

# VARAHA: CARBON SEQUESTRATION & GRASSLAND RESTORATION IN INDIA



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|-------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>Project Partner:</b><br>Varaha ClimateAg Pvt. Ltd. | <b>Project Country:</b><br>India                                      | <b>Project Region:</b><br>Gujarat and Rajasthan, India                      |
| <b>Project Type:</b><br>Biochar                       | <b>Certification Standard:</b><br>Carbon Standard International (CSI) | <b>CO<sub>2</sub> Impact in Tons per Year:</b><br>180,000 t CO <sub>2</sub> |

## Description of the project:

Located in rural India, this community-led project is one of the world's largest biochar initiatives. It specifically targets groundwater-depleting invasive *Prosopis juliflora* and cotton stalk residues that would otherwise face high-emission outcomes like open burning or unmanaged decay. By converting this biomass into stable biochar through high-temperature pyrolysis, the process ensures durable carbon removal (CDR), locking atmospheric CO<sub>2</sub> into a stable form with an expected permanence of over 1,000 years. The resulting biochar is applied to smallholder farmlands and project-managed plots as a soil amendment to improve water retention and reduce dependency on synthetic fertilizers. To track every stage of production, the project uses KALKI, a proprietary digital MRV method. This mobile platform captures geotagged data and GPS coordinates, providing scientific accuracy for every certified credit.

Beyond its climate impact, the project restores traditional grasslands and creates nearly 460 full-time jobs. By engaging over 9,000 smallholders across 230 villages, the initiative has distributed approximately \$3.9 million in carbon revenues, with \$985,000 specifically channeled to women. By incorporating gender equity into community education, the initiative ensures equal access to training and resources, fostering inclusivity and empowering underrepresented groups. This integrated approach enhances social equity and amplifies environmental benefits, leaving a lasting positive impact on local livelihoods.

## Key outcomes:

- Guarantees durable carbon removal (CDR) in the soil with a verified permanence of over 1,000 years.
- Strengthens agricultural resilience by improving soil water retention and reducing the need for synthetic fertilizers.
- Restores local biodiversity by removing invasive species and enabling native flora and fauna to recover.
- Drives local economic growth by engaging smallholders and distributing carbon revenues directly to the community.



The 'Kon-Tiki Kiln' converts invasive wood into biochar



The project is driven by local teams



A decentralized approach tailored to local needs and making the most of existing infrastructure.

## Supported SDGs



Channels carbon revenue and new jobs to low-income rural households.



Distributes biochar to farmers, improving soil fertility and yields.



Cuts toxic smoke from burning, reducing respiratory health risks.



Trains communities and youth in biochar and grassland ecology.



Channels carbon revenues to women, strengthening financial independence.



Replaces chemical fertilizers, reducing nutrient runoff into waterways.



Creates full-time green jobs with local economic value.



Invests in rural infrastructure and manufacturing, boosting long-term local income.



Restores land, improving groundwater levels and reducing salinity.



Turns agricultural waste into valuable biochar within a circular economy.



Absorbs waste wood into biochar, cutting emissions and restoring grasslands.



Restores Asia's second-largest grassland reserve, with 200 hectares already recovered.



Partners with investors, NGOs, and farmer associations to finance SDG delivery.