

Biochar in the Cape Flats

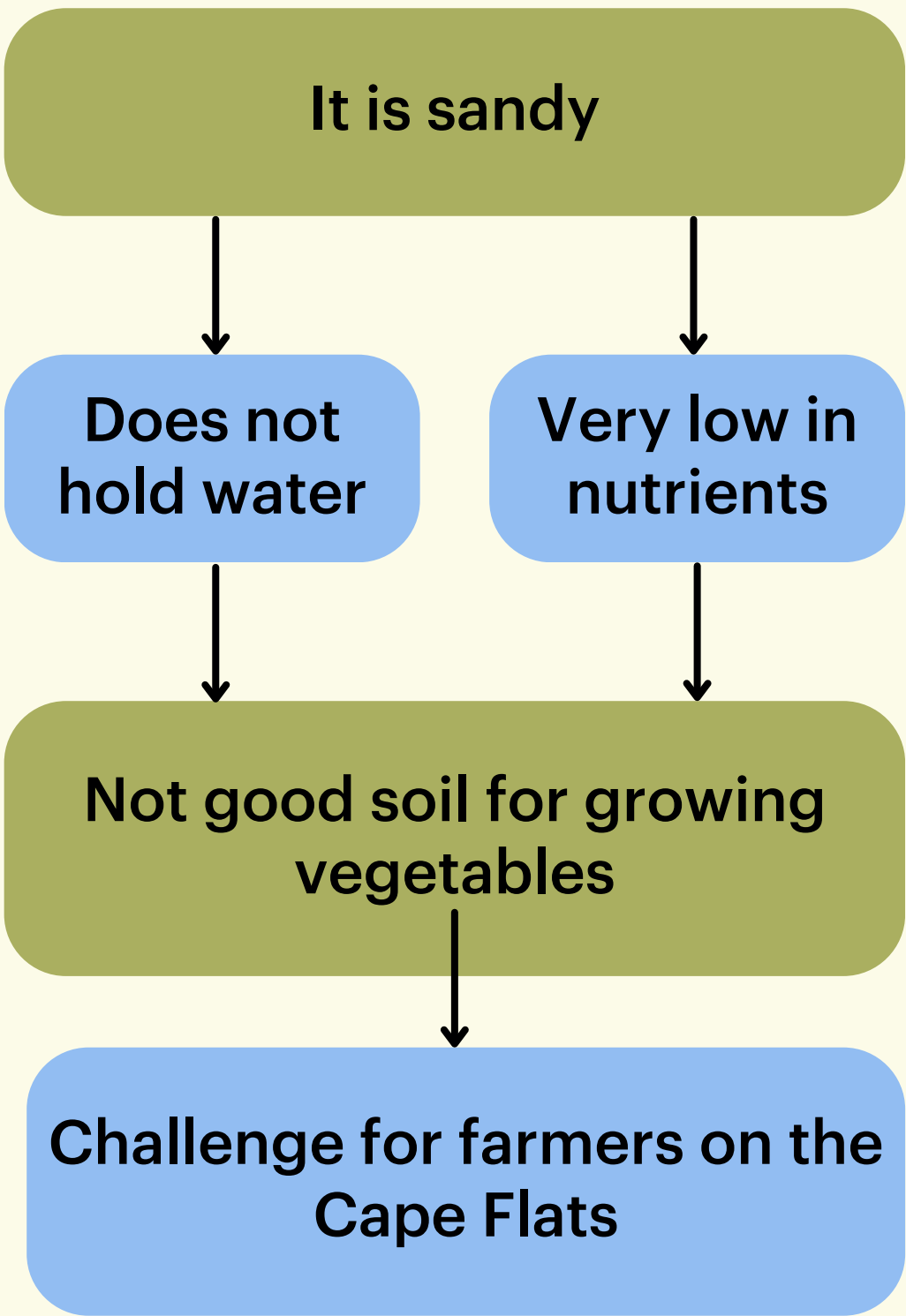
In 2023, SouthSouthNorth and Abalimi Bezekhaya undertook a friendly research project to test if applying biochar to the sandy soils of the Cape Flats could improve the yields of food-bearing plants in Kuyasa, Khayelitsha.



What is biochar?

