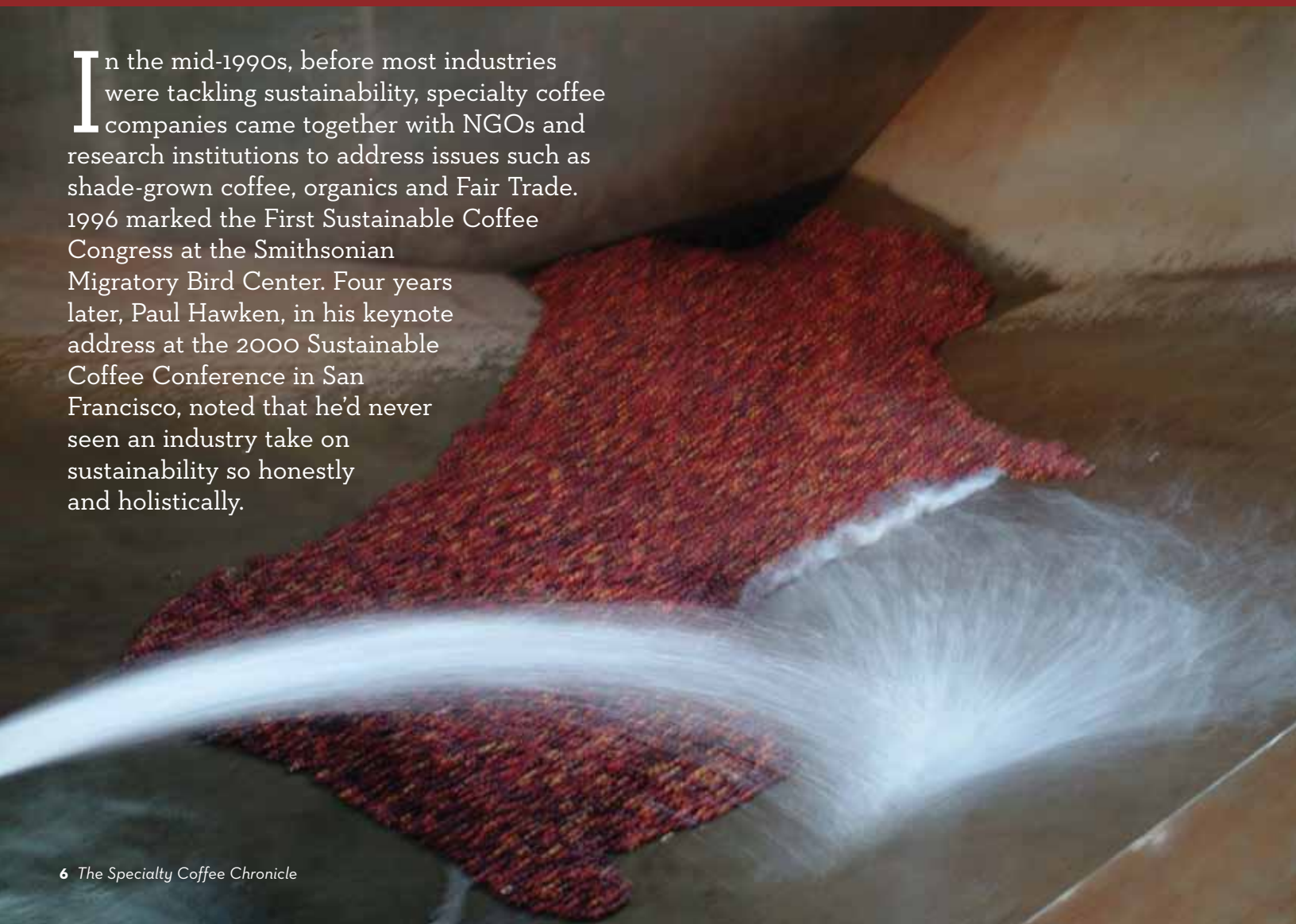
COFFEE QUALITY AND SUSTAINABILITY

The Issues Challenging and Changing Our World

Shauna Alexander Mohr



In the mid-1990s, before most industries were tackling sustainability, specialty coffee companies came together with NGOs and research institutions to address issues such as shade-grown coffee, organics and Fair Trade. 1996 marked the First Sustainable Coffee Congress at the Smithsonian Migratory Bird Center. Four years later, Paul Hawken, in his keynote address at the 2000 Sustainable Coffee Conference in San Francisco, noted that he'd never seen an industry take on sustainability so honestly and holistically.

Since then, the specter of multiple, compounding issues has risen, threatening the viability of coffee production and processing throughout the world: climate change, water scarcity, ongoing food insecurity and poverty, population pressure and the land use shifts, human migrations and geopolitical turbulence that can result.

