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We can grow enough food, but will it cost us the earth?

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Optimism about the achievability of global food security was tempered by pessimism on man's ability to achieve this without wrecking the earth's natural systems at the Stockholm Water Laureate's Seminar at World Water Week.

Kicking off with a quick romp through the global boundaries framework developed by [Rockström et al.](#), Johan Rockström was confident that sustainable levels of global freshwater withdrawals had not yet been breached, but that alarming trends would need to be addressed if this situation was to continue. In the new *anthropocene* era of human induced planetary change there was likely to be great uncertainty over rainfall patterns. That would create problems in pricing ecosystem services. It's relatively easy to price water, said Rockström, less simple to price rain through the ecosystems services that contribute to it.

Colin Chartres, Director General of the [International Water Management Institute \(IWMI\)](#) focused on three concrete examples of how agricultural water use could be sustainably intensified in a [presentation](#) looking at case studies of groundwater extraction in two contrasting Indian states and the potential for small holder water management innovation in rural Tanzania.

After further presentations by Professor Tony Allan of King's College London, Professor Rita Colwell of the University of Maryland and Paul Bulcke, CEO of Nestle, discussion centred on the best ways to promote sustainable stewardship of natural resources among farmers.

Calling for more investment in sustainable agricultural intensification, Dr. Chartres stated that "We can't expect smallholders to be good stewards, if they can't even feed their families." He added that he was confident that, with proper incentives and improved incomes, farmers could be effective natural resource managers. "I have never met a farmer from the richest to the poorest who is not, in his mind's eye, a good environmental steward," he said

But Professor Allan urged caution, particularly in regard to intensification using irrigation. "Whenever you irrigate, you always run

out of water,” he claimed, citing examples of the South Western US and Southern Spain. In dry years the temptation to draw more water is great leading to deficits over the long term. The need for stewardship and accounting is paramount if we are to make irrigation sustainable.

The panel then turned to water pricing as a means of promoting sensible use. “Water has no value in exchange, but an extremely high value in use,” according to Paul Bulcke. “This paradox has led to massive overuse of freshwater”

Professor Allan and Dr. Chartres had differing perspectives on how water pricing could address issues of sustainability. Dr. Chartres cited the example of the Murray Darling Basin in Australia as a compelling case for the effectiveness of water pricing. Water rights had been separated from land rights and made fungible, leading to a more sustainable approach to river basin management. This approach was challenged as being at too high a cost to the public purse by Professor Allan.

The session ended with an impassioned plea from IWMI's Aditi Mukherji for the perspective of developing countries to be given more weight (none of the panellists came from a country in the poor South). As an example Dr. Mukherji pointed out that her research had convinced her that water pricing was not politically feasible in India, whereas water rationing is accepted. Such insights will be vital in developing tailor made local solutions to global sustainable intensification in agriculture.

Watch videos of the session [here](#)

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