

Local irrigation systems provide better food security: study

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A Chinese environmental activist checks the water quality in an irrigation channel outside a chemical factory. Farmer-led irrigation schemes provide better food security, protect millions of farmers from climate risks and reduce poverty in sub-Saharan Africa and South Asia, a new study showed Friday.

Farmer-led irrigation schemes provide better food security, protect millions of farmers from climate risks and reduce poverty in sub-Saharan Africa and South Asia, a new study showed Friday.

The findings are of particular interest as [food prices](#) escalate due to a weak monsoon season in Asia and a brutal drought in the midwestern and central US, where the world's largest corn and [soybean crops](#) are grown.

When [farmers](#) manage their small-scale irrigation systems themselves their yields can increase by up to 300 percent in some cases and add tens of billions of dollars to household revenues, the Sri Lanka-based International [Water](#) Management Institute (IWMI) found in its study.

The researchers cited the example of a small region in the Indian state of Madhya Pradesh where reservoirs were built to store water from the monsoons.

The water can be stored for up to seven months and makes it possible to increase the amount of arable land during the dry season from 23 to 95 percent.

"It impacts on the farmer's income and the whole community. It was very impact-full for me to see that change," study coordinator Meredith Giordano told AFP.

Of sub-Saharan Africa's renewable water resources, only three percent are used for agriculture, according to the UN Food and Agriculture Organization (FAO).

Only about four percent of arable land is equipped for irrigation, of which less than six percent is serviced by groundwater.

"We have been focusing on large scale solutions but there is a large range of options out there," Giordano said.

"Small-scale water technologies are very efficient and a lot of farmers,

in groups or individually, adopted them and they are transforming their lives," she added.

"It's not one or the other. We need investments along the range," she said.

Between 2009 and 2012, the AgWater project, on which the report is based, studied small-scale [irrigation systems](#) among more than 1,000 farmers in [South Asia](#) and sub-Saharan Africa, as well as the aid and structural mechanisms.

The study makes recommendations to politicians, organisations and investors to help develop innovative solutions.

The researchers studied numerous options, including pumps, basins, reservoirs, groundwater drainage and various resources used by farmers to improve the situation, Giordano said.

However, there are risks to unchecked expansion of small-scale water management, and access to materials can be difficult which puts the poorest farmers—often women—at a disadvantage.

"And if farmers engage in a water free-for-all, supplies in some areas could dwindle past sustainable levels," the study said.

Innovative business models are also being considered, such as "pump-on-a-bike" schemes in which entrepreneurs cycle rural areas renting out pumps strapped to their bikes.

The IWMI study was released two days before the opening of the annual World Water Week conference in Stockholm, which focuses each year on a specific water related theme. This year's theme is Water and [Food Security](#).

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