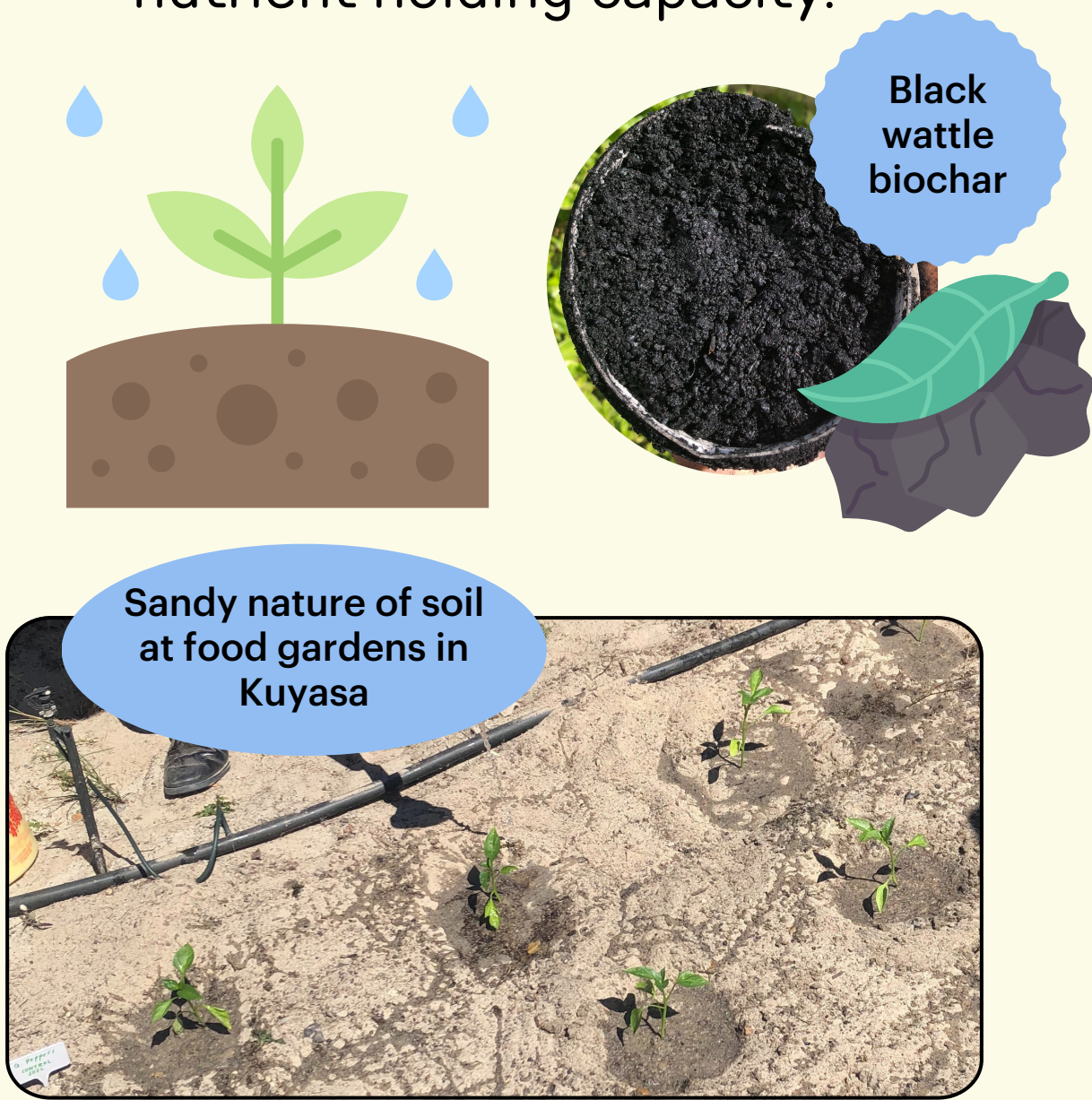
It is a charcoal-like agricultural material that is produced by heating up organic matter (plant materials like trees or garden waste) in an oxygen limited environment.

What is the problem with Cape Flats soil?



How can biochar help?

Research has shown that biochar improves the fertility of sandy soils by increasing their water and nutrient holding capacity.



BIOCHAR’S ROLE IN SUSTAINABLE DEVELOPMENT

When worked into the soil, biochar sequesters carbon in the ground for up to thousands of years.

So, biochar can improve agricultural productivity while mitigating climate change.

Averages drawn from data collected at ten biochar-testing experiment sites at home and community gardens in Kuyasa, Khayelitsha showed:



21%
Increase
in height



Plants grown in Cape Flats soil treated with biochar based compost grew taller.

45%
Yield
increase



Bell pepper plants grown in Cape Flats soil treated with black wattle biochar only had greater yields.

72%
Yield
increase



Bell pepper plants grown in Cape Flats soil treated with a mixture of biochar and sheep manure had the greatest yields

A participatory biochar research workshop was hosted in Kuyasa.



The scope of the biochar research project and its findings were presented to Kuyasa's gardening community in Xhosa and English.

Knowledge was exchanged and co-created around how to improve soil fertility and create more sustainable food gardens on the Cape Flats.



FUTURE APPLICATIONS

This project laid ground for future collaborative research projects that explore whether biochar composts can be valuable resources for food growers in the Cape Flats.

Further studies which track how biochar impacts plant productivity and soil fertility on the Cape Flats overtime will have to be conducted to build on this research.