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WATER

## South Asia: Fertile ground for small-scale irrigation

A new study by the [International Water Management Institute](#) found that small-scale irrigation schemes could improve the lives of millions. In South Asia perhaps more than anywhere else, the benefits could be dramatic.

DW spoke with Dr. Timothy Williams, Director for Africa at the [International Water Management Institute \(IWMI\)](#), about how irrigation projects could be used to help small-scale farmers both globally and, more specifically, in South Asia.

*DW: Water is a major growing constraint on food production for smallholder farmers in sub-Saharan Africa and South Asia. What can be done to improve their situation and ensure their people have sustainable crops and enough of them?*

Timothy Williams: The range of small-scale irrigation technologies can help in various ways. One, it can provide them (farmers) with the opportunity to have access to supplementary irrigation when rain fails during the growing season. Secondly, these technologies can allow them to tap into available water sources.

*Larger scale irrigation has been popular in the past in South Asia. How does that relate to your plan?*

In South Asia at the beginning of the Green Revolution (when modern seed varieties and techniques and increased use of fertilizers and irrigation were introduced) large-scale public irrigation schemes were the main pattern of irrigation in South Asia.

When you look at some of the states in India, because of the poor performance of the large-scale irrigation schemes, they moved away to small-scale irrigation systems that tap into groundwater. If there is any region in the world



IWMI's Director for Africa, Timothy Williams

where small-scale individual irrigation systems have progressed faster than anywhere else it is actually in some states in India. What this project does is to try and reinforce the trend that is already going on.

*The report suggests that on-farm water solutions could increase crop yields by up to 300 percent. What will this mean for the people living in these areas?*

It's going to be a life changer - in the sense that when one looks at the situation of food insecurity and with increasing food prices on the market. If farmers have the opportunity to increase yields, they can also contribute to greater food security. And they will have a surplus to supply to the market. So not only will they be able to feed their families, they will also be able to earn income to be able to pay for other services, like education for their children. That's why it will be a life changer.

*How will this project be of particular importance in South Asia?*

The two regions this project focuses on are sub-Saharan Africa and South Asia. These are the two regions where the levels of poverty and food insecurity are still very high. That is why we focus on these two regions.

In absolute numbers there is more food insecurity and poor people in South Asia. In those states in South Asia, India in particular, where the technologies developed under this project can be implemented, it will mean a lot in terms of improving access to food as well as relieving the poverty that is pervasive in this area.

*Can you describe the type technology that is needed for this project?*



Having more to sell at market means farmers and their families could afford services like healthcare

It includes the use of motor pumps to lift water out of the ground. It includes distribution systems that include drip and sprinkler irrigation. It includes rainwater harvesting because a lot of the water available through rainfall is now wasted by not being adequately captured. It also involves the use of small reservoirs that can be constructed and used by a group of farmers for multiple purposes, not just for crops, but also for livestock watering or to be used by fishermen.

*How will this plan be funded?*

The most important constraint is upfront investment cost. For very poor farmers, this upfront investment cost is beyond what they can pay for on their own. Providing the necessary financing opportunities for small-scale farmers to pay these upfront costs would pay for itself after a few years.

Once yields improve farmers can sell the products produced and use that to pay back whatever microcredit or loan is given to them at the beginning to invest in these technologies.

*Small-scale projects can help farmers. Are there other advantages to a small-scale approach to irrigation projects?*

It's been proven that small-scale irrigation can pay for itself. It is much more amenable to individual management and it can actually end up saving water because the type of technologies used can be used to match water application to crop requirements. While governments tend to shy

away - because it is small scale and it's not so fanciful - in terms of alleviating poverty and addressing the needs of small scale farmers it's the way to go.

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