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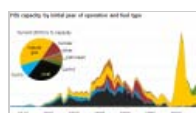
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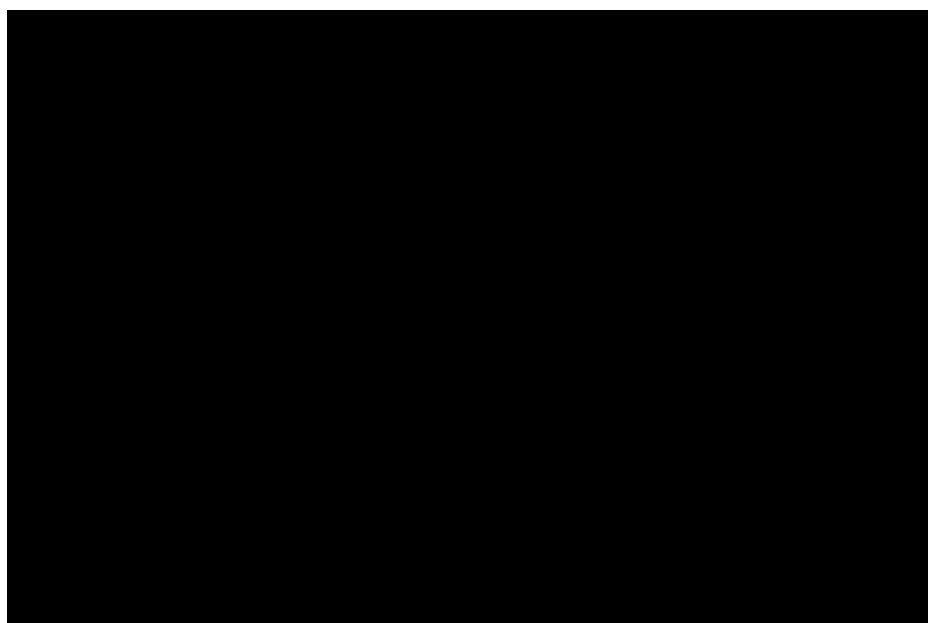
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Water Innovation Starts with the Farmer: Stockholm World Water Week

Posted by Guest Blogger in [Water Currents](#) on August 28, 2012

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Editor's Note: This week (August 26-31) is [Stockholm World Water Week](#). The 2012 Stockholm Water Prize is being awarded to the [International Water Management Institute \(IWMI\)](#) for its work to improve agriculture water management, enhance food security, protect environmental health, and alleviate poverty in developing countries. The [IWMI](#) just released a study estimating that small-scale water management innovations could boost crop yields and household revenue by tens of billions of dollars. Colin Chartres is the Director General of [IWMI](#).

By Colin Chartres

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About This Blog

The goal of [Water Currents](#) is to bring together diverse voices to discuss pressing issues in freshwater. We are particularly interested in water consumption, locally and globally, and restoration and conservation of freshwater ecosystems.

This blog is hosted by [Sandra Postel](#), Freshwater Fellow with National Geographic and Director of the [Global Water Policy Project](#). Banner photo by NASA. [Freshwater Species of the Week](#) photo by [prncedd/Flickr](#).

For tips or inquiries email bhoward@ngs.org.

At the forefront of an important agricultural revolution in the developing world is not a leading scientist or a tireless advocate. Instead, the leader is a farmer.

His name is Purushottambhai Patel, from the state of Gujarat in Western India. He is a smallholder farmer with eight cows, three hectares of tobacco, rice, potatoes and sapota, and limited access to water.

Rather than tapping a large-scale water project for his farm, Patel uses the [dung from his cows](#) to generate biogas, which is then fed to a pump that runs partly on diesel. This novel arrangement saves him \$400 a year in fuel costs, and the improved water supply enabled him to double his crop production. He also sells water to adjacent farms, further boosting local food production.

The pace of innovation in water management on small farms across Africa and Asia is remarkable. Using water more effectively, together with improved market access, can transform marginal subsistence agriculture into a thriving business opportunity. At the same time it can have a major impact on local food security and contribute to lasting poverty alleviation.

But, just as remarkably, much of this innovation is farmer driven. It is not institutional donors or governments who are leading the way, but smallholders themselves.

In Nepal, I have seen how tapping spring waters has not only brought piped water to the houses of poor families, but the predominantly women householders (the men were working overseas) are able to use some of the water for a thriving vegetable production system. The profits from selling the vegetables helped the women school their children and buy essential household items.

In Ethiopia, I have seen vital traditional irrigation systems and rainwater harvesting practices that have similarly helped transform households and small communities.

These innovations can increase yields up to 300 percent in some cases, and add billions to household revenues across sub-Saharan Africa and South Asia. In Ghana, where small private irrigation schemes already employ 45 times more individuals and cover 25 times more land than public irrigation schemes, researchers noted that this scale of irrigation adds between USD 175 and USD 840 to annual household income.

Millions of smallholder farmers struggle to grow food with little water. Often this is not because water is scarce, but because they lack the means to harness what is available. Without access to water smallholders are limited to rainy season crop production, which makes it hard for them to earn a living. But smallholder farming can and should be an engine for economic growth, poverty reduction and food security. Better water management can help make this happen at an unrealised scale.

Many of the technologies for smallholder water management are already with us. Cheap pumps and new ways of powering them are transforming farming and boosting incomes all over Africa and Asia. Simple tools for drilling wells and capturing rainwater have enabled many farmers to produce more crops in the dry season, hugely boosting their incomes.

There are risks, however, to unchecked expansion of smallholder water management. The poorest farmers, especially women, still struggle to find the resources needed to access new technologies and that may lead to greater inequities. And a free-for-all over water may raise serious issues of environmental sustainability in some areas.

New institutional arrangements will be needed if these issues are to be overcome. Innovative business models, such as pump-on-a-bike hire schemes, where cycling entrepreneurs tour rural areas renting out pumps strapped to their bicycles, can also help address problems of access.

The time has come to recognize solutions beyond the large one-size-fits-all approach, which often leave out smallholders unable to plug into these formal systems. Innovation on the farm can be both small and successful. Institutional donors, governments, and the private sector have tremendous opportunities to use their investments to further unlock the potential of the smallholder approach. We should follow the examples of Patel, the farmer in India, to turn the tide of global poverty and hunger at last.

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Dr. Colin Chartres is Director General of the [International Water management Institute \(IWMI\)](#). On August 30, Dr. Chartres will receive the 2012 Stockholm Water Prize on behalf of IWMI for its pioneering work to improve agriculture water management, enhance food security, protect environmental health, and alleviate poverty in developing countries.

Keywords: [colin chartres](#) [development](#) [international water management institute](#)
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