A few thoughts on fair, efficient and sustainable management of agricultural water

Warsaw – 14 Sep 2011

David Zetland
Senior Water Economist
Wageningen University

The end of abundance...

- Agriculture diverts most water
- High consumption (plus spillovers)
- Increasing ag/urban/enviro demand
- Fixed/falling supply (quality & quantity)

- Efficiency requires reallocation
- Fairness recognizes existing use rights
- Sustainability means no shortages

All-in-auctions can help

- AiAs reallocate water according to value.
- AiAs balance supply & demand.
- AiAs establish a local price for water.
- AiAs recognize existing property rights.
- AiAs can be used within a community.
- AiAs can include new demands.

How AiAs work

- Water rights must be quantified and assigned to individuals. Permanent rights produce “income” (annual flows) – cf. Australia.
- The known quantity of flows are put into an auction (“all in”).
- Those flows are allocated to high bidders; the price they pay depends on everyone’s bids.
- Revenue goes to owners of rights.
- Conveyance matters!

For example

- Farmers A, B and C each own 2 units of water.
- Six units are put into the AiA. A, B and C bid.
- €Bids: A (4, 5, 8), B (10, 10, 3) & C (1, 2, 6)
- Bids are ordered: *10, 10, 8, 6, 5, 4*, **3**, 2 & 1
- *Six highest* are accepted; price set to **7th bid**.
- A gets 3 units; B gets 2 units; C gets 1 unit.
- A pays €3; B pays nothing (€ 6- € 6); C gets € 3.

Thank you!

AiA paper: http://tinyurl.com/3yjj8u3
Water markets in Europe: http://tinyurl.com/64t4b7e

My book: *The End of Abundance: Economic solutions to water scarcity*
http://endofabundance.com

This research project has received funding from
the *European Community's* Seventh Framework Programme
(FP7/2007-2013) / *grant agreement* n°265213 –
Project EPI-WATER "Evaluating Economic Policy Instrument for
Sustainable Water Management in Europe".