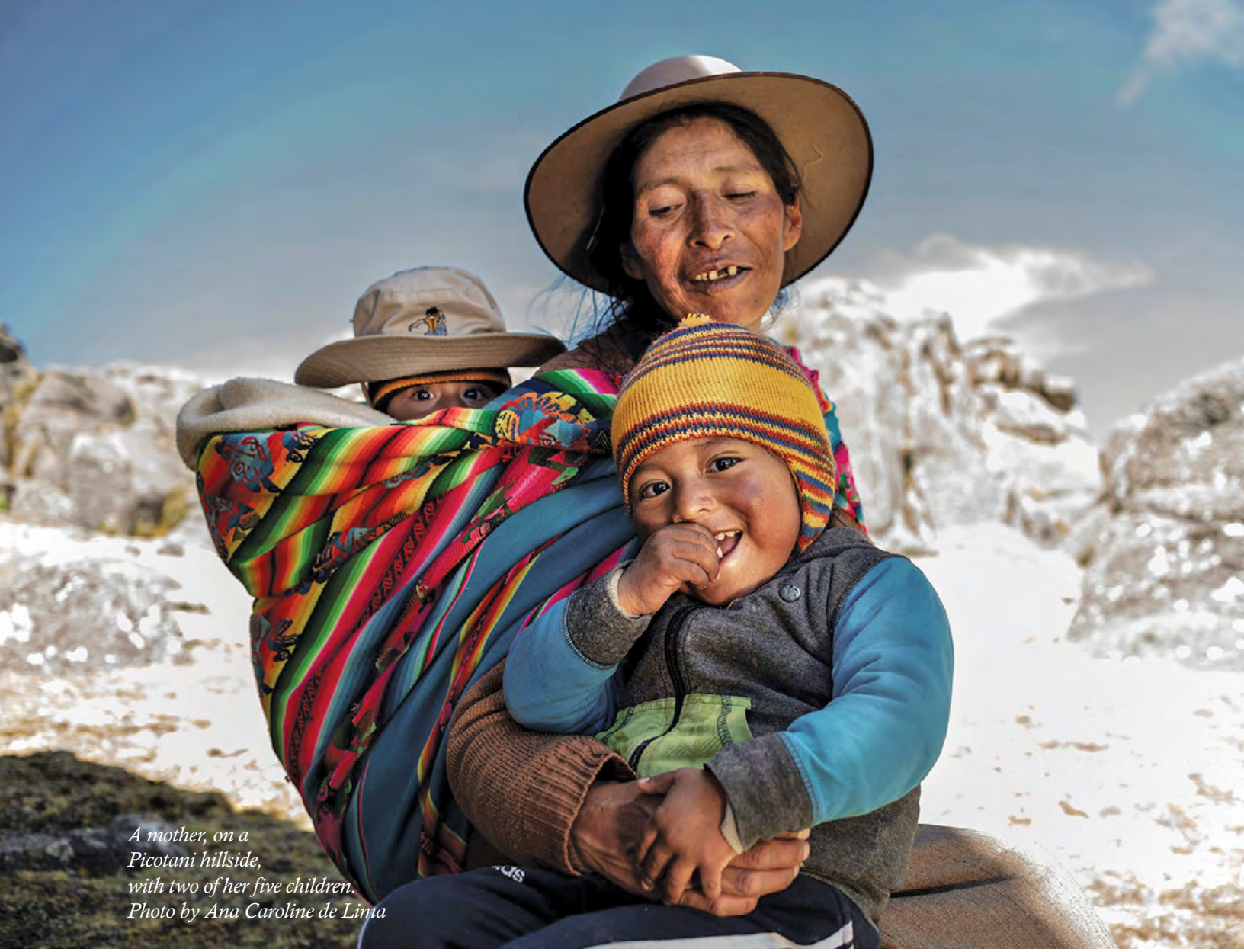


A mother, on a Picotani hillside, with two of her five children. Photo by Ana Caroline de Lima

Are the Indigenous People of Peru the Key to Reversing Global Warming?

By Mike Safley

There are 1,000,000 indigenous Quechua-speaking people who live on Peru's Altiplano and care for most of the world's vicuña and alpacas, who are raised at altitudes of between 12,000 and 16,000 feet above sea level.[1] This extreme elevation is the last plateau upon which man can survive. Most people on earth could not exist in similar circumstances.

