

# THE QUEST FOR SUSTAINABLE CHARCOAL

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Five years after planting their first seedlings, alternative fuelwood producers in Ambanja, northwest Madagascar, have logged their first trees, producing a sustainable source of charcoal for their communities and conserving the region's precious mangrove forests.



*Teams from Blue Ventures and Nitidae meeting with the communities to discuss the plantations.*

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In remote areas of Madagascar, wood is an indispensable resource for communities as fuel for cooking and as timber to build their homes. Yet, there is a growing imbalance between supply and demand. With accelerating population growth, demand is increasing, especially in urban areas, and the production of wood – from natural sources or from plantations – is no longer sufficient to satisfy needs.

Currently, only 18 per cent of the demand for fuelwood in the city of Ambanja and the nearby tourist hub, Nosy Be, can be met by sustainable fuelwood plantations; the rest comes mainly from illegally cutting down mangrove and terrestrial forests. [Mangroves](#) help to maintain healthy ecosystems and human wellbeing by protecting soil against erosion, conserving vital water sources, purifying the air, and sequestering atmospheric carbon dioxide, which helps to mitigate global climate breakdown.

## An alternative fuelwood programme

In 2015, [Blue Ventures](#) launched an alternative fuelwood programme in Ambanja with an initial group of five fishers and farmers who were interested in planting trees, both as an alternative livelihood and as a sustainable source of charcoal that could eventually substitute mangrove charcoal.

The basic idea of an alternative fuelwood plantation is to plant fast-growing trees (in this case, brown salwood trees also known as *Acacia mangium*), which can be logged after only three or four years (depending on the surrounding conditions). When a tree is ready to be logged, the extracted wood is burnt in a kiln to create charcoal – a process called carbonisation. The charcoal is then used as a source of energy, predominantly for cooking.

To help motivate landowners to set up a plantation, Blue Ventures supports them in the administrative procedure to obtain a formal land title from the municipal authorities. This secures their rights of access to land and resources, without fear of being expelled by the state and seeing their plantations and property destroyed. This incentive system, in combination with the contract of mutual commitment signed between each producer and Blue Ventures, secures the whole technical and administrative process, and gives growers the confidence to invest in the project.

**“ Before I started growing trees, I was not aware of the value and income potential of this activity. Since I’ve been involved in this plantation, I’m already benefitting from it and I’m happy, not only for the coverage of my plot but also for the surrounding area: it’s getting greener!”**

**~ Manitriavy, fuelwood producer ~**



## Preserving the environment while contributing to the local economy

Since the project launched in 2015, 40 producers have planted 105 000 trees, covering approximately 100 hectares. By 2020, the trees had grown tall and it was time to harvest. To support the producers through this process, Blue Ventures brought in the international NGO [Nitidae](#) as a partner. Nitidae develops innovative projects that preserve the environment while contributing to the local economy.



[Nitidae](#) supported the fuelwood producers to

gain more and better quality charcoal. More efficient carbonisation techniques were used instead of commonly used methods, which tend to be improvised and result in worse quality and therefore less valuable charcoal.

The improved techniques include drying the wood before burning it to avoid humidity developing in the kiln; arranging the wood in the kiln to increase the density; and sealing the kiln with sand and leaves so that smoke and heat can't escape. The producers have also learned about using chimneys and ventilation tubes to control the air circulation and temperature in the kiln; the slower the wood is burned, the better quality charcoal it becomes.

*Manitriavy and his fellow producers collecting the alternative charcoal under carbonation.*  
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While traditional kilns have a wood to charcoal ratio of around 10:15 per cent, using these techniques the fuelwood producers have been able to reach a ratio of 20:25 per cent. In terms of environmental impact, it means that for every one kilogram of charcoal produced from brown salwood plantations, eight kilograms of wood is saved from a mangrove forest or protected area.

“At first, this technique seemed a little complex,” said Manitriavy, “but after testing the improved methods, it became clear to me that this new technique was really adapted to our needs. And it is not so different from our usual practice, but the output and quality of the production is much better!”

## Producers selling their efficiently-produced charcoal to their communities

With support from the Fédération Miaramientagna, a group of community associations which locally manage Ambanja’s natural resources, the producers have now begun selling their efficiently-produced charcoal to their communities.

To raise awareness of the incentive for the project, the sacks are branded with the following statement: “Charcoal from brown salwood plantation – this product allows communities to manage and protect mangroves for the wellbeing of all of us”.

**“ My first production has been a good experience. I confidently encourage others to go down this path, which offers benefits for us, and will help to prevent our entire ecosystem from collapsing due to deforestation”**

~ Manitriavy, fuelwood producer ~

Some Acacia trees after two years of growth.  
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