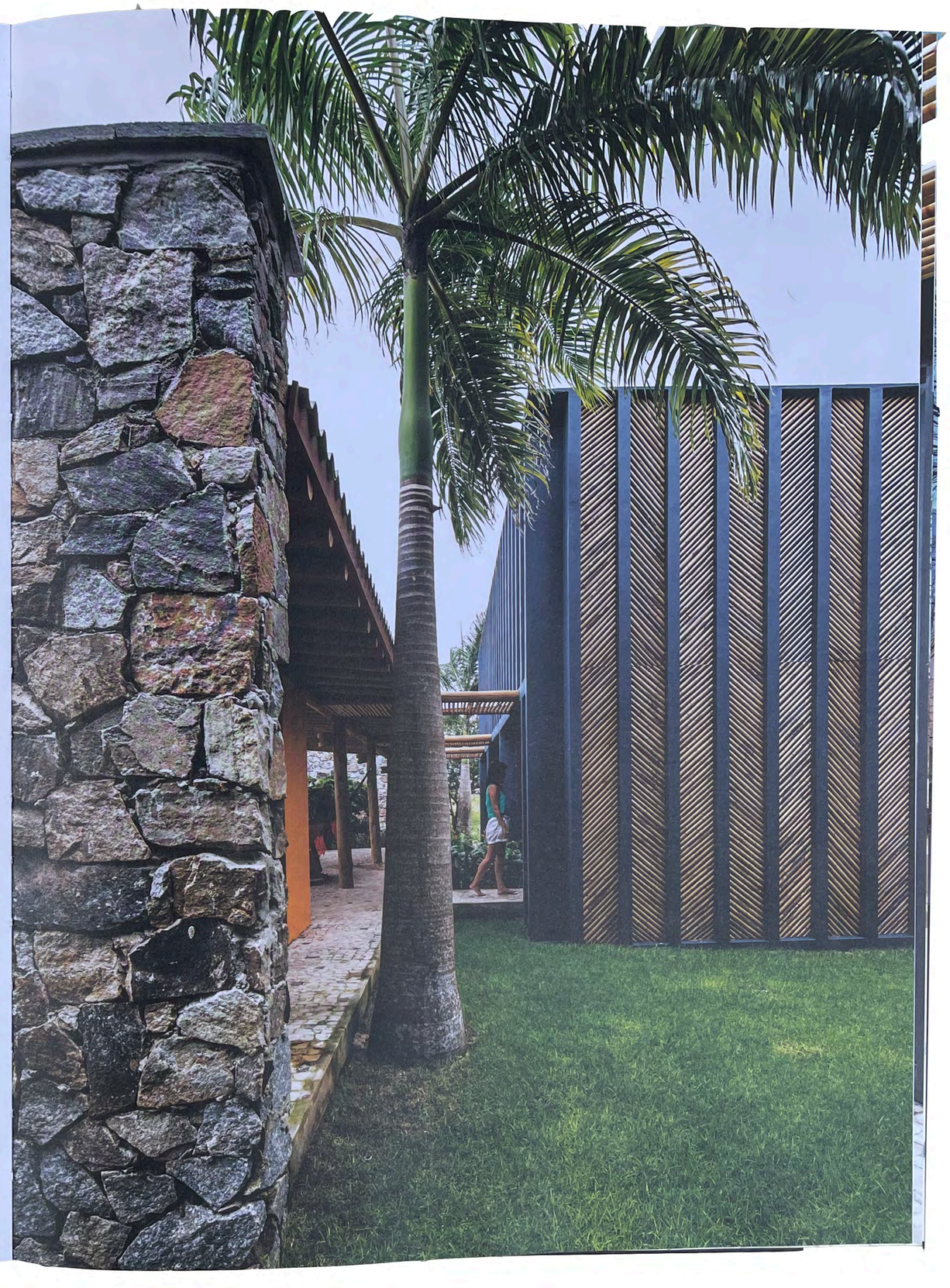
CASA BAMBU

PIPA BEACH, BRAZIL

Vilela Flórez, 2017



Pipa Beach is about as far east as you can go in Brazil—a former fishing village cosseted by cliffs to the north and sandy flats to the south. Since Pipa Beach's state of Rio Grande do Norte wisely established an ecological zone to the west, its growth as a resort destination has been somewhat tempered, making it one of the more exclusive oceanside enclaves, uphill and inland from the crowds.

