

# Bamboo Architecture and Environmental Design

Join a group of passionate individuals in exploring the practical applications of bamboo as a building material in coastal Ecuador, a region rebuilding after 7.8 magnitude earthquakes in 2016. No previous experience is necessary! Workshops led by local architects, engineers, carpenters, professors and community members in the coastal city of Bahía de Caráquez and on Los Arboleros agroforestry farm in rural Chone will explore history of bamboo architecture and concepts of green infrastructure while actively building bamboo structures.



## Why Bamboo?

- Harvestable in 3-5 years
- Stronger than steel
- Indigenous building material
- Native and locally abundant
- Ethically and sustainably sourced
- Emblematic of local culture
- Aesthetically beautiful
- Ecologically regenerative
- Returns biomass to degraded soils
- Sequesters carbon



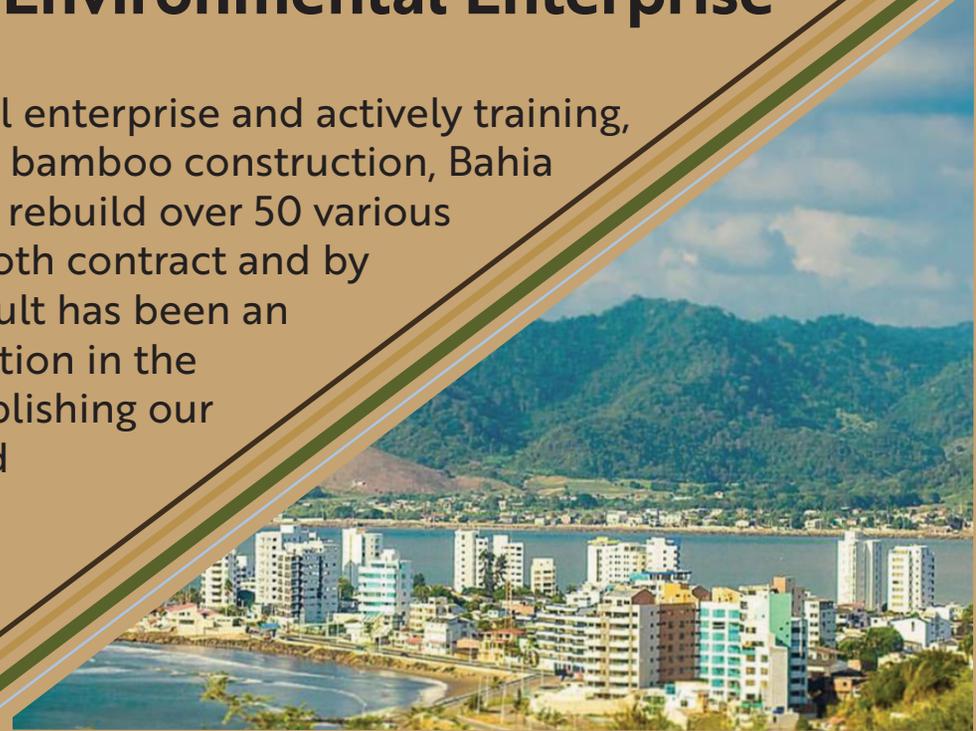
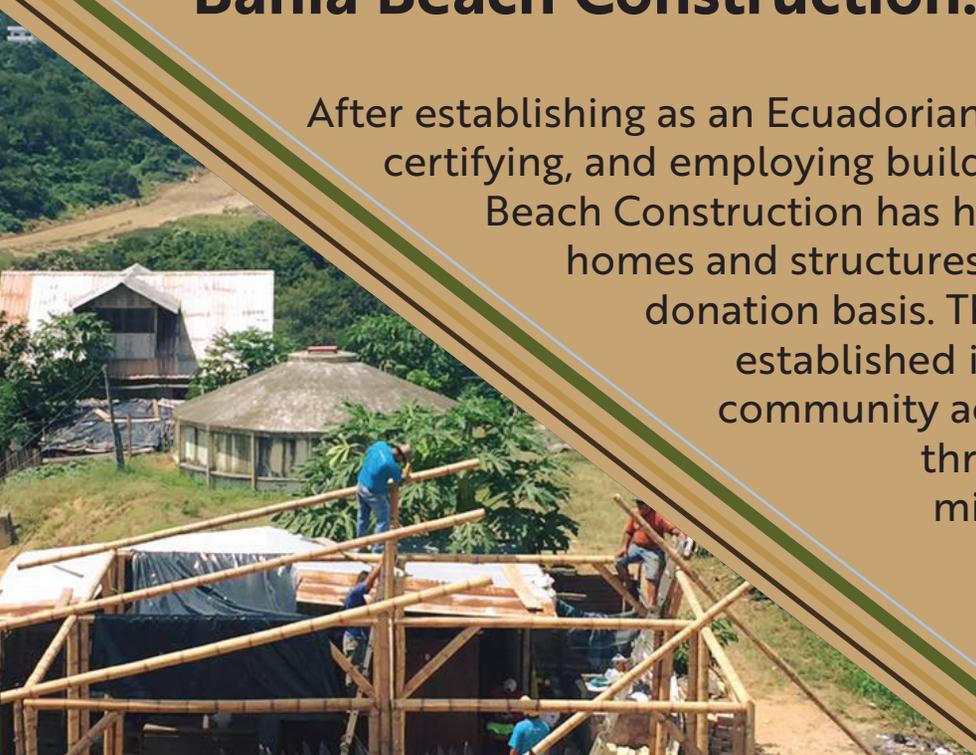
# Bioregionalism of Coastal Ecuador

