



Buzz worthy

Joan Kithika,
African Coffee
Roasters, Athi
River, Kenya



Coffee drinkers have a taste for change. That's a tall order for growers, roasters and retailers around the world.

BY MATT ALDERTON
PORTRAITS BY MIA COLLIS

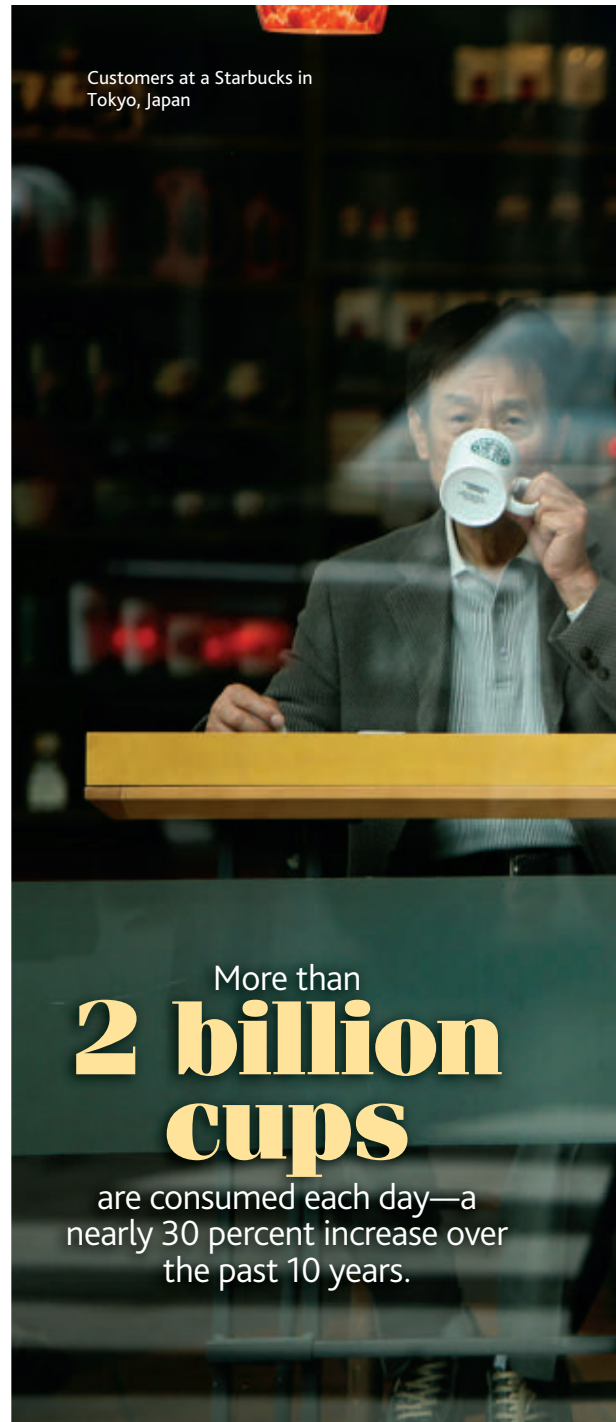


Coffee is hotter than ever.

Whether sipping espressos in a café or brewing a pot of plain black java at home, the world can't get enough. More than 2 billion cups are consumed each day—a nearly 30 percent increase over the past 10 years, according to the International Coffee Organization (ICO).

But having so many caffeine cravers puts pressure on the entire supply chain to keep expanding. Global production of coffee beans has increased 17.3 percent to 8.9 billion kilograms (19.6 billion pounds) in the past 10 years. And retail is percolating, too. For instance, revenue for the world's largest coffee shop chain, Starbucks, has increased nearly threefold in the past 10 years to US\$21.3 billion.

Maintaining that growth isn't easy. That's why all segments of the coffee industry are launching projects to ensure a robust future. For instance, climate change threatens yields in peak growing areas, so coffee companies are working with farmers from South America to Southeast Asia to launch



Customers at a Starbucks in Tokyo, Japan

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sustainability projects designed to mitigate the risk of reduced yields. Meanwhile, growers and roasters are taking high-tech approaches and leveraging customer feedback to improve the quality of beans at the center of specialty products that satisfy coffee drinkers around the world.

To push these projects to the finish line and ensure there are no gaps in the supply chain, teams must handle changing requirements and build buy-in among farmers and other stakeholders.

"Coffee is changing a lot," says Olga Lucia Cuelar, sustainable sourcing manager at S&D Coffee & Tea in Bogotá, Colombia. "There is a shift taking place. There's more access to coffee and there's

ISTOCKPHOTO (2)



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Source: International Coffee Organization

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WARMING TRENDS

The coffee industry is getting burned by climate change. By 2050, climate change could reduce the areas around the world that are suitable for coffee production by 50 percent, according to a 2016 report by The Climate Institute of Australia. That puts pressure on the entire industry to brainstorm new ways—from sustainability projects to relocating growing operations—to mitigate the impact on production.

