



Photo Credit: Water Technology Centre, Tamil Nadu Agricultural University, Coimbatore.

Making a difference drop by drop

In the Coimbatore District of Tamil Nadu, India, over 90% of farmers who had been encouraged to invest in drip irrigation systems did not know how to use them properly. Increases in crop productivity were disappointing. A capacity building initiative, led by the IWMI-Tata Water Policy Research Program and local partners, trained farmers in all aspects of drip irrigation. This led to water savings and yield increases of up to 40% for some crops.



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Drip irrigation systems are widely used throughout South Asia. Economical to buy, install and run, they make a compelling investment for smallholder farmers. Irrigated land is, on average, twice as productive as rain-fed land. So, the initial outlays required to install drip irrigation can be quickly recouped.

In the Southern Indian State of Tamil Nadu, rainfall is highly seasonal. Furthermore, the amount of water available for agriculture in the state is expected to decrease from 85% of available resources to 73% by 2025. So, to boost agricultural production, and conserve water, the state government introduced a partial subsidy to encourage farmers to invest in drip irrigation.

However, a study conducted by the IWMI-Tata Water Policy Research Program in the Coimbatore District showed that less than 8% of the farmers using drip irrigation systems knew how to use the system properly. Knowledge of maintenance and fertigation (application of fertilizer through the drip irrigation system) was similarly low.

A new partnership

To help remedy the situation, the Tamil Nadu Drip Irrigation Project (TND RIP) was launched in September, 2009. IWMI was joined by the Tamil Nadu Agriculture University, the State Agriculture Department and Jain Irrigation Systems in an innovative new approach that would deliver irrigation training for farmers at village level.

Uniquely, the project sought to combine technical training on the water systems themselves with other new agroecosystem approaches such as vermicomposting. The project also aimed to set up a new collaborative network of stakeholders to increase irrigation technology uptake.

Hands-on training

In the initial phase, 1,000 farmers using drip irrigation were selected for training in three districts. Intensive hands-on training and provision of instructions in pressure regulation, acid cleaning treatments and fertigation were undertaken. Project workers also analyzed local soil and water samples. They were then able to recommend appropriate fertigation and water schedules to the farmers. Each groups of trainee was provided with a pressure gauge so that they manage the drip system more efficiently.

Follow-up research clearly showed that trained farmers were both using less water and obtaining higher yields on a range of crops. For instance, one banana farmer was able to reduce daily irrigation duration from 3 hours to as little as one hour, 45 minutes. At the same time, yields nearly doubled.

Going digital

To further assist farmers, a simple water calculator was devised and later made available in CD form. University researchers work with the farmers using this tool to quickly and accurately help them assess the water requirements of their crops and irrigation scheduling. It is hoped that this will lead to further water savings.

So successful has this intervention been that demand has grown beyond the initial project area. The TND RIP model is now being up-scaled in other districts of the state in the next phase of the program. Also, the model is now being applied in 40 villages covering 400 farmers in the Gujarat State by the Gujarat Green Revolution Company Ltd. The TND RIP project has also won two local Rotary Club Awards.

Donors and partners

Sir Ratan Tata Trust (SRTT) in collaboration with the International Water Management Institute (IWMI), Hyderabad office.

For more information

Contact K. Palanisami, Principal Researcher, IWMI, South Asia Regional Office, Hyderabad, India (k.palanisami@cgiar.org).