The Quechua are pastoralists who live in small remote communities of 10 to 30 families.[2] They manage 40,000,000 acres of grassland where their alpacas and vicuñas graze. You might ask, "How can people living on the edge of the earth, in abject poverty, possibly be the key to reversing global warming for the entire planet?"

1 *Why Alpacas?*

2 Michael J. Safley, Alpacas: *Synthesis of a Miracle* (Hillsboro, OR: Michael Safley, 2001)

It's thousands of miles to the offices of the fashion industry and the textile manufacturers. It might as well be 1,000,000 miles. The disconnect between the developed world and Picotani is like the distance between the moon and the earth, yet the luxury consumer brands could facilitate the planet's salvation with minimal impact on their huge profit margins by partnering with Picotani.

Consumers are willing to pay more for a true scientific solution to global warming. Is this thesis simply a "green wishing" overstatement, a public relations ploy, or is it true?

The age-old system of seasonal grazing and water conservation employed by the Quechua pastoralists today has created one of the largest carbon sinks in the world, sequestering millions of tons of carbon and reducing CO_2 emissions in the atmosphere. This model of holistic grazing used by Peru's alpaca shepherds can set the example for restoring the world's overgrazed, depleted, and destroyed grasslands.

"The carbon sequestration potential of this model, when applied to billions of hectares of degraded grassland soils worldwide, could return 10 or more gigatons of excess atmospheric carbon to the terrestrial sink annually thereby lowering greenhouse gas concentrations to pre-industrial levels in a matter of decades."[3]

This vista is a small window on Picotani's 100,000 acres of Altiplano grassland and bofedales. Photo by @loudscape.nef

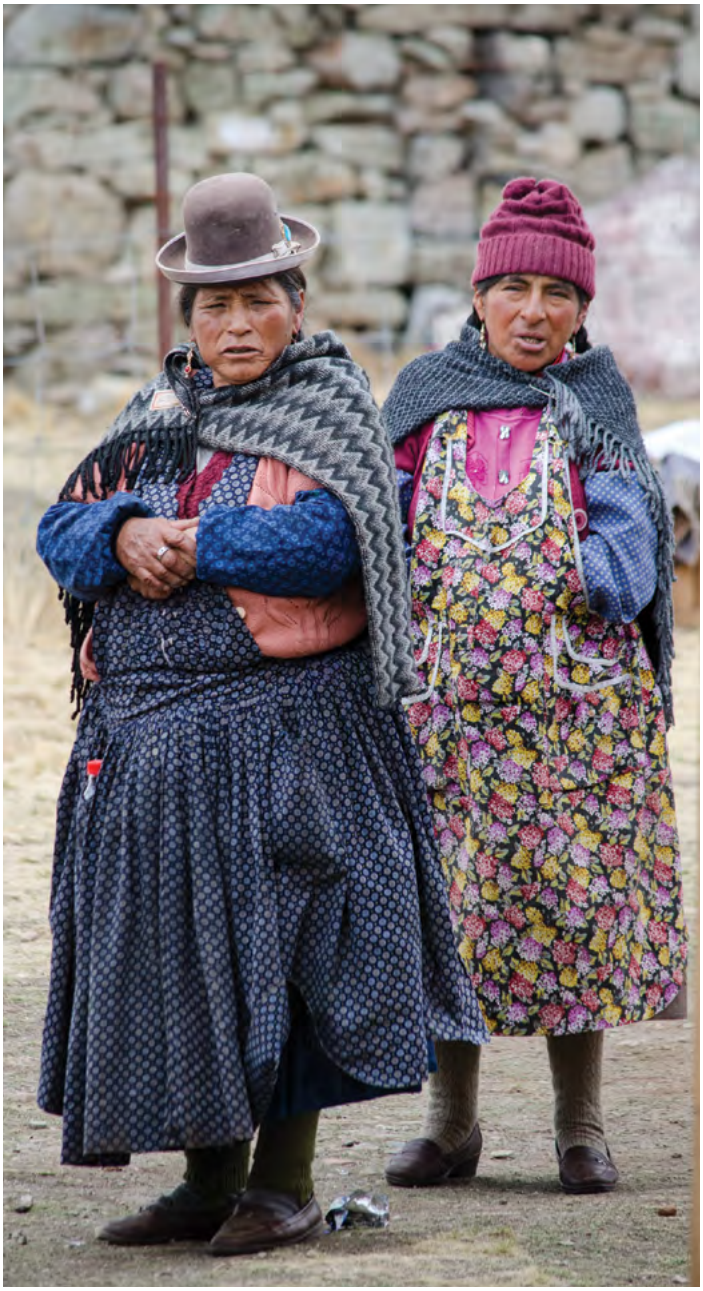
3 Restoring the Climate through Capture and Storage of Soil Carbon through Holistic Planned Grazing. Savory Institute, 2013. https://savory.global/wp-content/uploads/2017/02/restoring-the-climate.pdf

