



Coffee at Risk?

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Opinion

Coffee is migrating. As it's getting hotter at lower altitudes, the lower plants are dying off, so it marches the coffee forest up the slopes.

Dean Cycon (owner of Dean's Beans Coffee Company)

Coffee, java, morning Joe, black wine, jolt juice, espresso, cappuccino. Whatever the name, coffee is synonymous with the American dream. During my recent Fulbright assignment to Ethiopia, I have lived in the town where coffee originated-Jimma, Ethiopia. And yes, the coffee here is absolutely out of this world. Even as a coffee-lover, I have to add two-thirds milk with a third coffee, because the freshly-roasted beans are so strong. And the flavor is velvety.... absolutely smooth like a fine whiskey (although I actually don't drink whiskey!).

A cup of coffee has inspired business deals, exam-preparation, student all-nighters, real estate transactions, truck-driving, dating, and diplomacy. It represents a daily ritual for millions of Americans. Imagine a world without coffee? Several biological challenges threaten the world's coffee supply. Almost all agricultural crops planted by humans plant in monocultures ultimately get attacked by insect pests (potatoes, pine lumber, corn, tobacco, and cotton, to name but a few). Coffee is no different. The coffee berry borer (affectionately called *la broca* in Latin America, translated as "the drill") did not exist in Ethiopia fifty years ago, but now threatens the harvest in this country of coffee's origin. The beetle has gone global, and thrives in almost every country of the world that grows coffee. There is also a fungus called coffee wilt, spreading fast throughout the foliage on coffee bushes.

In addition to threats from invasive critters, coffee crops are declining from warming climates. For every 1.8 degrees Fahrenheit increase in temperature, the coffee borer is 8.5% more infectious. In other words, the beetles love warmer conditions! But coffee plants do not survive in warmth; and for that same increment of warming, Colombian coffee growers must shift their plantations 550 feet up the hillsides to cooler temperatures. The coffee-growing districts of Ethiopia have experienced an increase of approximately 6 degrees Fahrenheit since the 1950s, forcing farmers to either buy land up the hillside, or switch to other crops, reducing the world's coffee harvest. A sustainable solution is shade-grown coffee; by planting in the understory of original forests, coffee plants remain several degrees cooler than in sunlight. However, many coffee-growing countries have already clear-cut their forests, so this option is gone. Sustainably speaking, coffee drinkers should always request shade-grown coffee. Although it costs a few cents more per cup due to slower growth in the shade, it is more sustainable growing under the forest canopy, tastes better, and is less susceptible to outbreaks of coffee borers when grown amidst diverse native trees.

So is the American economy, driven by the proverbial coffee-drinking business deal, at risk? Either we find another popular liquid to stimulate our economic activities, or we seek solutions to the coffee borer and the warming trends that threaten our favorite java. Additional research on Ethiopian coffee is a great place to start, and contributes to the sustainable future of one of our favorite drinks.

(Factoid: September 29 is American Coffee Day!)