

# Abstract

Subsistence food production and gathering practices continue to sustain a significant portion of Peru's 31 million inhabitants. These practices date back thousands of years and are deeply infused with traditional modes of cultural knowledge. Heavily influenced by the local ecology and climate of the places in which they're practiced, subsistence based food strategies vary widely across the country of Peru due its extremely diverse geography and climate zones. Although the communities of Huanchaco and Julcán are only 115 miles apart and lie within the La Libertad region of Peru, they represent a prime example of the immense differences between traditional lifeways that can be found within a single geographic region of the country. In Huanchaco, a coastal town next to one of the richest and most biodiverse marine fisheries on the planet, traditional fishing practices have been integral to the economy and culture of the inhabitants for thousands of years. In Julcán, a mountain town nestled amid the central Andes at a lofty 3404m (11,168ft), small scale farmers continue a lineage of high altitude farming practices that date back at least 6,000 years.

In order to document the rich cultural heritage of these two livelihoods, I spent four weeks photographing and learning from individuals who still rely on these subsistence methods.





The iconic *caballitos de tortoras* are an ever-present symbol in the coastal town of Huanchaco. The use and construction of the *caballito* has scarcely changed since their use by the Chavin (850-300 B.C.), Moche (100-700 A.D.), and Chimu (900-1470 A.D.) cultures. Far from just being a beautiful remnant of Pre-Columbian culture however, *caballitos de tortoras* are highly versatile and efficient vessels that help to sustain the livelihoods of Huanchaco's respected fishing families to this day.



*Tortora* reeds (*Schoenoplectus californicus*) are cultivated approximately 1km north of the town of Huanchaco in sunken gardens called *wachaques*. *Tortora* reeds were originally obtained from sunken gardens in the Chimu capital of Chanchan, but about 75 years ago *tortora* seeds from Chan Chan were brought to Huanchaco to provide a more local source of reeds. Each fishing family tends to their own designated garden as part of the myriad of daily chores involved in maintaining their livelihood.



In recent years rising sea levels and increased development have threatened Huanchaco's *tortora* gardens, despite their current status as a protected area. Today a heavily trafficked road bisects the *tortora* gardens, causing an influx of plastic refuse littering the fragile reed beds. An increase in high speed traffic on the road also interferes with the local fishing families as they frequently cross the road to haul bundles of harvested reeds to designated drying areas.



Junior harvests fresh *tortora* reeds in his family's *wachaque* at the northern end of the reed beds. Using a specialized curved blade, he quickly and efficiently forms bundles of reeds, which he binds together with single dried reeds to be transported across the road to his family's drying area. *Tortora* reeds require 6-12 months to reach maturity, so each family's *wachaques* are carefully tended to to assure that some are always ready to harvest while others regenerate.



José organizes bundles of drying *tortora* reeds into two piles: the longer *madre* reeds and the shorter *hijo* reeds. To construct a *caballito de tortora*, the shorter *hijo* bundles are placed within a *madre* bundle to form one half of a boat. Two conjoined *madre-hijo* bundles are then bound together to form the completed *caballito*.



*Tortora* reeds can take anywhere from a few weeks to well over a month to dry, depending on the weather. The drying process takes longer during the winter due to the constant state of overcast skies. As water evaporates from the reeds they lose weight and become buoyant and malleable. According to Junior and José, there is no definitive sign that informs fishermen when reeds are completely dried; instead they rely on intuition to tell them when the reeds are ready. Throughout the drying process inferior or damaged reeds are picked out and discarded in the waste piles surrounding the drying reeds.



José distributes piles of fully dried *tortora* reeds that will make up the two *madre* bundles of a *caballito de tortora*. Each *caballito de tortora* is formed from four bundles of reeds—two *madre* bundles consisting of longer reeds and two *hijo* bundles consisting of slightly shorter reeds and styrofoam for added buoyancy. A fisherman for over 50 years, José is a true master at his craft. Despite teaching his son Junior to the point of mastery himself, there is always something that can be learned. José has watched the decline of his livelihood over the course of the past decades, with commercial fishing, climate change, and an increasingly uninterested younger generation all threatening the continuation of his family's proud way of life.



Junior places bundles of styrofoam in the center of a pile of reeds that will make up one of two *hijo* bundles in a new *caballito de tortora*. Styrofoam is a somewhat recent addition to *caballito de tortora* construction predicated by a decline in *tortora* reed beds in recent years. The added buoyancy of styrofoam allows for the use of less reeds in each boat. The styrofoam is repurposed from past boats after they become waterlogged over the course of their monthlong lifespan.



*Tortora* reeds are carefully positioned around the styrofoam core of a *hijo* bundle and tied down at the end. Two identical *hijo* bundles are made, which are then placed within two respective *madre* bundles during construction.



After placing an *hijo* bundle atop its corresponding *madre* bundle, Junior uses a single straight tortora reed to find the center and assure proper alignment of the bundles. Despite Junior's lifetime of experience in caballito de tortora construction, his father José keeps a watchful eye on the process, providing advice and assistance where necessary.



Junior binds an *hijo* bundle to a *madre* bundle with nylon cord in a process known as *kirarta*. One *madre-hijo* pair is bound with cord in a clockwise direction and another in a counter-clockwise direction when constructing a *caballito de tortora* to assure that the bow will be straight when the two halves are joined.



Junior employs the help of his cousin throughout the process of joining both sides of the *caballito de tortora*. The joining of the two sides at the stern creates the *caja*, the triangular depression where nets and caught fish are stored while the fishermen paddle the coastal waters. Special care is taken to assure that the bow is straight so the boat will track well in the water.



