





Planting carbon-certified community agro-forests in the African Sahel A strong brick in the Great Green Wall

Wouter Vanhove¹, Bineta Kamara¹, Saïdou, Ba¹, Werner Sels¹, Patrick Van Damme^{2,3}, Ann De Beul¹ & Emiel De Meyer²

¹ Entrepreneurs without Frontiers (OZG), Lier, Belgium, <u>www.ozg.be</u> ²Ghent University, Faculty of Bioscience Engineering, Dep. Plant Production, <u>www.tropicallab.ugent.be</u> ³ Faculty of Tropical AgriSciences, Czech University of Life Sciences Prague, Czech Republic, <u>https://www.ftz.czu.cz</u>

Introduction

- Reforestation is a key strategy in climate change mitigation and adaptation
- In many areas, tree planting competes with agriculture
- Semi-arid regions are sparsely populated, vast areas can be reforested provided that nomadic livestock is prevented from browsing young trees (and grass when reforestation also comprises grass seeding)
- Drought is a major challenge in tree planting in the Sahel, hampering seedling development and keeping biomass accumulation and therefore carbon sequestration relatively low



The Great Green Wall Initiative

African Union-led movement with the ambition to plant an 8,000 km long stretch with trees in the Sahel, from Senegal to Djibouti with a goal to

- restore degraded African landscapes and halt deforestation resulting from climate change
- improve food security, jobs and add stability to people's lives

Entrepreneurs without Frontiers (OZG)

 Belgian non-for-profit organization, raising funds for afforestation among Belgian entrepreneurs and developing community forests as a contribution to the Great Green Wall initiative







- OZG already planted 10,000 ha of forest between 2010 and 2017 in northern Burkina Faso
- 2000 ha of semi-arid degraded land is being reforested today in Senegal, where activities started in 2019
- OZG is to expand its activities to semi-arid areas in the south of Africa (Namibia)



Key Impacts

Ecological

Carbon sequestration: 70 tons

Reforestation Technique Used

- Rainwater harvesting through "half-moons" constructed by the Vallerani technique using a specially designed Delfino plough, creating ridges along contour lines
 - Each half-moon collects about 1200 L of rainwater per rainy season
 - With 250 half-moons per ha, up to 300 m³ of rainwater per ha is collected
- Half-moons are sown just before the rainy season
- Thanks to the collected rainwater, seeds (of drought-tolerant tree/shrub species) germinate and seedlings survive the subsequent dry season until the next rains



Economic

Sales of grass/herbs for fodder

Social

 Gender equality: revenues from community forests are directly made available to women through digital money
 Training and capacity building on community forest planting and management
 Conflict prevention between



CO₂eq per ha (including soil organic carbon) over 20 years
Biodiversity conservation of

plants and soil fauna, wild cats and hyenas

- Replenishing **aquifers**, improving communities' water security
- Soil restoration through reduced run-off/erosion, lower evaporation and improved soil organic matter and fertility

which grows in between trees on plots that have been fenced off

- Harvest and sales of non-timber forest products (NTFPs), such as gum Arabic from Acacia senegal, or Ziziphus mauritiana or Balanites aegyptiaca oil
- Community forests become agrosilvopastoral systems in which, thanks to the shade provided by trees, small horticultural crops (sorghum, millets, beans, maize, etc.) are produced

sedentary farmers and
pastoralists through facilitating
continuous dialogue and
agreements, ensuring food
security of, and peace between
both groups, and increasing
ownership and buy-in