This new global context has spurred many to begin asking tough questions: Are our current solutions oriented towards the problems of fifteen years ago, versus problems of today, or the future? How can we define or prioritize the key issues? What would the right approaches look like? Should we be coordinating our efforts and measuring impact? Do we intend to talk a big game or make a real difference?

In this inquiry, it soon becomes clear that "sustainability" has become far more than farm inputs and shade cover. Issues of sustainability are now core to the continued existence of specialty coffee.

Climate Change, Water, Coffee and People

Climate change is a good place to start. Just in case any reader is on the fence about climate change, here's the news: it doesn't matter if you're on the fence, because climate change is happening anyway. That climate change is caused by humans has been disputed in the popular press, but the factual evidence overwhelmingly shows that human-generated activity is causing the current climate shifts. And the tropical latitudes, where the poorest countries are located and where coffee is grown, will bear the brunt of the costs.[1]

Yale University natural resource economist Dr. Robert Mendelsohn noted that the tropical latitudes are "very dependent on agriculture, and agriculture is going to be harmed by any kind of warming. And it's going to happen right away, by 2020. What's worse is that these are the poorest nations in the world." [2]

To date, global warming has produced only a 1.4 degree Fahrenheit increase in average global temperature[3], but carbon dioxide lingers in the atmosphere for decades or even centuries, with a cumulative heat-trapping effect;[4] so the forecasts for warming levels grow more dramatic in future decades. The U.N.'s Intergovernmental Panel on Climate Change predicts an increase in global temperatures of 3.6 to 7.2 degrees Fahrenheit in the next 20 years,[5] with even greater temperature increases in many tropical regions.

What happens to coffee farming as the climate shifts? As Dr. Peter Baker and Dr. Jeremy Haggar noted at the SCAA Event in 2007, the impacts of climate change on coffee *already* include increased variability in yields and difficulty in establishing new plantings in some regions.[6] It is likely the impacts will increasingly translate into marked declines in yield and profitability for farmers. As trees cope with higher temperatures and arid conditions, beans will mature unpredictably and coffee quality will suffer.

Forecasts in Brazil predict a 10 percent reduction Brazil's arable land for coffee by 2020, and a one-third reduction by 2070.[7] Researchers at Embrapa, Brazil's agricultural research agency, are investigating how to anticipate and adapt to what is to come. Similar research is happening at other institutions. But coffee trees take years to establish and mature, and with the climate changing at an accelerating pace, there is a narrowing window for action.

Water scarcity will be another result of climate change. Shifts in precipitation patterns will follow an increasingly dramatic El Niño/ La Niña cycle, creating severe oscillations in water availability and general scarcity in many regions. Nicaragua's Ministry of National Resources and the Environment indicates that within this century rainfall will decline by an average of 30 percent [8]. Drip irrigation systems have been implemented in some regions, but these place an added burden on declining water supplies.

Washed arabicas are 85 percent of the specialty coffee market[9], but water scarcity also calls into question the wet milling process, a water-intensive processing method by which this majority of specialty coffee is produced. How do wet milling methods fit into a future of competing demands such as drinking water for local communities as well as for livestock and food crop irrigation? Nestle has already begun addressing this question in Ethiopia, one of the most arid coffee producing countries.

According to Nestle's website, "Nestlé promoted and financed the installation and operation of an eco-friendly processing facility in Kochere Woreda. The new technology uses only 6 litres of water per kilogram of green coffee...a 96-percent reduction of water use."

In the absence of action, these changes in climate, precipitation, arable land, and water availability could have devastating human impacts. The vast majority of coffee farmers are small landholders who live in systemic poverty and face chronic, seasonal food insecurity.[10] Shifts in water availability could jeopardize their access to fresh drinking water. Changing growing conditions could compromise the common and critical practice of growing food crops for family consumption. Marked declines or severe variability in coffee yields would undermine the tenuous economic underpinnings of their communities. These aren't just predictions of what could be. Farmers are feeling the impact of climate change *now*. As Drs. Baker and Haggar note, they are "anxious to develop strategies to confront it." [11]

Taking Action

What is the role of the roasting and retailing side of the industry in this equation? How can we support farmers and ensure the ongoing availability of high quality coffee? The Global Coffee Quality Research Initiative (GCQRI) was borne out of these questions.

The GCQRI (http://gcqri.org/) is a collaborative research program of the specialty coffee industry and the The Borlaug Institute of Texas A&M University. Its purpose is to support research to improve, grow, and protect the supply of high quality coffee. Conceived by a number of major companies and thought-leaders in the specialty coffee industry, its creation is a direct result of the realization that the issues threatening coffee are bigger than any one roaster could address, and that the solutions will come about through c*ollaborative* action on topics of shared interest.