Sustainability projects are becoming a high priority for roasters and wholesalers who can

achieve both a reliable supply of coffee beans and a new opportunity to market their products. For instance, switching to organic growing techniques can decrease the threat of certain climate-resilient insects or diseases that can kill coffee plants.

But getting growers to convert operations from conventional methods isn't easy, particularly where organic coffee-growing methods have never been attempted on a large scale, says Joan Kithika, sustainability and compliance manager, African Coffee Roasters, Athi River, Kenya. Whether it means adjusting operations or relocating coffee fields, such efforts could effectively mean starting from scratch, she says.



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A worker shovels coffee beans near Bragança Paulista, Brazil.



"A long-term goal and having a multiyear plan to achieve it has allowed us to come up with a very good product."

—Fred Cowell, Kauai Coffee Co.,
Kauai, Hawaii, USA



To build buy-in among growers, the roasters' and retailers' project teams first must zero in on showing how organic approaches will deliver long-term benefits to farmers, she says. For instance, this year, Ms. Kithika's team began planning a five-year project to convert one supplier—a coffee cooperative consisting of several thousand farmers—to organic farming. The project eventually will help farmers pursue and obtain organic certification. But farmers must dramatically alter growing techniques, such as the type of fertilizer used, in ways that initially might reduce yields.

To earn the support of skeptical stakeholders, she found a buyer who would commit to buying the future organic harvests. "The most important thing for a farmer is having a guarantee that if they

do this, their coffee is going to be bought. As long as they see the commercial value in it, they will do whatever it takes," she says.

Her team also engaged local leaders and influencers to sway undecided farmers in their community, such as leaders of coffee farming cooperatives. "We target farmers who are already organized," Ms. Kithika says. "Small coffee farms are already organized into cooperative groups to enable them to process and market their coffee. So we approach the farmers through their elected management board."

BREW FROM ABOVE

Growers are also turning to tech to meet consumer demand for higher-quality beans destined for spe-

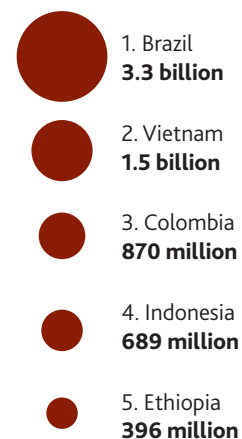
PHOTO BY PAULO FRIDMAN/CORBIS VIA GETTY IMAGES



Supply and Demand

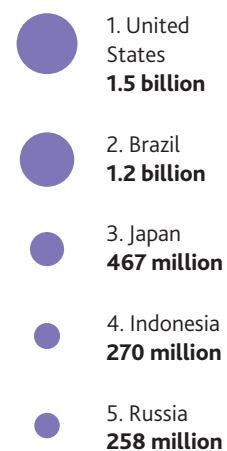
The world's top five coffee-growing countries*:

*Kilograms produced in 2016



The world's top five countries for coffee consumption**:

**Kilograms sold in 2016



Source: International Coffee Organization

cialty coffee brews. Incorporating high-tech tools can help ensure taste and quality measure up to heightened expectations, says Fred Cowell, general manager of grower and roaster Kauai Coffee Co., Kauai, Hawaii, USA.

For instance, last year Mr. Cowell launched a nine-month project to acquire, test and implement a drone to improve coffee quality. The US\$8,500 drone is equipped with sensors that capture infrared images of Kauai Coffee Co.'s crops, creating a map that the company can use to evaluate the health of its plants—and the expected quality of its coffee beans. For example, the imagery can reveal a plant's chlorophyll level, which is a key indicator of plant vigor. If chlorophyll is determined to be low,

Mr. Cowell can increase it by adjusting inputs like water and fertilizer. Such changes ultimately will produce better-tasting coffee, he says.

“Sensor technology is a way for us to gain information to make better decisions in a more timely fashion,” Mr. Cowell says.

But there's a large learning curve for high-tech projects. They require extensive upfront planning to ensure maximum ROI. For the drone project, Mr. Cowell's team devoted two months to interviewing drone users and suppliers from across the agricultural spectrum. Their feedback helped educate his team on the benefits and limits of the technology. “We worked hard on planning so that when we actually sprung the funds to buy

our drone we knew exactly what we needed—and how we would benefit.”

But some quality issues require a human touch. Mr. Cowell launched a three-year product development project last year with a very specific goal in mind: win a Roasters Guild “Coffees of the Year” award, given out at the Specialty Coffee Association of America’s (SCAA) annual exposition and international event. The award would provide a measure of quality that he could market to customers.

His team extensively studied previous winners to determine which practices helped earn those awards. He also contracted two licensed taste testers to sample and grade 15 coffee varieties, each processed using a handful of different techniques. The variety chosen by the testers was germinated



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—Cecilia Jalmasco, PMP, Nestlé, Singapore

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RESPONSIVE ROASTERS

As the need to innovate increases, coffee roasters realize the not-so-secret ingredient to their success is customer satisfaction. Getting prompt feedback

and planted in a 12-acre (4.9 hectare) plot and will be further tested next year to gauge the impact of other practices, such as soil improvement efforts.

