



## Simple Myths and Basic Maths about Greening Irrigation

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Managing water is a very complex societal issue that needs to involve legal, environmental, technological, financial and political considerations that are difficult to co-ordinate in an effective manner. This complexity and the lack of an agreed assessment framework have often implied that political decisions, largely driven by transaction costs (especially the bargaining costs required to come to an acceptable agreement with all the parties involved), have overshadowed and prevailed over other considerations. As a result, (financially) expensive solutions such as irrigation modernization programmes have been preferred to their inexpensive alternatives to save water, such as quotas or pricing policies.

However, greening the economy is mostly about improving water governance and not only about putting the existing resource saving technical alternatives into practice. Focusing on the second and forgetting the first risks finishing with a highly efficient use of water services at the level of each individual user but with an unsustainable amount of water use for the entire economy. This might be happening already in many places with the modernization of irrigated agriculture, the world's largest water user and the one offering the most promising water saving opportunities. In spite of high expectations, costly modern irrigation techniques seem not to be contributing to reduce water scarcity and increase drought resiliency. In fact, according to the little evidence available, in some areas they are resulting in higher water use. Building on basic economic principles this study aims to show the conditions under which this apparently paradoxical outcome, known as the Jevons' Paradox, might appear. This basic model is expected to serve as guidance for assessing the actual outcomes of increasing irrigation efficiency and to discuss the changes in water governance that would be required for this to make a real contribution to sustainable water management.