Charles Mann, the author of *1491*, a history of life in North and South America prior to the European invasion, calls humans a "keystone species" and points out that "Euro-Americans and Indigenous Americans are each members of their own keystone species…"[4]

Peru's indigenous people are the "keystone" to managing the forests and grasslands of South America. Their methods have an entirely different approach to environmentalism than the Anglo-European post-1492 colonists. This difference has geo-political ramifications. Consumers can decide who is doing a better job of protecting their respective habitats and battling global warming.

Mann says, "Guided by the pristine myth, mainstream environmentalists want to preserve as much of the world's land as possible in a putatively intact state. But 'intact,' if the new research is correct, means 'run by human beings for human purposes.' Environmentalists dislike this because it seems to mean that anything goes. In a sense they are correct. Native Americans managed the continent as they saw fit. Modern nations must do the same. If they want to return as much of the landscape as possible to its 1491 state, they will have to find it within themselves to create the world's largest garden."[5]

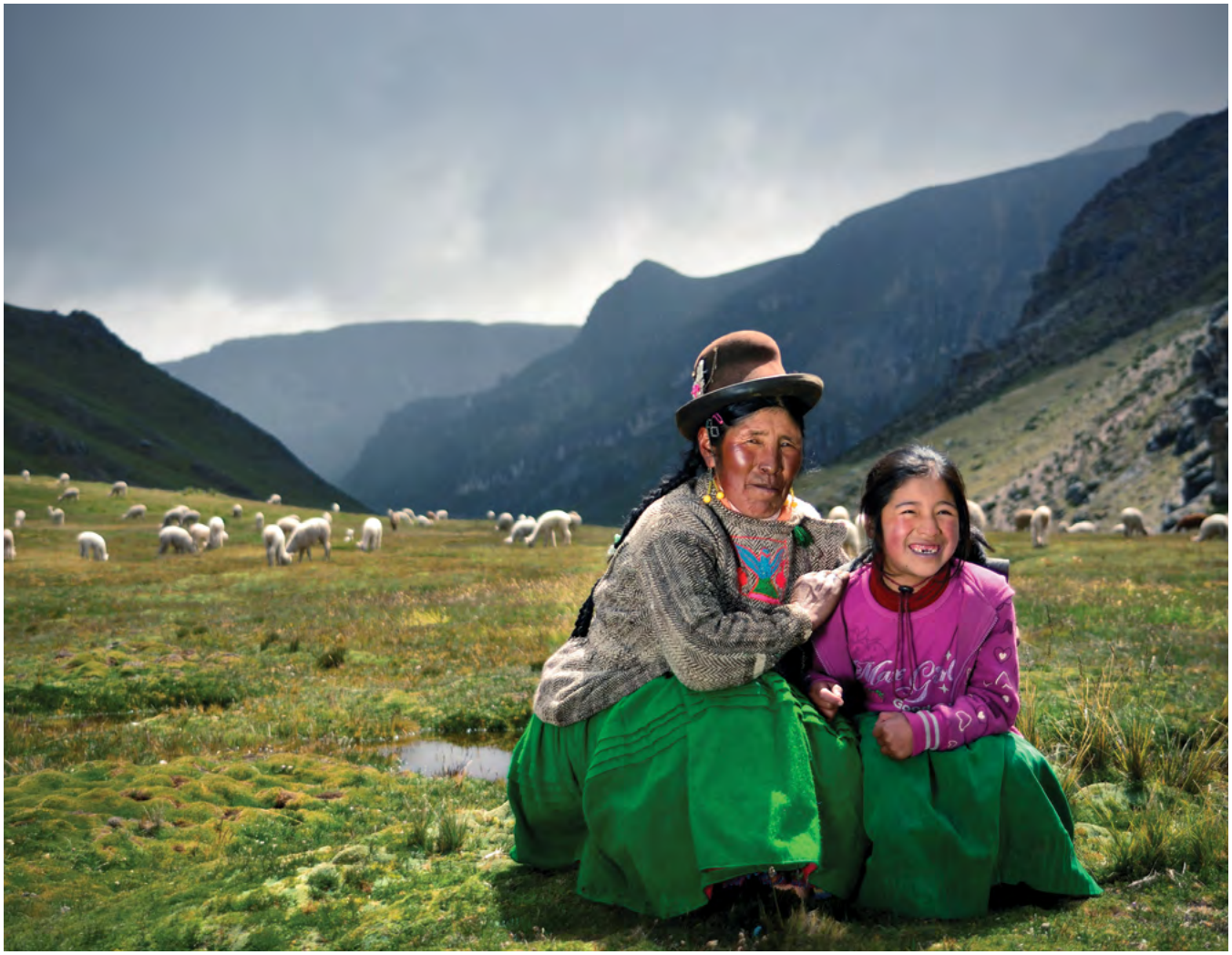
"The quantity of carbon contained in soils is directly related to the diversity and health of soil life. All organic carbon sequestered in soils is extracted from the atmosphere by photosynthesis and converted to complex molecules by bacteria and fungi in synergy with insects and animals. An effective, profitable, and culturally relevant method for increasing soil organic carbon is by restoring grasslands worldwide to their optimal health. To accomplish this at the scale and pace that we need, Holistic Management™ and one of its associated processes, Holistic Planned Grazing™ offers us a tangible way to restore our climate by properly managing livestock to build soil life.



