



# ENERGY PARCELS

Firewood and charcoal forever



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## Firewood and charcoal forever



**Don Silvio Alfonso López Silva** from the Latas Lajas community in the municipality of Mateare, has always made his living from firewood and charcoal in addition to cattle farming. He tells us how his experience has been with energy parcels:

“In this little parcel here we want to harvest more forest, so that our children will see that you have to give

something back to nature and to the soil. You can't just take from it, because eventually you'll end up with a desert that you can't live off of. The waters recede and these forests help us a lot. During a time when there was no rain, we did all right because the firewood gave us enough to buy food and pay for water and electricity. We didn't go through hardships because we had enough to survive on.



Last year we planted 333 trees in half a manzana (0.35 ha.), but not all of them survived because of the drought. I have another parcel that's been going for about eight years now, and another one that I just planted.

Here we have chocuabo (*Caesalpinia violacea*), gliricidia, leucaena (leadtree), cedar, pochote (*Pachira quinata*), yellow trumpetbush, eucalyptus, and fruit trees like citrus, achiote (*Bixa orellana*), plantain and a few taro and cassava plants. The ones that grow best and are the hardiest are chocuabo, gliricidia and leucaena.

The best species for firewood are gliricidia, leucaena and chocuabo. Traditionally you use quebracho (*Cojoba arborea*), strawberry tree, and bay cedar for firewood and charcoal, but I didn't plant any because we already had some. They grow naturally, and I wanted to experiment with other varieties on this plot to see if they worked here."

### Purpose of energy parcels

- In the countryside, more than 50% of energy consumption is from firewood, which is the primary source of domestic energy.
- In very dry areas, where traditional agriculture doesn't generate much income, commercialising firewood is a good option, like don Silvio says: "All of us that live here, we work with agriculture. The problem is that the rainy seasons haven't been good and we've had a lot of losses. Out of one manzana of forest (0.7 ha.), you can get 50,000 logs. When you do the math, it comes out at about \$1,635 USD. But you can also sell wooden beams for \$10 USD. If I can't sell the wood, I make it into charcoal. I use all of it. With one coal oven, I can get 40 sacks of charcoal that I sell for \$6.50 USD in the community or for \$10.00 USD in the city. I leave the leaves as mulch. No part of the tree goes to waste."

- However, if you just take without giving back, sooner rather than later your firewood and charcoal business is going to run out.
- That's why planting tree plots that will be ready to cut in eight to ten years is one way to make this extractive activity sustainable.
- Energy parcels promote reforestation and lessen the impact of felling trees.
- It's a source of employment for the future."

## **Step by step: Starting an energy parcel**

### **1. Choosing the ground:**

It can be level ground or on a slope. It's best if it is easy to water in case of a prolonged drought.

### **2. Clearing the ground::**

Before planting you should clear the plot and make a firebreak around it.

### **3. Fencing:**

Build a fence with posts and three rows of barbed wire so that animals won't get in.



**4. Holes:**

Plant the fruit trees at a distance of three metres on the ridge by three metres between ridges. Following this spacing, you can fit 330 plants into half a manzana (0.35 ha).

Dig holes 40 centimetres wide by 40 centimetres deep. Place a layer of lime or ash and another layer of organic fertiliser at the bottom.

**5. Placing the plantain:**

It's better to plant plantain in a corner or on the sides because, as it grows faster, its shadow could affect the growth of the other trees.

**6. Controlling undergrowth:**

During the first two years, you'll need to cut back the undergrowth three times during the rainy season. After the third year, one clearing is enough.

During the dry season, you can cut-back once at the beginning and leave the weed cuttings as mulch.

**7. Watering:**

During the dry season, especially during the first year, you need to water the plants every two or three days. If you have a bio-filter, you can use the filtered water from the bio-filter for watering.



## Costs

	Quantity	Unit cost	Total cost
Rolls of barbed wire and staples	3	\$44.30 USD	\$133.00 USD
Plants	330	\$0.36 USD	\$120.00 USD
Wooden posts	115	\$2.00 USD	\$230.00 USD
Tool kit (machete, file, digging bar)	1	\$45.00 USD	\$17.00 USD
<b>Total</b>			<b>\$528.00 USD</b>



## Recommendations

- The person should own their own land.
  - Nature likes variety. You should not plant just one variety, because if a pest specific to that variety attacks, you can lose the entire plantation.
  - Look for fast growing varieties that are adapted to the area and are good for firewood or charcoal.
  - In the first year, you can plant beans or marrows in between the rows, and later plant velvet beans to fertilise the plot.
  - To make the investment profitable, in addition to the energy varieties you can plant fruit trees. It's even better if they're grafted because they start to produce after around three or four years.
  - Other farmers choose to plant a diversified forest with fuelwood, precious wood, fruit trees and plantain,
- so that they'll be producing after just two years and continue until up to 30.
- As always, especially during the first year, a certain amount of plants are lost due to various reasons. You'll need to replace the plants as they die so as not to leave empty spaces in the plot.
  - If your plot is on a significant slope, it's good to build soil and water conservation works like organic and inorganic barriers before planting trees (see booklet).
  - If you have problems with leaf-cutter ants, one way to control them is to bring dirt from a different ant hill and put it onto the ant hill that's affecting you.
  - It's always advisable to fertilise once a year, putting compost around each tree.



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**Production:** Pascal Chaput • **Revision:** Lutgarda Barahona, Louise Joyce, Mark Camburn •  
**Translation:** Juliana Marín, Mark Camburn • **Photography:** Pascal Chaput •  
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[www.sciaf.org.uk](http://www.sciaf.org.uk)

Scottish Catholic International Aid Fund  
19 Park Circus  
Glasgow G3 6BE  
T: 0141 354 5555  
E: [sciaf@sciaf.org.uk](mailto:sciaf@sciaf.org.uk)

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