The fishermen of Huanchaco wake up before 5am every morning to check the conditions of the surf, and if the waters are favorable for paddling and fishing, they go out to deploy their nets. They return to the shore by 7am.



*Caballitos de tortoras* are paddled sitting atop the boat, in front of the *caja*. When paddling out against the waves or picking up speed, fishermen assume a kneeling position on the *caballito*, while a straddling position is taken when riding waves back in to shore. Paddles are crafted from half of a *guadua* shoot (*Guadua angustifolia*), a species of bamboo native to Central and South America.



While in years passed an average daily catch for a Huanchaco *pescador* (fisherman) was around 50kg of fish, today a catch of around 3-10kg is common. Local fishermen cite massive commercial fishing operations as the primary cause of the decline, along with climate change and its affect on the El Niño cycle. On rare occasions a massive catch can still be obtained however, in which fishermen's families and friends will work together on the beach to remove fish from nets, sort them into piles, and clean them on the beach in preparation for being sold in the markets of Huanchaco and Trujillo. White fleshed fish such as sea bass and corvina are made into ceviche, a celebrated Peruvian dish that originated in the town of Huanchaco.



Described by one Huanchaco *pescador* as a “suffering livelihood”, it is becoming less and less common for the knowledge and skills associated with traditional fishing practices to be passed on to younger generations. As it becomes increasingly difficult to make a profit off small scale fishing in the wake of commercial fishing practices and climate change, many longtime fishermen wish for their children to get an education and a higher paying job than attempt to maintain their traditional livelihood.



Every June, coastal communities across Peru celebrate the *Festival de San Pedro*. Dedicated to Peter, the patron saint of the fisherman, the festival celebrates the rich heritage of traditional fishing culture in the region. Amongst the festivities are fireworks, traditional dancing and food, *caballito* demonstrations, and the launching of a massive *tortora* boat known as a *patacho*. A new *patacho* is constructed by the fishing association every two years solely for the San Pedro festival.



On San Pedro's day, a mass is held at the local catholic church before a statue of San Pedro, complete with miniature *caballitos* at his sides, is paraded through town and down to the beach, where he is ceremoniously placed on the *patacho* for his annual voyage around the Huanchaco bay.



Once the statue of San Pedro is secured in the *patacho*, the mayor, the local priest, and other important figures in the Huanchaco community board the massive tortora boat for a short ceremonial voyage around the bay, accompanied by an entourage of *pescadores* in their *caballitos de tortoras*. Despite the tenuous future for traditional fishing practices in Huanchaco as a viable livelihood, the symbol of the *caballito de tortora* and the rich cultural heritage of the *pescadores* continues to captivate and be celebrated by the town's residents.



Located 115km away from the coastal town of Huanchaco in the Andean coastal highlands, the province of Julcán is dominated by small scale farming practices that date back over 4,000 years. The poorest and least visited province in Peru, Julcán's traditional farming livelihoods aren't as widely known or celebrated as the *pescadores* of Huanchaco; but despite that, farming continues to be a sustaining and economically viable profession for the majority of the provinces residents.



*Trigo*, or wheat, grows under rocky outcroppings in El Rosal, a community outside of the town of Julcán, the capital of the Julcán Province.



Andean lupin (*Lupinus mutabilis*) is grown in Julcán for their edible beans, a highly nutritious legume and lucrative crop known as *chocho*. Even though this crop is nutrient dense, families in Julcán grow *chocho* primarily to sell in markets in Trujillo.



Two bulls spar in a pasture just outside a home in El Rosal. Following their introduction by the Spanish conquistadors, domesticated cows, pigs, sheep, and chickens have become a staple source of food and income among the farming communities of Peru.



Guinea pigs, or *cuy*, are among the earliest domesticated animals in South America, with evidence of their domestication dating back as far as 5,000 BC in the Andean region of Peru. A pricey local delicacy, *cuy* is primarily served during special occasions such as birthdays and weddings. In addition to being a prized food source, *cuy* are also used by *curanderos* (traditional healers, pictured right) during diagnostic procedures in which a live guinea pig is rubbed all over the exposed skin of a patient, thereby absorbing the energy of the patients body. For the diagnostic, the guinea pig is humanely killed and its entrails are examined to diagnose ailments within the patients mind and body.



Agricultural products such as cheese, yogurt, and honey are produced in Julcán to be sold in markets in both Julcán and the coastal city of Trujillo. Potatoes are perhaps the most celebrated crop in the province, with over 4,000 varieties being cultivated in the region.



Despite its status as one of the poorest and least visited province in Peru, Julcán is an agricultural powerhouse for the region, supplying the coastal communities with fresh produce year round. While farming continues to be an economically viable livelihood for many of Julcán's residents, there has been increased pressure in recent years to migrate from the remote highland communities to cities such as Trujillo and Lima. Some towns in the province have lost the majority of their residents in just a few years as families pick up and move into urban areas in search of wage labor, education opportunities for their children, and a more 'modern' lifestyle.

## Methods

Throughout the course of my fieldwork in Huanchaco and Julcán, I employed participant and unobtrusive observation to document the traditional fishing and farming livelihoods in the region. While working with the fishermen in Huanchaco I was given permission to photograph daily work that they would have completed regardless of my presence. To thank the Huanchaco fishermen for their cooperation and hospitality, a donation was made to the San Pedro Festival and a small amount of Peruvian soles were given to Junior and his father José for their time.



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