These Quechua women are the typical alpaca shepherdesses who spend every day moving their animals to ever greener pastures. Photo by Robert Els

Since the 1970s Holistic Management's effectiveness has been well documented on millions of hectares on four continents. By restoring grasslands through Holistic Planned Grazing, we have the potential to remove excess atmospheric carbon resulting from both anthropogenic soil loss over the past 10,000 years and industrial-era greenhouse gas emissions.[6]

4 Charles C. Mann, *1491: New Revelations of the Americas Before Columbus* (New York: Vintage, 2006).
5 Charles C. Mann, "1491," *The Atlantic* March 2002. https://www.theatlantic.com/magazine/archive/2002/03/1491/302445/
6 Restoring the Climate through Capture and Storage of Soil Carbon.



Mother and child miles from home managing the family's alpacas. Photo by Ana Caroline de Lima

If this system of grazing was applied to the steppes of Mongolia and China, an area of grasslands twice the size of Texas could be restored. For an idea of how dire the problem of overgrazing cashmere goats, another luxury fiber, in Mongolia and China is, consider the following:

> *A perfect storm of factors is damaging Mongolia's grasslands, says Troy Sternberg, a researcher at the University of Oxford's School of Geography and the Environment in the United Kingdom. From 1940 to 2014, annual mean temperatures here have increased by 2.07°C, more than double the global average. Ten of the warmest years on record have occurred since 1997, while rainfall has decreased and seasonal weather patterns have shifted. This has exacerbated soil erosion, which has begun to alter the vegetation, a trend that projections show will intensify in the first half of the 21st century. Meanwhile, development, especially mining, has exponentially increased water usage…*
>
> *But one factor stands out: overgrazing, which, according to a 2013 study by researchers at Oregon State University in Corvallis, has caused 80% of the recent decline in vegetation on the grasslands.*[7]

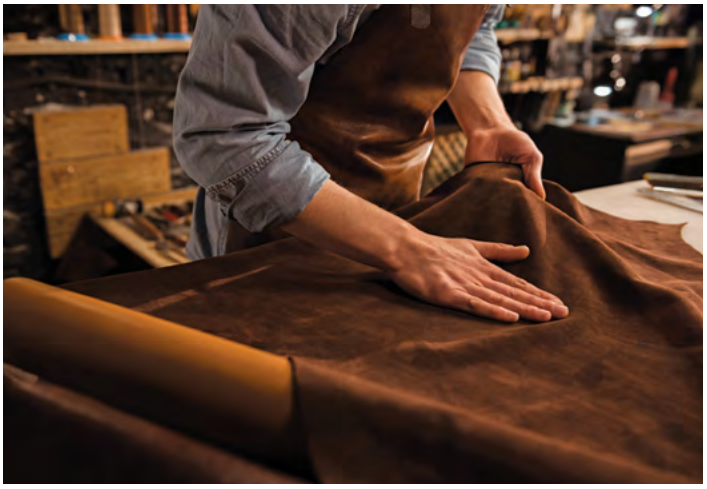
7 Kathleen McLaughlin, "Exploding demand for cashmere wool is ruining Mongolia's grasslands," *Science*. 30 January 2019. https://www.science.org/content/article/exploding-demand-cashmere-wool-ruining-mongolia-s-grasslands

