regional, national, and international forums on whether and how water should be priced for agricultural use.

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