

Namibian soils are of low fertility and not **resilient** towards climate change.

## Challenges

Low productivity

Lack of knowledge

Lack of availability of inputs

## F4R-Approach

TEST Soil amendments

Scientific study by UNAM & NUST  
Farm demonstrations & field days  
Dissemination to stakeholders

Support Start-Up businesses  
trainings on Do-It-Yourself

SOIL FERTILITY



Knowledge transfer



Business support



# Soil fertility trials with Biochar and other soil amendments

## Credits to the researchers!

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Supervisors

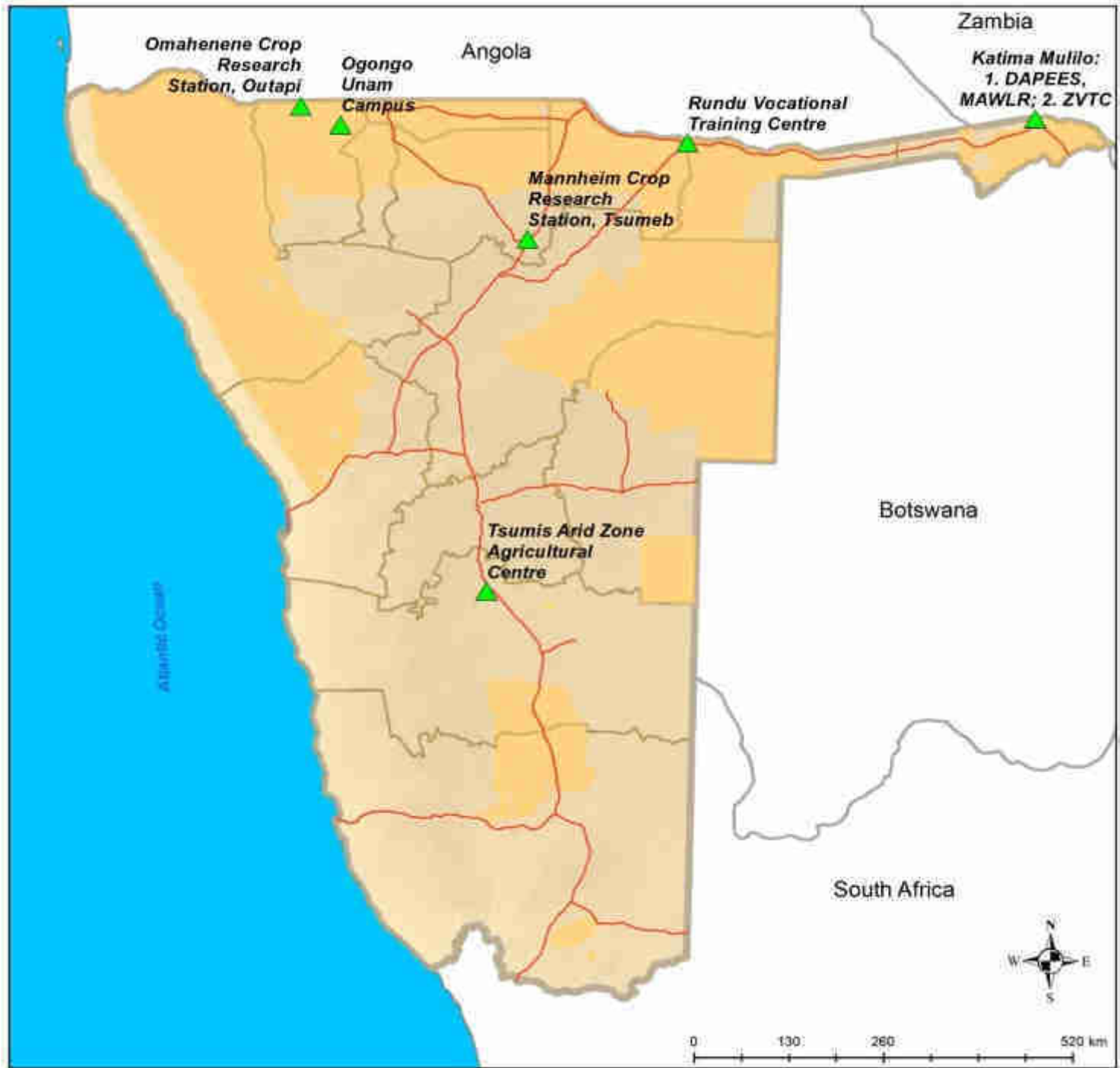
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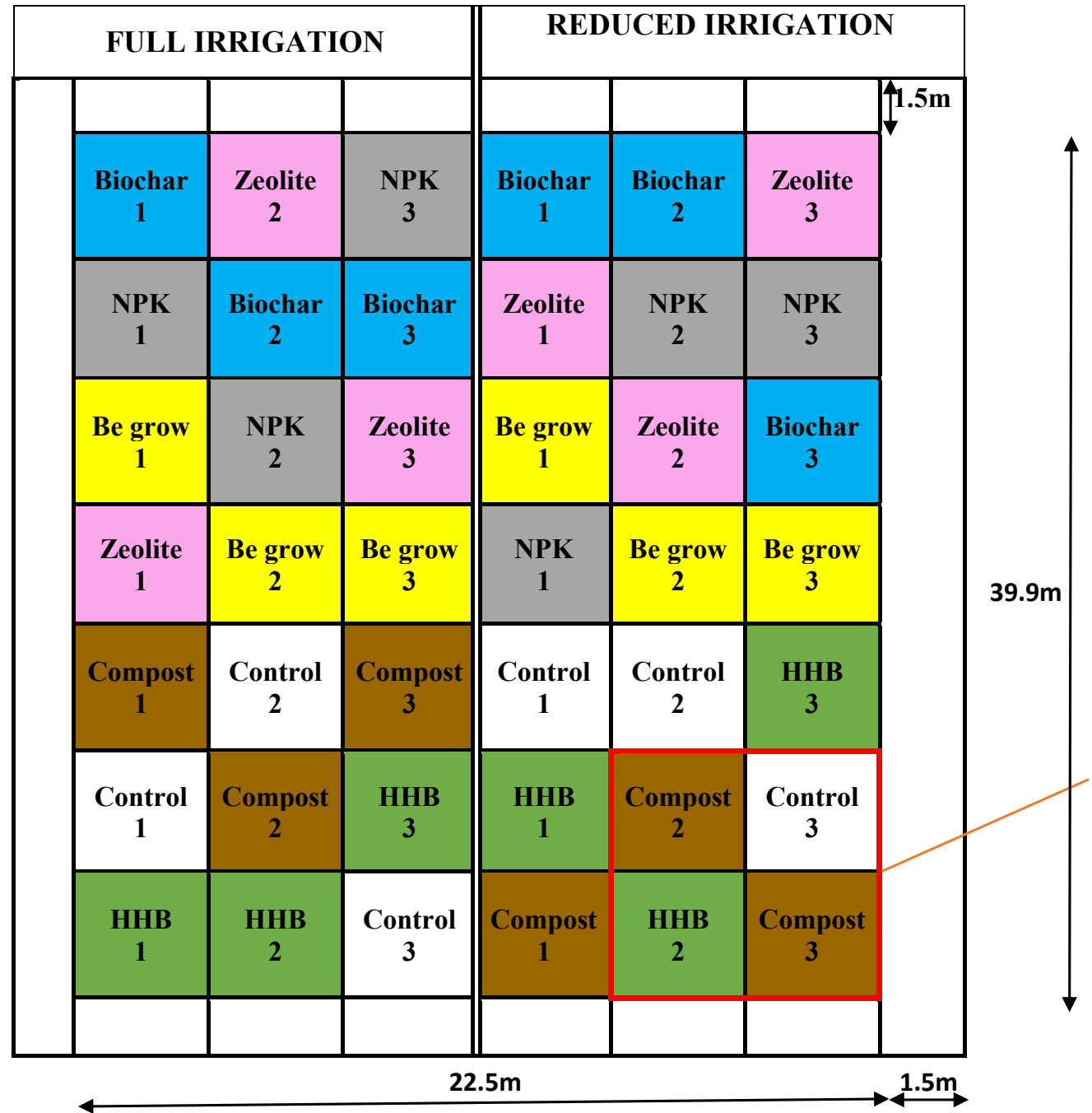
# Research Methodology

