

Case Study

Cattle management with living fences in Anlong Thmey, Battambang, Cambodia



Farmer Dany near one of her vegetable plots (Photo: David Ader)

Farmer Dany, a rural Cambodian farmer, is leading the charge to improve smallholder systems through experimentation. In her small village of Anlong Thmey, Battambang province, Dany uses a shrubby, thorny tree (*Acacia pennata*) as a fence around her house. She is one of several farmers to adopt the practice of raising a living fence in recent years.

One major reason the farmers want a fence is because of the free movement of cows in the dry season, between November and April. Previous research in the area has shown that community management of cattle is limited. Many farmers have expressed concern that free cattle roaming during the dry season present a significant problem to their ability to produce crops on all the available land, and they have started looking for ways to address this challenge.



Cows in Anlong Thmey Village, Battambang Province (Photo: David Ader)

Planting *Acacia pennata* around their houses has been a successful step. Now there are many more home vegetable gardens in the village, and that change increases the availability of nutrient rich foods for families. It also provides products that can be sold in the market, or to traders.

The University of Tennessee Institute of Agriculture (UTIA) is working alongside the Royal University of Agriculture and the University of Battambang to assist farmers in Cambodia to improve their options for controlling cattle through living fences that not only protect from roaming cattle, but also provide fodder that can be used to feed cattle.

Exactly 49 farmers from Battambang Province attended a workshop led by UTIA researchers in January 2018 to discuss options for controlling rice paddy land, so they can grow secondary crops after the rice is harvested. Individual and collective ways to deal with this issue were explored, including the planting of living fences. As a result of this workshop, farmers became



Acacia Pennata living fence protecting vegetable plots (Photo: David Ader)

much more confident in their capacities to address this issue; however, they recognize that inputs and time are limited. In order to spark farmer experimentation and adoption, UTIA identified three champion farmers in Battambang Province to experiment with living fences around rice paddy land.

Champion farmer: Dany in profile

Farmer Dany recognized that she is not able to grow on her land in the dry season because of cows, but that it would be good option if only she could protect her land. After attending the workshop, she became convinced that something should be done. Working with the research partners, Dany has taken a lead in her village to become a champion farmer and has identified paddy land that she can fence, providing a place where she can plant a secondary crop in the dry season.

Dany has been able to densely plant small trees, *Leucaena leucocephala*, along one side of her paddy. This fast growing tree acts as posts for the fence, and the leaves can be regularly harvested for cattle fodder. She is keen to experiment, and she has also planted two other species of fast growing tree: *Moringa oleifera* and *Gliricidia sepium*.



Densely growing *Leucaena leucocephala* fence, recently coppiced.



Two weeks later than photo on left, with new growth of *Leucaena leucocephala* (Photos: Channaty Ngang)



Planting a fence around paddy in Anlong Thmey (Photo: Longdy Korn)

Now at least 15 farmers are asking if they can also be involved. They want to know if the use of paddy land in the dry season to grow cover crops or forage crops might enable them to solve constraints around fodder availability. If they are able to protect their paddy, it would mean hundreds of acres of land could be used in the dry season and possibly increase household income; farmers like the idea of living fences for this reason. UTIA is continuing to recruit more farmers and provide them with the knowledge and skills needed for living fences, to change the way cattle and land are managed to sustainably intensify livestock systems in Cambodia.



Checking on a living fence in Anlong Thmey (Photo: Longdy Korn)

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