



## **BIOCHAR IMPACT ASSESSMENT REPORT**

**DATE:13/02/2025**

**AREA: UZUMBA MARAMBA PFUNGWA (UMP), RUSHINGA DISTRICT**

**PERSONNEL PRESENT: ISLAM MARIMAZHIRA, B'AYOBA EXTENSION EXECUTIVE  
TATENDA MANYADZA, OFA TRAINER  
TAFADZWA MURANGANWA, VISIBILITY CONSULTANT  
RUMBIDZAI TAKAWIRA, MARKETING CONSULTANT.**

**PREPARED BY: TAFADZWA MURANGANWA, VISIBILITY CONSULTANT**

### **BACKGROUND**

In February, June and July 2024, 307 farmers (206 females, 101 males) were trained in biochar production, uses, and application methods in Uzumba Maramba Pfungwe (UMP) district.

Farmers were taught how to mix compost with biochar using a ratio of 1:1 before applying it to the soil. Owing to the water challenges bedeviling the area, the farmers made communal biochar composts as they braced for the 2024/25 farming season. Most farmers were doing wild collection initially but have since ventured into organic farming of Rosella.

The biochar distributed free of charge to 167 farmers was produced from baobab shells as feedstock. The shells are a waste product of the baobab processing and were burnt before the Organic Farming Academy turned them into valuable biochar in 3 sites (Rushinga, Mudzi, Birchenough Bridge).

After charging the biochar inside compost for at least 3 weeks, some farmers applied the biochar-compost mix using the Pfumvudza method directly into the prepared holes. Others spread the biochar-compost mix into the soil while plowing. The farmers were advised to apply the biochar-compost mix at least 4 days before planting. An average of 15-20 bags of biochar-compost mix was applied per hectare. A total of over 600 bags of biochar-compost was disbursed to the farmers.

### **OUTCOMES AND FEEDBACK**

On 13 February 2025 the fields of 5 farmers in Dewe village were visited to assess if biochar improved the growth of various crops, particularly Rosella. The first port of call was a couple's (Sydney Mutata and Sekai Maranjisi) homestead who applied the biochar-compost mix in Rosella, maize, groundnuts, and sorghum fields (approximately 1.2 hectares). For Rosella, the couple applied the biochar-compost mix on 14 December 2024 before planting on the 18<sup>th</sup>.



*A maize field with biochar at Mutata's homestead*



*Sydney Mutata and Sekai Maranjisi in the groundnuts field with biochar.*

One could easily see the difference in fields planted the same day with or without biochar-compost in the growth of plants. For example, the Rosella with biochar was much greener and bushy, compared to that with no biochar which was pale and thinner.



*Part of the couple's Rosella field*

At Gift Maramuro's field which is rocky the Rosella with biochar-compost mix stood out as it looked healthier than that without, both planted on 29 December 2024.



*Gift Maramuro's Rosella field*

A visible difference was detected depending on the application methodology: the Pfumvudza application in prepared holes appear superior to the application on fields during plowing. This was witnessed in Betty Butau's field where she employed both methods of application.



*Betty Butau shows her Rosella field where she applied biochar*

For Dudzai Mariga, her field has poor sandy soil, and Rosella was not looking that well. However, she said that compared to previous years there has been a significant improvement thanks to biochar.

An elderly farmer, Chibanda Makuwerere Shacky (75), used the biochar-compost mix in his maize and sorghum fields (1,5 hectares) and is pleased with the results as all the crops look healthier than those without biochar.

It appears that fields where biochar was applied a few days prior to planting showed better results compared to those where biochar application and planting were done simultaneously.

## **RECOMMENDATIONS**

For real evidence, there is the need for the farmers to set up demo plots with and without biochar, and document all details like mixing ratio of compost with biochar, application rate, planting dates, spacing, application methods, yields, etc.

There is also need to establish how many days of biochar application prior to planting show better results. The farmers need to follow recommended planting dates and spacing.

It is also advisable to do a follow-up on the impact of biochar on yields. Now that the advantage of applying biochar-compost mix has been witnessed, other farmers expressed their interest to be trained in producing biochar from their plant residues themselves for application in their fields.