Architects Mariana Vilela and Daniel Fernández Flórez set out to design a vacation home for a septuagenarian couple (Flórez's parents), who wanted a home to host their adult children and their families, with one caveat: it had to be completed in ten months. Less than a year later, they delivered Casa Bambu, which consists of three nearly identical and individually owned condominium units oriented to pull the prevailing southerly breezes across the garden and the pool and through to the interior living spaces. Each unit contains a bathroom and utility space and one bedroom that opens out to a shared patio and outdoor kitchen.

It's an uncomplicated indoor-outdoor living arrangement, with an emphasis on family time and communal meals. From a design perspective, what elevates the house is the architects' use of bamboo as cladding in a visually striking herringbone pattern—with a twist. The bamboo cladding doubles as a baffle for light and a natural ventilation system for air, encouraging the cross-breezes that keep sleeping conditions temperate. There are other practical reasons for using bamboo poles that have been cut lengthwise and used as cladding—they are easy to remove, section by section, to repair or replace. When used as cladding, bamboo is its own modular maintenance solution.

"We found it interesting—the aesthetic dialogue between the diagonal effect of the bamboo in a herringbone pattern and the vertical rhythms of the columns," say Vilela and Flórez. They point out that the construction of the facade is also a way to conceal the systems within the walls—notably the drainpipes running from roof to ground.

Vilela and Flórez established their firm in 2014, after working at Herzog and de Meuron in Basel, Switzerland. Their first project together was their own seaside studio in Tibau do Sul, about five miles north of Pipa Beach. They started with very little capital and few connections in the area, but they were committed to finding a new way of working that focused on regionally sourced materials. "When we left Herzog and de Meuron, we had to rethink our design process, so we tried to analyze the local elements and [find] constructive solutions. We wanted to revisit them and improve them by pushing boundaries."

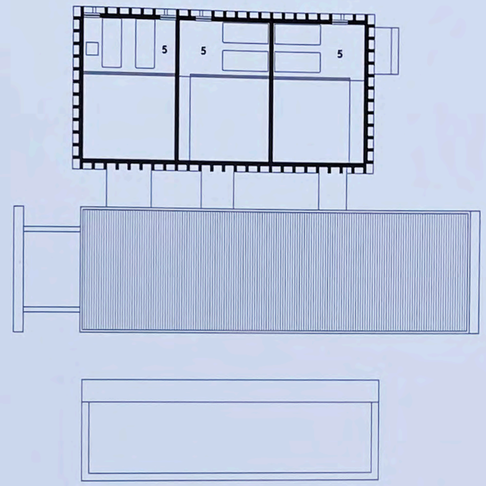
Thanks to its adaptive qualities, bamboo is a good medium to push those boundaries. They selected Fish Pole Bamboo (*Phyllostachys aurea*) from São Paulo. Fish Pole Bamboo, which also is one of the most common species grown in the United States (particularly along the East Coast from Connecticut to Florida), has a few natural color variations—true gold, green cane with gold stripes, and gold cane with green stripes. It is not an adequate structural bamboo, report Vilela and Flórez, but it is often used for ornamental reasons, as demonstrated at Casa Bambu. In its natural state, this species can be found growing in side yards and back yards across the southeastern United States. Its lush foliage can double as a screen to the street or neighbors.

After slicing the poles lengthwise to place in Casa Bambu's rectilinear frame, Vilela and Flórez added polyurethane foam to the pole ends to protect the exposed fibers from water. They also treated the ten-foot pole lengths with two kinds of varnish to protect them, after lightly sanding the surface to remove the natural waxy skin that rejects varnish.

All for good reason: the Caatinga ecoregion is known for its dry winters and wet summers, with very little variation in between. In fact, it's South America's largest tropical dry-forest area. It also hosts a vulnerable but diverse ecosystem that's consistently under threat from climate change in the form of severe droughts, which have set records in Brazil during the last decade.

Climate pressures on agriculture have also been exacerbated by demographic pressures. Natal, the largest city near Pipa Beach, perched on the eastern edge of Caatinga, has doubled its population in the last thirty years. All of those people need food, and as Pipa Beach's growing popularity has underscored, some of them would like to spend a weekend at the beach once in a while too.

Still, there are vestiges of the old way of doing things—traditional building techniques are still desirable, even if the area is awash in new money and new tourists. "We designed these elements with local workers, in order to provide a fresh approach and reinterpret their traditional values in a contemporary and sustainable way," Vilela and Flórez say. "And we think that Casa Bambu fulfills this philosophy."



MEZZANINE FLOOR PLAN

GROUND FLOOR PLAN

0 10FT

1. Bedrooms
2. Bathrooms
3. Open living spaces
4. Kitchen
5. Mezzanine