Business of Fashion magazine recently published a case study on the crisis facing the fashion industry with regards to its contribution to global warming and its lack of viable alternatives to questionable past solutions of more and cheaper polyester, cotton, and recycling solutions. Here's what they had to say:

> *Hermès is a luxury brand that prides itself on being steeped in heritage and traditional craftsmanship. So, when it emerged in 2021 that the maker of the iconic Birkin bag was working on an experiment with Mycro-Works, a Californian start-up that manufactures a new mushroom-based alternative to leather, it sent a powerful signal to the rest of the industry: change is coming.*
>
> *While Hermès is breaking with tradition on just one bag for now, other brands are pushing further ahead to transform how they manufacture and use materials that are more environmentally and socially sustainable.*[8]

Business of Fashion estimates that these initiatives will require the investment of billions of dollars to retool the textiles and leathers used in either high or low fashion.

"The race to develop new materials and processes is gaining momentum thanks to fast-maturing technology and more substantial, profound partnerships between brands and innovators, which often used to be 'slow on the action front,' " said Georgia Parker, innovation manager at sustainable project accelerator Fashion for Good.



Hermès innovated new leather made entirely from mushrooms.

> *"However, there are significant challenges to overcome, including competing with incumbents to achieving sufficient scale. Material innovators—from textile recyclers to mycelium growers—need upfront capital to build capacity. Brands can help support this growth through minority equity investments or by making long-term buying commitments."*[9]

There are millions of alpacas being holistically managed in the highlands of Peru. They were perfectly sustainable 7,000 years before the Anglo-European tribe arrived. If the fashion brands would pay a little more for each pound of fleece, there is grassland to support them.
Photo by Ana Caroline de Lima

8 Rachel Deeley, "Fashion's Race for New Materials," *Business of Fashion* 31 January 2022. https://www.businessoffashion.com/case-studies/sustainability/materials-innovation-textiles-recycling-production
9 Deeley, "Fashion's Race for New Materials."

Goal two of COP26 (UN Conference of Parties on climate change) states, "Business leaders should be prepared to make hard, long-term choices with the welfare of all stakeholders considered."

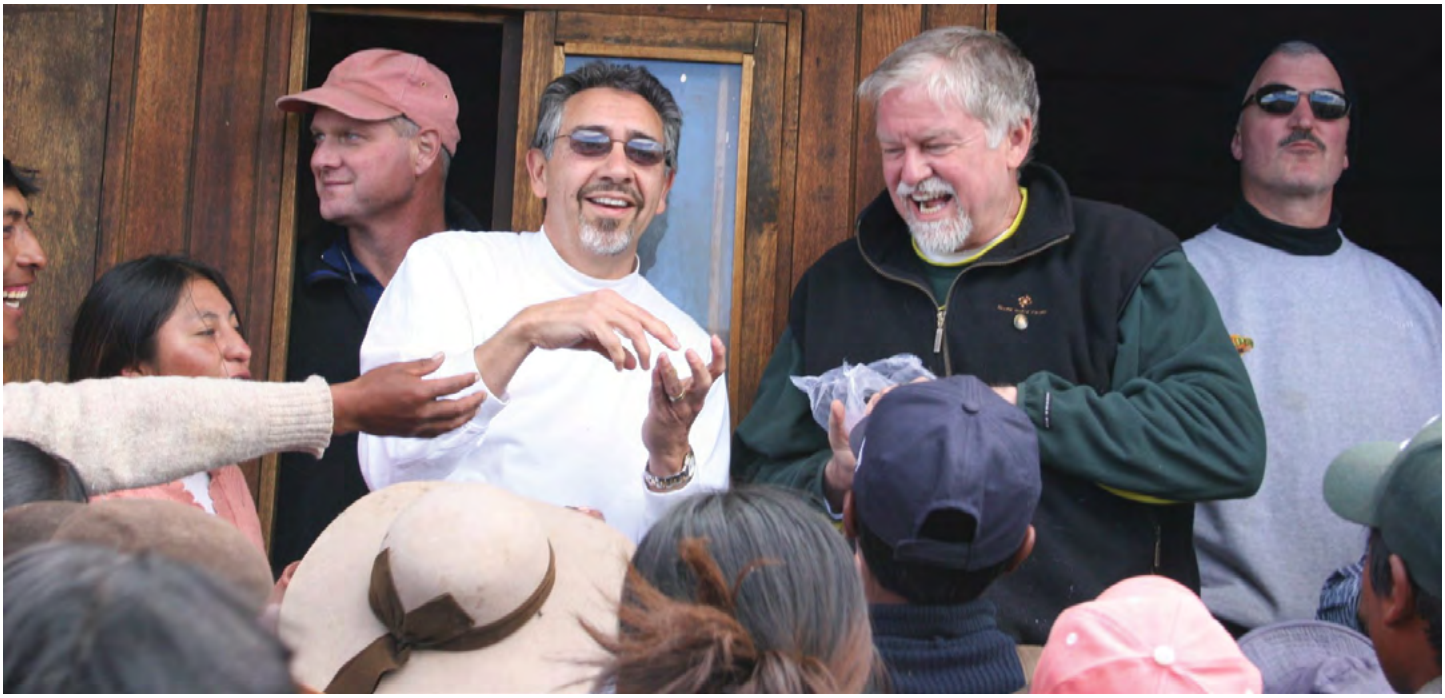
"Establishing resilience is also about protecting and restoring natural environments, as biodiversity and climate agendas are critically interdependent. It is estimated that around half of greenhouse gas emissions could be eliminated through natural measures such as reforestation and limiting land degradation. However, the fashion industry continues to contribute to significant biodiversity loss, with 23 percent of the world's insecticide is used in cotton agriculture and 25 percent of industrial water pollution resulting from the textile dyeing and treatment."[10]