## Experimental design and treatments

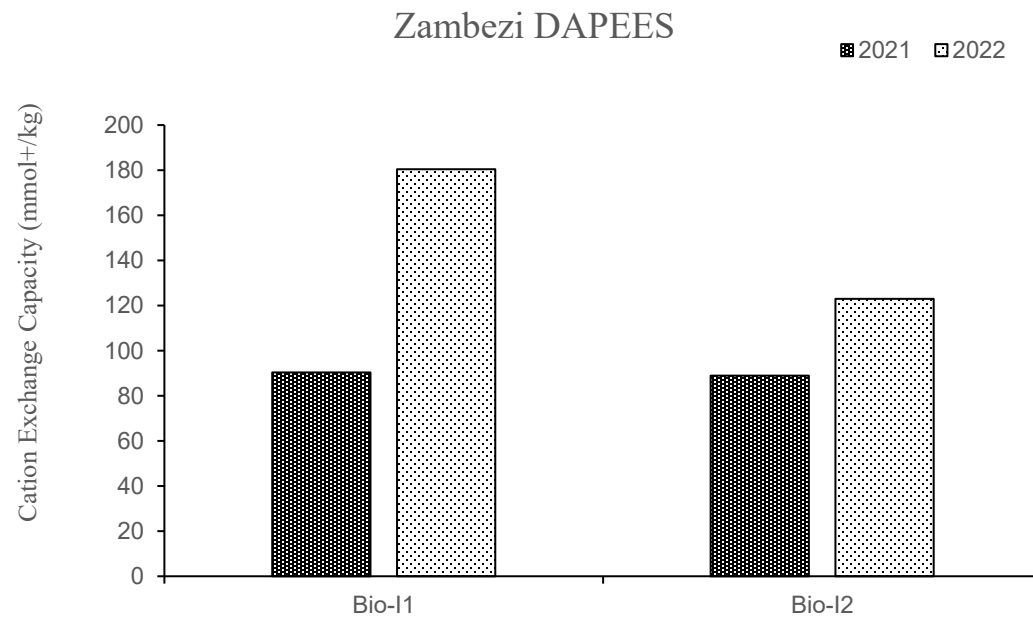
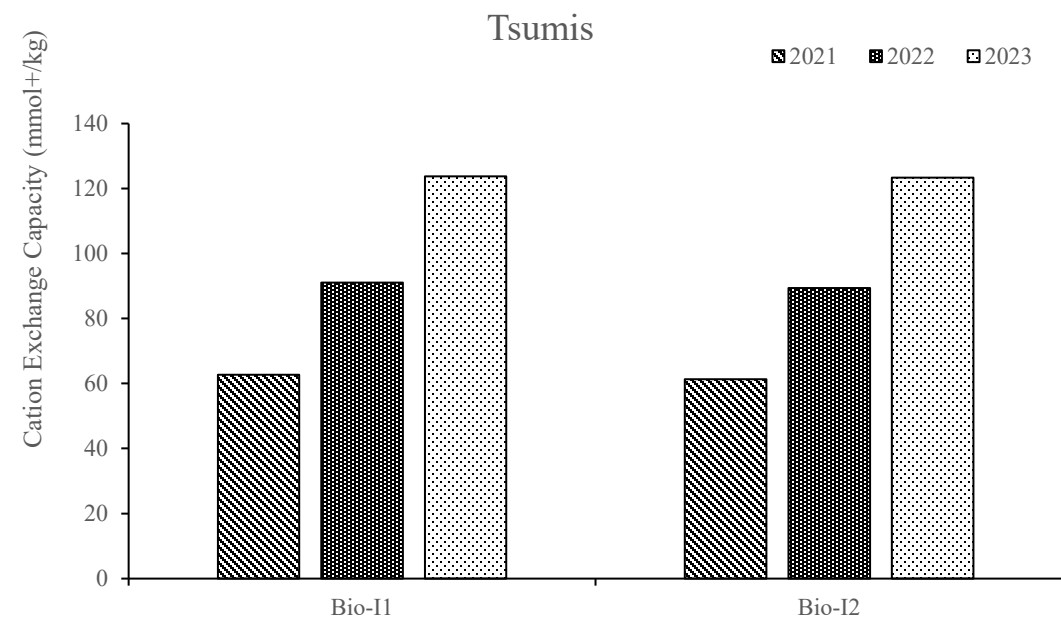
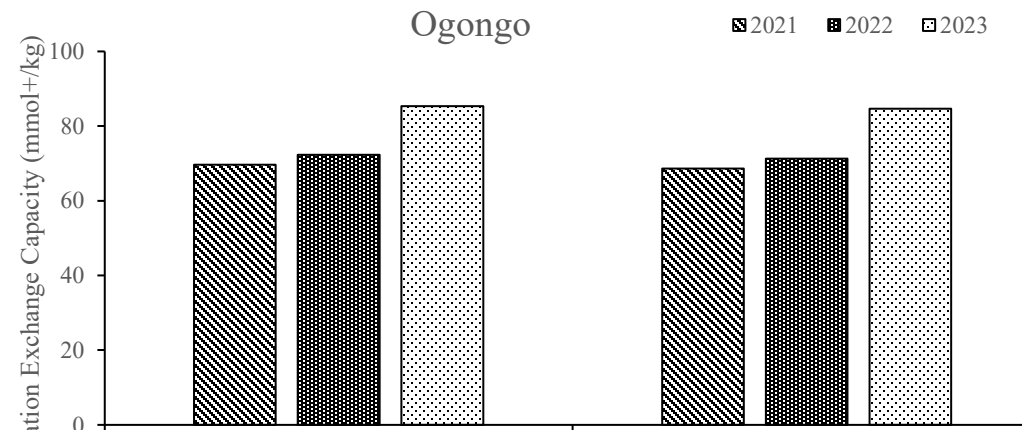