The GCQRI's initial meetings in October 2010 identified several initial priority research categories, including the need to develop and align on a defining measure for quality. Currently in its first "genesis" year of operation and led by Dr. Tim Schilling, the GCQRI is an important and nascent effort to address these issues with sound science and a systematic, coordinated approach that draws upon the talents and knowledge resident throughout the producing world. The more roasters that participate in the GCQRI, the more funding will be available to find solutions to our shared concerns.

Another path of action for roasters is to tackle their own contributions to the source of the threat: the "increase in [greenhouse] gases comes mostly from human activity, especially the increased use of fossil fuels."[12] These fossil fuels are burned primarily in northern, developed economies. In other words, the importing countries are the greatest contributors to the greenhouse gases causing the climate-change induced problems in the tropics. Roasters and retailers interested in curbing their participation in this phenomenon may choose to go on a carbon diet. Roasters ranging from Counter Culture to Starbucks have conducted carbon audits and taken action to slash their carbon footprint. Interested roasters can go to those websites, take a look at what those companies are doing and apply the lessons to their own operations.

Competition and Collaboration

These problems can seem overwhelming, but there is a possibility of success if we act collectively to begin addressing them. Yet how do competitors partner to collaborate on solutions?

One thing that stands in the way of successful collaboration between competitors is a feeling that their companies are so different that 'solutions that work for you couldn't possibly work for me.

And while there are very real differences in the customer-facing side of specialty—people have passionately different views about roast levels, brewing methods, product presentation, customer interaction—focusing exclusively on these differences yields the false impression that you have nothing in common.

Begin stepping back along the supply chain and ask: from which countries and regions do you source your coffee?It's highly likely that you're sourcing from the same countries and regions. Is it possible that you're sourcing from the same farms, or neighboring farms? Harvested by the same workers? Processed in the same wet and dry mills?

Shipped to port along the same roads, and then to you in the same ships?

If you don't think you have a lot in common with your competitors, think again. As climate shifts cause yields to suffer, prices to go up, quality to decline, water to become scarce, you're all in the same boat. The flip side is, the solutions are common ground, as well.

As Michael Porter and Mark Kramer noted in their January 2011 Harvard Business Review article, *The Big Idea: Creating Shared Value*, "No company is self-contained. The success of every company is affected by the supporting companies and infrastructure around it." And as challenges mount, "major competitors may need to work together on precompetitive framework conditions, something that has not been common in reputation-driven CSR initiatives."[13]

Changing Course

The scale and magnitude of the challenges of climate change require a new way of being in collaboration with one another. But many solutions already exist, and it's time to begin sharing those insights and breakthroughs, and partnering to invest more where the greatest innovation is most needed. A holistic, systemic approach to sustainability is the only way we will have a long-term supply of quality coffee in the future.

As a Chinese proverb states, "If we don't change our direction, we're likely to end up where we're headed."

Shauna's passion for coffee began in 1996 while researching her master's thesis on shade-grown coffee in Costa Rica. She presented her thesis at the First Sustainable Coffee Congress and has been involved in coffee ever since, as a researcher, consultant, facilitator, importer and presenter on topics related to specialty coffee and sustainable economic development. She is the facilitator for the SCAA Executive Symposium in April.

FOOTNOTES

1 Richard Conniff, "Third World to Bear Brunt of Global Warming," Environment: Yale, The Journal of the Yale School of Forestry and Environmental Studies, Spring 2007, p. 28.

2 Ibid, p. 29

3 "Global Warming Fast Facts," *NationalGeographic.com*, June 14, 2007

4 Conniff, p. 30

5 Marco Sibaja, "Climate Change Threatens Brazil's Top Coffee Crop," *USAToday.com*, February 19, 2009

6 Dr. Peter Baker and Dr. Jeremy Haggar, "Global Warming: The Impact on Global Coffee," presented at the SCAA Conference, Long Beach, CA, May 2007

7 Sibaja, *cited above*

8 Drs. Baker and Haggar, *cited above*

9 Ric Rhinehart, personal communication, January 2011

10 "Green Mountain Coffee Roasters Confronts *Los Meses Flacos*," Agriculture & Development, *SustainableFood.org*. See also "Fighting Poverty and Hunger in our Coffee Supply Chain," *gmcr.com*.

11 Drs. Baker and Haggar, *cited above*

12 Drs. Baker and Haggar, *cited above*

13 Michael Porter and Mark Kramer, "The Big Idea: Shared Value," Harvard Business Review, January 2011.