" The vicuña has always been a passion of mine; I think it is a product unique to Peru. If there is something indisputable in the world, where Peruvians are the best, it is the vicuña. There is nothing better, in terms of fabrics and quality, in the whole world than vicuña. We are lucky to have them here in Peru."

— Andrew Michell, Director of Michell CIA

Bales of alpaca fiber in the textile manufacturer's warehouses in Arequipa, Peru.

Paying a fair price for alpaca, vicuña, and cashmere, sourced from restored—or in Peru's case fully maintained—grasslands, will not cost billions. This is a simple straightforward strategy for high margin luxury goods brands like Hèrmes, Louis Vuitton, Gucci, and Zegna to own the global warming solution. Consumers will be happy to pay more knowing they are making a difference by reducing global warming. And the poor indigenous people at the base of the supply chain will finally be paid a living wage.



Quechua Benefit's first dental mission to Picotani. The crowd of patients was ten deep and we had to leave and go home. We promised everyone we would return in the spring, and we have been returning ever since.

10 Harry Bowcott, Leigh Chantal Pharand, and Libbi Lee (McKinsey & Company), "How Fashion Can Deliver on COP26 Ambitions." https://www.businessoffashion.com/articles/sustainability/the-state-of-fashion-2022-bof-mckinsey-cop26-sustainability-climate-change/

Casa Chapi began as a boarding house where the alpaca breeders' kids lived and attended school in Chivay and Yanque, both central towns in the Colca Valley. In 2012 we built a K-6 school onsite. Today Quechua Benefit is K-12 and has three campuses (two in Arequipa). In 2022 we have five Casa Chapi graduates in college with many more coming.

The world risks the indigenous people of Peru simply pulling up stakes and moving to the cities or going to work in the mines because they can't care for their families. The day they leave and no longer manage the grasslands the grass will die from drought or the blazing sun, and no alpacas will graze seasonally. Regrowth by means of photosynthesis and carbon sequestration will cease. The industrial producers will lose a huge investment and the global warming deniers will have won.

There are easy to adopt incentives that will make it profitable for the alpaca pastoralists to live where they were born and continue their ancestors' cultural traditions. Quechua Benefit has spent years visiting remote highland communities in Peru. The donors of Quechua Benefit are made up of alpaca breeders in USA, Europe, England, New Zealand, and Australia. The nonprofit has listened to the people, created lasting relationships, served more than 200,000 people in the highlands, and built schools. Quechua Benefit was founded by Mike Safley, the author of this article, in 1996.

There is currently no additional funding available for the 1,000,000 Quechua people who manage and care for the vast grasslands of Peru or for their alpacas and vicuña that are likely the most sustainable natural fiber producers on earth. Without these pastoralists and their animals, the world would lose one the most efficient carbon sinks on earth.

Quechua Benefit can either consult with brands or organize, manage, and monitor partnerships that can create cost effective, culturally appropriate projects to ensure that the grasslands continue sequestering carbon and see that the alpaca and vicuña shepherds are paid fairly.