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ABSTRACT

Water markets have featured prominently in the reallocation of water rights to restore freshwater ecosystem health. Incentive-based water rights acquisition and transactions have emerged as a market-oriented policy approach to reallocate water resources from existing uses to enhance the provision, regulation, and sustainability of freshwater ecosystem services. This paper develops a conceptual framework to examine factors enabling and constraining successful policy reform and implementation in market-based environmental water allocation. This analysis distills and extends the findings and lessons of a September 2007 workshop in Brisbane, Australia on environmental water transactions. Two case studies were selected in water stressed basins – the Columbia (U.S.A) and Murray-Darling (Australia) Basins – where transactional approaches to environmental water allocation first emerged. The case studies draw upon practitioner perspectives and previous policy and economic analysis in two regions where shared political economic and physical conditions lend a strong analytical basis for comparison. A common set of policy and regulatory reforms has occurred in both cases – albeit in different forms and via distinct paths – to develop three enabling conditions: (1) establishment of rights to and limits on freshwater extraction and alteration; (2) recognition of the environment as a legitimate water use; and (3) authority to transfer existing water rights to an environmental purpose. However, these elements of policy reform are necessary but not sufficient for effective implementation; a second set of driving forces, barriers, and adaptations explains the ability to achieve larger scale ecological outcomes. These conditions include the physical, social and economic factors driving demand for environmental water allocation; administrative procedures, organizational development and institutional capacity to effect transfers; and adaptive mechanisms to overcome legal, cultural, economic, and environmental barriers. The case study analysis suggests that environmental water transactions can play an important role in establishing environmental water allocations, although water markets require ongoing institutional capacity and adaptive governance. The conceptual framework and empirical lessons generated through this cross-case comparison provide the basis for an expanded research agenda to evaluate the design and performance of market-oriented reforms as implementation experience accrues and new programs emerge in diverse ecological and political economic settings.

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