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Building a better life, one plant at a time

Farmers using the System of Rice Intensification in Cambodia grow bigger, stronger plants that can better withstand flooding.

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When the rains fell heavily in Cambodia's Pursat province last September, rice farmers were nervous. "When it rains, the water flows down from the Cardamom Mountains," says Net Pham, 54, one of the most experienced farmers in his village, Toul Char. "We were flooded for two weeks. Then in late October it was flooded again." He estimates 20 percent of the rice crop was destroyed.

Chheng Chheung, a woman in her late 30s, was one of the farmers watching her fields, holding her breath. "When my field was flooded it reached nearly the tops of the plants, and I was really worried," she says. "I thought I was going to lose my plants, but it turned out they were growing quite well."

Pham and Chheung say they were lucky. Their fields were never completely underwater. But they had another thing going for them: Both are using the System of Rice Intensification (SRI) to grow their rice. They are among the 1,683 farmers in Pursat whom Oxfam's local partner, Srer Khmer, has trained in the SRI method since 2009—a method that can dramatically boost a farmer's resilience to disaster and increase household income.

SRI is a different way of growing rice that produces plants with stronger roots. More than a million small-scale farmers in Vietnam, where Oxfam has been promoting the method since 2000, have already embraced it. Oxfam has begun to train farmers in Haiti, too.

Plants grown using the technique are better able to withstand pests, diseases, high water, and heavy winds that can topple over weaker plants. Using their same seeds, farmers follow a menu of as many as nine steps which include rigorous seed and seedling selection. They transplant seedlings earlier and space them individually and in neat rows farther apart to reduce competition for light, water, and nutrients. The result is larger, more-robust plants that produce more grains of rice.

No rice plants can survive submersion, but if the flooding is moderate, SRI plants tolerate the deluge much better than

Chheng Chheung has been growing rice using the System of Rice Intensification for two years, and says that she is growing larger plants with stronger roots that produce more grains of rice. Her production increases have allowed her to make more money, buy a motorcycle, and buy more land. Sokunthea Chor / Oxfam America

others, Pham says. "They're more resistant, because they are growing stronger roots and the stalks are bigger and thicker," he says.

Rice production plays an essential role in Cambodia's economy. Roughly 75 percent of the country's workers are involved in agriculture—and about 80 percent of agriculture is devoted to growing rice. Rice is an essential source of food for millions of poor farming families in Cambodia, but more than half of them have only small plots of land—usually less than 2.5 acres (one hectare). Most farmers can't irrigate their land and are constrained to one rice crop per year, during the rainy season. This makes rice farmers here vulnerable: A disaster like flooding, which may become more frequent in areas like Pursat due to the effects of climate change, can wipe out a harvest and leave a family with no food for the winter.

But with SRI, farmers in the 54 villages where Srer Khmer has provided training now have a means of fighting back.

Improving living standards

Each year before planting season, Srer Khmer sends trainers to the villages, where they offer Farm Field Schools for 16 weeks. On demonstration fields, farmers learn the SRI steps; as they see the results, many of them adopt the technique for their own paddies.

"It is definitely improving the living standards of people here," says Eng Seyla, 26, who oversees the training program for Srer Khmer. She adds that when farmers see the results, they want to try it, so "SRI spreads to other villages quite fast."

Chheung, whose crop survived the September flooding, can attest to the improvements SRI is bringing to her family, which consists



Chheng Chheung with her daughter, Sath Channa, 11. Part of the extra money Chheung is earning since she started growing rice using SRI pays for school expenses. Sokunthea Chor / Oxfam America

of her husband (a construction worker), mother, and 11-year-old daughter. Two years ago, she became one of the first in her village to begin using SRI, which she applied on all her small plots (approximately a hectare in total).

"I see big differences between my plants and others," she says. "My rice plants produce bigger stalks, and the plants are more productive." Using conventional methods, Chheung says she grew about two tons per hectare, just under the national average production. "With SRI I am now getting four tons per hectare," Chheung says, effectively doubling her income from about \$500 a year to \$1,000. That's about 33 percent more than the average income in Cambodia.

The added income is a big help for the family. Chheung says she bought a motorcycle last year and is contemplating major renovations on her house. She's also buying a small piece of farm land, which could run about \$500.

As she is talking, her daughter rides up on a bicycle, and Chheung hands her 1,000 riels (about 25 cents) to pay for an extra school session that afternoon. "I want my daughter to be educated," Chheung says, thinking back to her childhood. "I never had money when I went to school, and I only had one change of clothes."

It takes courage to become one of the first people in a village to start using SRI techniques. Just 110,000 of Cambodia's rice farmers are now employing the method, and most of the farmers who have not had any training in SRI don't believe that it will work. "When I first started growing SRI rice, people laughed at me when they saw my fields," Chheung says. "I was kind of embarrassed, so I used to hide when people came to see it."

No one is laughing since she doubled her production and started living a better life. "That first year growing SRI rice, my own mother criticized me," Chheung remembers. "But now she stopped."



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