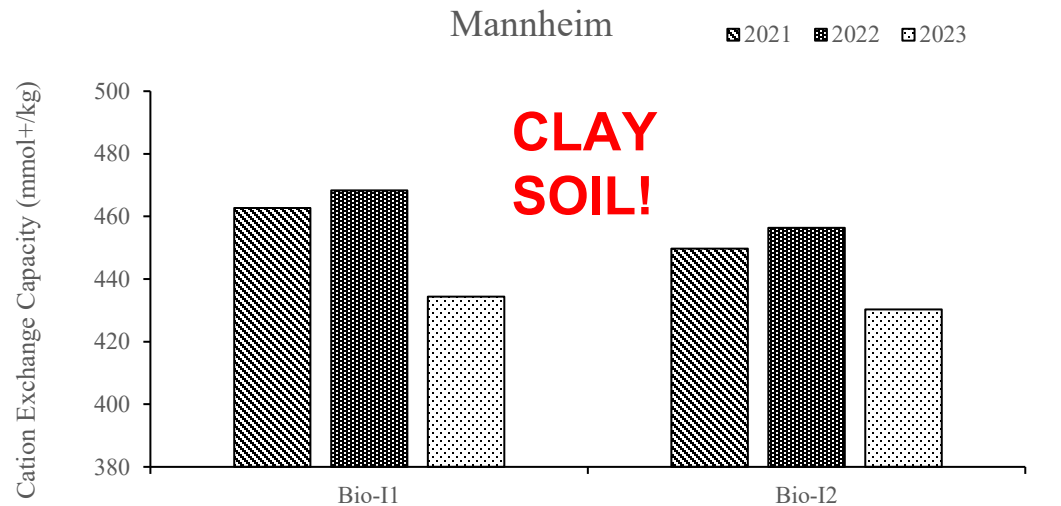
- ✓ Split plot to test water stress
- ✓ 7 treatments, 3 reps
- ✓ Area: 900 m<sup>2</sup>
- ✓ 42 plots
- ✓ 64 plants/plot

