



A Global Agricultural Research Partnership

# Huge potential of farmer-led innovation in water solutions

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News from the CGIAR Consortium



*A powerful pump can enable farmers to use sprinklers, drastically reducing the amount of labor they need to water their crops.*

As food prices escalate globally due to the failed monsoon season in Asia and the “super drought” in the US, a new study finds that smallscale irrigation schemes can protect millions of farmers from food insecurity and climate risks in sub-Saharan Africa and South Asia.

According to the report, **“Water for wealth and food security: Supporting farmer-driven investments in agricultural water management, expanding the use of smallholder water management ([http://www.iwmi.cgiar.org/Publications/Other/Reports/PDF/Water\\_for\\_wealth\\_and\\_food\\_security.pdf](http://www.iwmi.cgiar.org/Publications/Other/Reports/PDF/Water_for_wealth_and_food_security.pdf))”** (PDF, 2.9MB), techniques could increase yields up to 300 percent in some cases, and add tens of billions of US dollars to household revenues across sub-Saharan Africa and South Asia.

The three-year **AgWater Solutions Research Initiative (<http://awm-solutions.iwmi.org>)**, which provided the findings for the report, unearthed for the first time the scale at which enterprising smallholder farmers themselves are driving this revolution by using their own resources innovatively rather than waiting for water to be delivered.

“We were amazed at the scale of what is going on,” said **Meredith Giordano ([http://www.iwmi.cgiar.org/About\\_IWMI/People/Meredith.aspx](http://www.iwmi.cgiar.org/About_IWMI/People/Meredith.aspx))** who coordinated the initiative at the **International Water Management Institute (IWMI (<http://www.iwmi.cgiar.org>))**, a member of the CGIAR Consortium. “Despite constraints, such as high upfront costs and poorly developed supply chains, small-scale farmers across Africa and Asia have moved ahead using their own resources to finance and install irrigation technologies. It’s clear that farmers themselves are driving this trend.”

In Ghana, for instance, small private irrigation schemes already employ 45 times more individuals and cover 25 times more land than public irrigation schemes. The majority of farmers, who said they presently use buckets or rely on rain-fed cultivation, expressed the strong desire to buy a motorized pump, but lacked resources, knowledge or access to suppliers to do so.

In Gujarat, India another example of an innovative farmer is Purushottam Patel. He uses the dung from his

eight cows to generate biogas. This fuel is then fed to a pump that runs partly on diesel and partly on gas. The novel arrangement has saved him USD 400 per year in fuel costs. It also has improved the water supply for his farm, which has enabled him to double his crop production. Mr Patel now sells water to adjacent farms—further enhancing local food production.

Partners in the **AgWater** (<http://awm-solutions.iwmi.org/partners-.aspx>) collaboration believe the implications of the work could be profound, especially for donors and private investors committed to boosting incomes and livelihoods in the world's poorest countries by improving farmer access to water resources. Experts believe that improving water management capabilities could unleash smallholder farming and it could become a major driver of economic growth, poverty reduction and food security.

“There are huge investment opportunities for unlocking the potential of this farmer-led approach,” says **Dr Colin Chartres** ([http://www.iwmi.cgiar.org/About\\_IWMI/People/Colin.aspx](http://www.iwmi.cgiar.org/About_IWMI/People/Colin.aspx)), Director General of IWMI. “AgWater Solutions has identified where investments can be targeted for maximum impact at the country, state and local level. We now know which ‘levers’ need to be pulled to capitalize on the up-swell of farmer-led innovations.”

Read more: “**New research sheds light on huge potential of farmer-led innovation in water solutions** (<http://www.iwmi.cgiar.org/SWW2012/>)”, Stockholm Water Week 2012 highlights from IWMI.

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