

Zahana Improved Cookstove Report May 2025



Zahana's improved clay cookstove is one the product that brought large benefits to the villages, especially with its environmental impact by reducing the need of using firewood from trees to cook.

Together with the reforestation efforts, the villages are getting greener and greener. It also impacted on villagers' everyday life both for users and local improved cookstove manufacturers.

Zahana introduced the use of cook stove in the four villages. We held a training in the village of Fiadanana

One of the very first cook stove manufactured during the training in 2019 is still used by our Midwife with no damage over 5 years later. She and her husband use it for everyday cooking. They only put few charcoal in the morning and can cook all their food for the day.



While Mitosela has been working to improve the manufacturing of bio-charcoal, Jean Liva from Fiadanana and Dah from Tsaramandroso have manufactured improved cook stove models of their own design. They sell each unit at the price of 5.000 Malagasy Ariary = around 1 US\$. Now, they produced more aesthetic looking cook stove with one or two fire bowls. They both use the same locally sources raw materials including clay, ash, straw and clay from termite mounds. The innovative design is much easier to use and to transport.



Jean Liva is a graduate and former student at our Zahana School. He is currently manufacturing Zahana cook stove for the village of Fiadanana. He uses dried corn cobs and dry grass instead of charcoal to cook his meals.



From our short interview, Jean Liva manufactured what he calls the “Zahana cook stove” based on orders from his customers. He already manufactured 15 Zahana cook stoves since the beginning of year 2025. He only sells in his own home village of Fiadanana for the moment. This home grown business has helped him to buy a small pig, and to take care of his rice fields. It has great impact on his everyday life. Since then, he has no more debt. It has increased his income that he believes he can afford to pay for his children to go to school. Now, he is proud to have a marketable handcraft skill that directly improves the life of his family.



Dah on his side is based in Tsaramandroso. He and his wife are working together to promote the use of the cook stove and charcoal. That's the reason, nearly 100 % of Tsaramandroso villagers are now using the improved Zahana stove.

From our short interview, Dah manufactures about 50 Zahana stoves per year. His clients are in the surroundings villages of Tsaramandroso. He also had the same benefits as Jean Liva. He no longer needs microcredit to buy ducklings. Plus, he is able to send his child to study in the secondary school in the next bigger town of Tsiroanomandidy!



From discussion among users, the common benefits are as follows:

- Firewood is reduced, before using clay stoves, the amount of wood used was five carts per year. Now, it is reduced to just 2 carts.
- No more need using a Vacuum bottle to stir the flames, because the cook stove retains a lot of heat
- Dry grass is enough fuel to be used to warm water
- Food can be cooked faster because the stove is always hot
- Children can use it safely and it is not dangerous for babies (burns from open flame stoves are a great public health risk in villages and towns)

Please visit our website and YouTube Channel for:

[Cooking the Madagascar way](#) (context video)

[Improved Cookstoves and bio-charcoal](#)

[Innovative invention to produce more bio-charcoal](#)

Video: [Improved Cookstoves in Madagascar build in and by the community](#)

Video: [How to build your own improved cookstove in rural Madagascar](#)



As for its use rate of the improved cookstove, it reaches about 99.50% in Tsaramandroso. The other 3 villages are increasingly using the Zahana stove. Villagers are encouraged to manufacture their own cook stove with locally available materials (see our workshops on the website). Some would still prefer to buy it instead. Thanks to the increased demand manufacturing of the cook stove has become a major source of income for Dah and Jean-Yves.

Each user has their own fuel they burn in their improved cookstoves: Improved charcoal by Mitosela can be bought, if people don't want to make their own. Many use small branches, sticks, dried grass, dried reeds or dried corn cobs and other organic materials, such as rice husks, sawdust instead of firewood to cook. Some villagers have tried using charcoal made from dried grass, the original idea and dream of the cookstove's inventor. But they have not yet mastered the process of carbonization. Therefore, the use of organic materials is preferred.



Here Juliette, a teacher at our Zahana school. Whenever, we come to visit the villages, she is cooking 'Mofo gasy' for us: A Malagasy pastry by burning only small branches and sticks.



Here, Mitosela's wife, Florence, is happy with her new installation. Mitosela has improved by putting the cookstove on a table. It avoids backache from constantly bending down on the floor. He also added chimney which helps to evacuate the smoke out of the kitchen.



Mitosela's improved bio-charcoal bricks are sold at 100 MGA the unit. Users prefer it for a cleaner space and to save money on costly firewood expenses.





The manufacturers are always improving the Zahana stove for the following:

- Add a smoke outlet in the kitchen:
- To have a clean pot as the bottom gets black easily with the current stove
- Seal the opening of the cookstove with hoop from a metal barrel: It avoids the clay fire bowl to crack
- Build an open hut: to dry the fresh clay stove

See photo of a cracked cook stove to the left

To make these improvement happen, they need to use some materials like dried planks, and rings from metal barrels (an innovation that requires “stuff” from outside).

Meanwhile they are working to find other ways to reduce the cost of firewood using one fire bowl and only one branches and sticks to cook daily food especially rice and other main dishes. (See [rice on the website.](#))

Zahana plans to conduct a more in-depth user survey. We have finalized the question for the questionnaire. It will help us to assess the impact of Zahana cook stoves on the environment, local economy and social life.