### BIOCHAR:

2 kg/m<sup>2</sup>, charged with fertilizer



# Biochar increases soil fertility – Cation Exchange Capacity



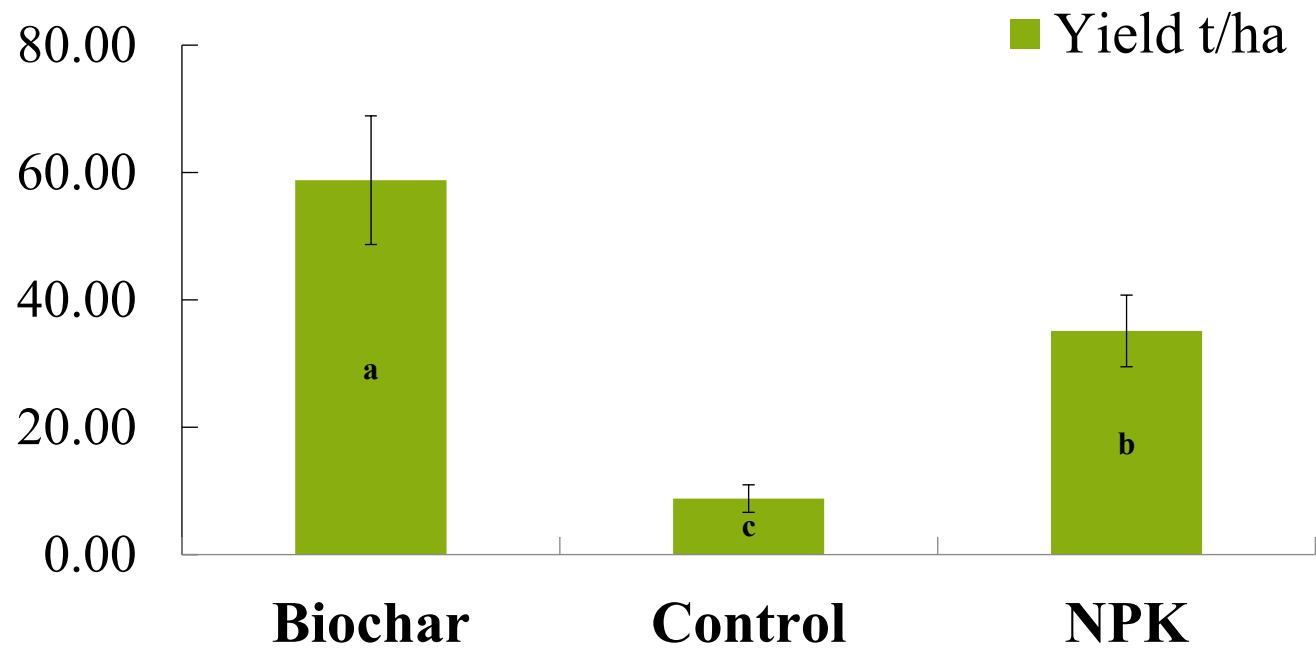
# Cabbage trials



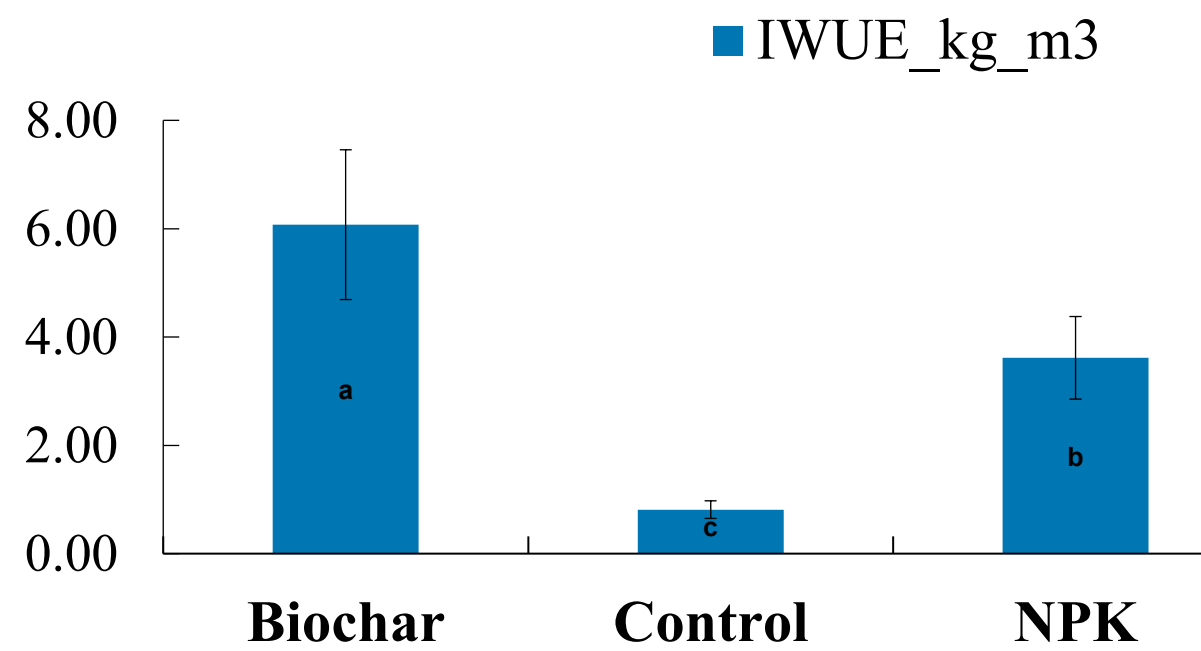


# RESULTS (Ogongo)

## Cabbage yield

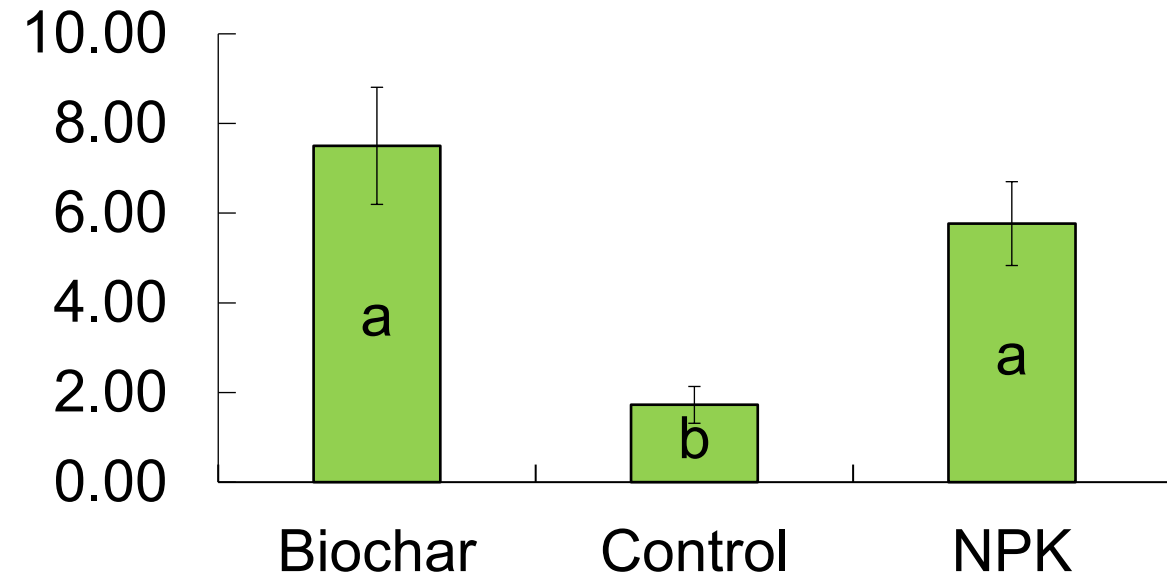


## Irrigation Water Use Efficiency

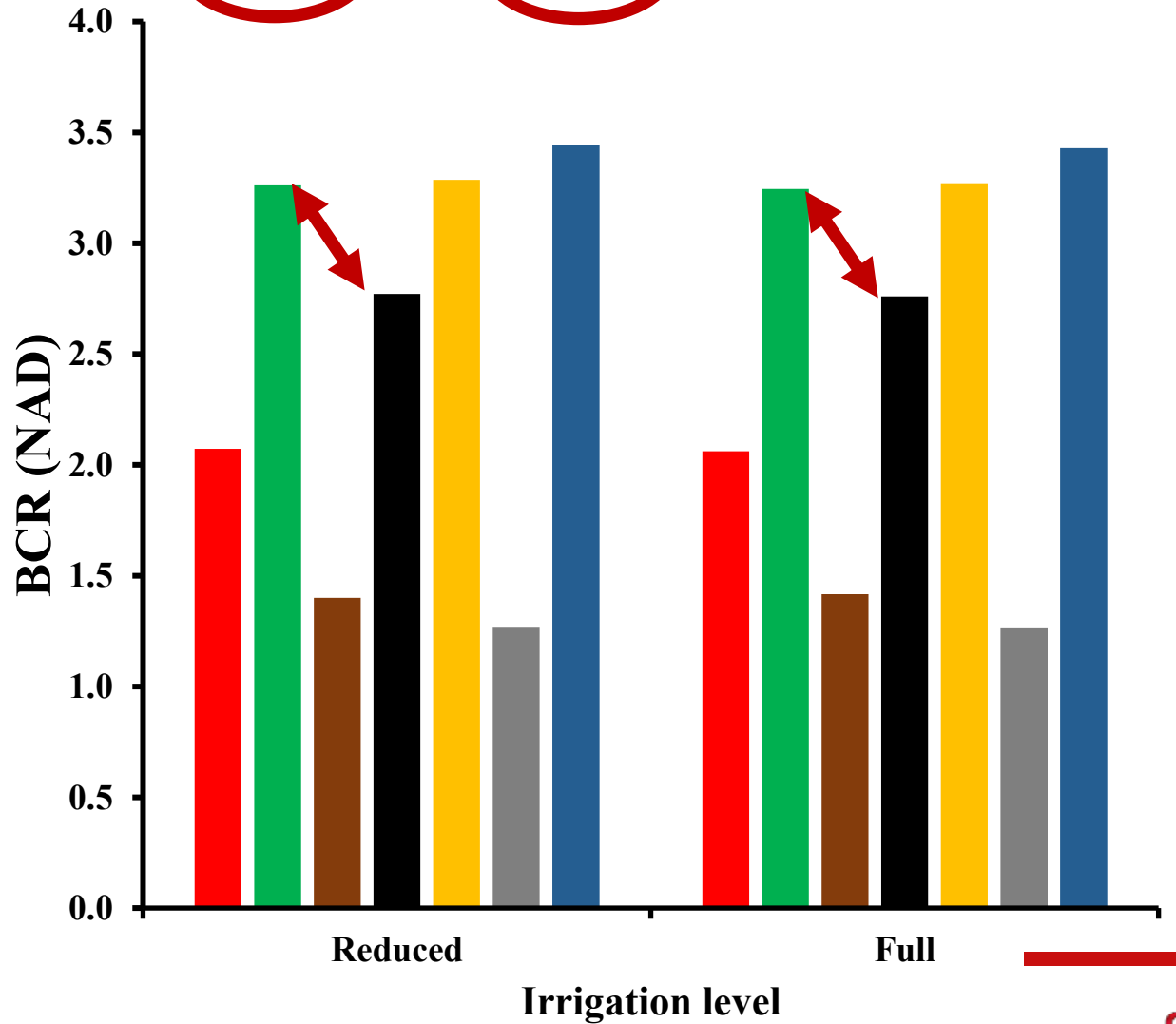


# RESULTS Ogongo

Benefit Cost Ratio



# RESULTS Tsumis



# CONCLUSIONS

- **Biochar** significantly improved cabbage marketable yield and economic benefits.
- Self production &/or reduced and efficient application of Biochar can further improve its economic benefits.



# CONCLUSIONS

- Teach Farmers the self production of biochar to lower cost
- Farmers should get Biochar at subsidized price  
(Carbon Credits!)
- Fertilizer Act should include Biochar as marketable product



**BIOCHAR  
DIY**



**Biochar**  
from Namibian  
Encroacher Bush

Practical Guidelines for Producers

**✓ NOW AVAILABLE**

**Online available under:**  
**[www.n-big.org/downloads](http://www.n-big.org/downloads)**

**Thank you for  
your attention**

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