The bioregionalism of coastal Ecuador has long taught its resident organisms how to thrive within its ecosystems. The indigenous Caras peoples understood the biological and ecological patterns of the coast and built their structures accordingly: utilizing bamboo to absorb the force of frequent seismic activity. With a 98% deforestation rate, Ecuador holds some of the last remaining fragments of tropical dry forest, one of the most understudied ecosystems in the world and host to thousands of endemic species of flora and fauna facing the brink of extinction. By reviving a culture that builds with bamboo, we recall the incredible abundance within the forest. We are inspired to steward and protect it as we learn how to create and relate to both our natural and built environments.



# Bahia Beach Construction: An Environmental Enterprise

After establishing as an Ecuadorian social enterprise and actively training, certifying, and employing builders in bamboo construction, Bahia Beach Construction has helped rebuild over 50 various homes and structures on both contract and by donation basis. The result has been an established institution in the community accomplishing our threefold mission.



## Bahia Beach Construction's Threefold Mission:

- 1) To employ and train local builders in green technology methods to accomplish economic stimulation from within
- 2) To rebuild homes and structures for people in the most vulnerable communities with the least access to resources
- 3) To showcase the sheer power and strength of the native *caña guadua* bamboo species as a building material to create incentive for environmental conservation

Participants of summer workshops will be helping build Bahia Beach Construction's new center on Los Arboleros Farm, a newly acquired piece of land in Chone where bamboo cultivation can be actively modeled in regenerative agroforestry systems. This setting will allow for guests to participate in more innovative sustainable design activities on a landscape scale.



## Los Arboleros Farm Project: Bamboo and Agroforestry



### The design for the farm includes:

1. A bamboo curing and treatment facility large enough to process high volumes of bamboo for local farmers of the region.
2. Greenhouses and propagation operations for bamboo and high-value crops to be used in agroforestry systems, including cacao, yucca, plantain, banana, mango, papaya, and nuts.
3. Accommodations for up to 35 students, farm workers, builders, architects, engineers, professors, interns and community members to be present at any time.
4. An ecological education center to host monthly workshops on bamboo construction certifications, agroforestry, sustainable farming, rural peoples empowerment etc.