

FEED THE FUTURE INNOVATION LAB FOR LIVESTOCK SYSTEMS

HOW TO ESTABLISH A LIVING FENCE

A living fence is a fence made of living trees, shrubs or other plants. If they are established correctly, living fences can provide multiple benefits. This note describes the steps required to establish a living fence in Cambodian rice systems.



1. Identify a place for the living fence:

Because living fences are composed of plants, they need a location where trees can grow. Many species are adapted to wet or dry conditions, and the selection of the tree species should be based on the growing conditions. Living fences, like other fences, can prevent movement of people or animals; therefore, care should be taken in identifying an appropriate location for the fence that does not interfere with other activities.

If a living fence will be planted in the rice paddy along the bund walls, care should be taken to select bunds that are sufficiently wide and tall to allow space for the fence and also movement of people along the bund in the rainy season.



2. Preparation of space for a living fence:

The land for a living fence should be cleared prior to planting. Weeds and other plants can compete with the newly planted fence, so the space should be cleared of other plants or obstacles.

It is also important to prepare the planting material in advance. Seeds can be planted directly into the soil; however, transplanting seedlings is often more effective. If seedlings will be used, it is important to prepare these in advance.

3. Planting the living fence:

When planting or transplanting the trees it is important to plant them in a straight or consistent line. This will help to ensure the effectiveness of the fence, and it also reduces the space required for the fence. This can be achieved by placing a string line along the space where the trees will be planted. The string will provide a line to follow during planting.



The spacing of the trees is also an important aspect of the fence. In order to keep out animals, a tighter spacing can be more effective; however, this also requires more trees in the fence. A spacing of 30cm between trees is an appropriate distance. After planting the trees along the string line, the plants need to be cared for, particularly by watering them regularly until they are established.

4. Management of living fences:

By their nature, living fences need to be cared for to be kept alive and useful for their desired purpose(s). Similar to any fence, they will become inefficient if not appropriately maintained. The species used in a living fence will require watering until they are established. Because young living fence species are often attractive to livestock, protection of the living fence may be required until the trees become well established. Protection of the fences may involve using bamboo, cloth or other material to prevent livestock from eating the young seedlings.



Just like other plants, weeding and fertilizer can be useful for the growth of the trees. Many living fence species are able to grow quickly. Once the trees are well established it is important to maintain their size by cutting or coppicing the trees to an appropriate height of a fence. This reduces the amount of shade that is created and allows for the harvesting of tree biomass. This harvest can be used as additional fodder in a cut-and-carry system. Most of the recommended species can be cut regularly.

5. Additional activities:

After the trees are established and grown to the size of a fence, there are other aspects to consider in order to increase the effectiveness of the fence. Bamboo or barbed wire can be incorporated into the fencing by attaching the bamboo or wire to the trees themselves. This can help to strengthen the fence and its ability to restrict the movement of animals. If bamboo or other materials are used, it can act as a trellis for other plants to grow. Other plants, particularly climbing ones (e.g. ivy, beans, gourds), can be planted next to the fence and they will use the trellis to climb up the fence. In this way, more species, and therefore more nutrients, can be grown on the same space.



Photos by Dave Ader

If the fence is along a bund in a rice paddy, and it can protect the paddy, additional crops can be grown after rice in the paddy. The fence can protect the second crop from livestock, providing additional harvests for farmers. It is recommended that a fodder crop be used in the protected paddy for additional feed for livestock.

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