The team is already seeing success: The coffee’s score on the SCAA’s 100-point quality “cupping” scale jumped from 80 to 85 after the first year of the project, Mr. Cowell says. It will need to score at least 90 points to achieve the excellence certification.

“The company had attempted quality initiatives in the past, but it didn’t have a specific goal or test plan to get there. Laying out

CASE STUDY

Cultivating Growth

Kenyan farmers are teaching themselves how to transition to sustainable production.

Danish retailers wanted a guaranteed supply of coffee for their customers. Farmers in Kenya were seeking to ensure a long-term market for their product. So a three-year project that helped to facilitate direct trade and better growing practices turned into an ideal solution.

The Coffee for a Better Future project, which was completed in June, was a joint venture between Danish coffee roaster Peter Larsen Kaffe, sustainable IT solutions provider Just Fair ApS and Kenya Cooperative Coffee Exporters. The project helped give birth to several long-term business agreements. For instance, Danish supermarket chain Coop Danmark in 2016 established African Coffee Roasters to work with a cooperative of Kenyan coffee farmers.

But there’s more to the project and resulting deals than just buying and selling: The Kenyan farmers had to meet quality and quantity requirements. To ensure the farmers would be able to make the necessary changes, the project partners funded a series of training sessions that lasted three years to teach sustainable growing practices that would help maximize yield size and quality, says Joan Kithika, sustainability and compliance manager at African Coffee Roasters, Athi River, Kenya.

“For Peter Larsen Kaffe, it was about product differentiation: There was a good story behind the coffee,” she says. “For the farmers, it was about making money: They had guaranteed sales.”

Yet farmers had to be willing to devote the time to training, so the project team created a peer education structure. Farmers selected who among them would be the peer educator and receive



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monthly agricultural training—knowledge that the chosen farmers would later share with others. All told, 50 chosen trainers educated about 5,000 coffee farmers. The peer-facilitated approach helped foster trust among farmers and built long-term interest in the training program. For instance, the farming cooperative has continued the training on its own after the project ended, because the farmers see the value, Ms. Kithika says.

“The community has to own the project themselves,” she says. “If they don’t, the benefits will die as soon as implementation is over.”

The ROI for devoting time to training was immediate. During the first two years of the project, coffee

bean production increased about 160 percent, Ms. Kithika says. And some of the 11,000 active co-op members doubled their income, she says. That extra income was the ultimate measure of project success among farmers, Ms. Kithika says.

“The best way to make change sustainable is to have a commercial angle to it and to communicate that effectively to both the producer and the consumer,” she says. “In this case, we knew the producer would be happy because they would increase their production and get better prices for their coffee. And we knew Peter Larsen Kaffe would be happy because they would get consistent and quality coffee.”

from coffee drinkers helps teams determine the ultimate measure of project success.

“Without the consumer, you have no business,” says Cecilia Jalmasco, PMP, project manager, Nestlé, Singapore. “Consumer preferences are evolving, and it’s important that we respond quickly.”

Without a comprehensive plan to capture consumer feedback, coffee companies risk wasting capital expenditures on products that respond poorly to what consumers want, Ms. Jalmasco says. At Nestlé, she manages R&D projects for the company’s Nescafé instant coffee brand. For those projects, an iterative product development cycle

allows project teams to create a prototype, test it with focus groups and then improve it based on their feedback.

“You must recruit the right target consumer group for studies,” she says. “For example, you cannot be recruiting very young people if you want to cater to Generation X. Or if you want to create a premium offering, you have to target people who are earning a certain amount of money as opposed to the mainstream.”

Ms. Jalmasco’s teams also have learned how to filter feedback to fine-tune the quality of new products. Nestlé creates and supports teams of sub-

Common Ground

Growers and roasters aren’t the only links in the supply chain embracing change. Coffee retailers around the world are launching projects to stir new business and meet the evolving tastes of consumers.

STARBUCKS RESERVE ROASTERY

Location: Chicago, Illinois, USA

Budget: Not disclosed

Scheduled to be completed: 2019

Starbucks will build its largest-ever store—a four-story, 43,000-square-foot (3,995-square-meter) facility that’s designed to attract younger coffee drinkers. The massive coffeehouse will serve ultra-premium small-batch coffees and conduct tours showcasing a variety of brewing methods.



ject matter experts around the world, and project managers or team members can consult freely with those internal experts via the company's intranet, she says. These expert networks are a form of knowledge management that help the company innovate more quickly—and keep budgets in check by not reinventing the wheel, says Ms. Jalmasco.

“Project managers and their team members in R&D are asked to estimate their budget as accurately as possible, but that's not always easy because there are a lot of unknowns, as opposed to the standardized technologies and practices,” she says. “Taking lessons learned from past projects—what

skills were needed, what risks and opportunities did we face, what resources were required—helps us budget more accurately.”

Having the right information at every phase—and a bird's-eye perspective of the entire supply chain—is the best way to brew change, Mr. Cowell says.

“Coffee is a spectrum—it's everything from the seed you plant in the ground to the cup of coffee that you serve. Everywhere along that continuum, project teams have the opportunity to affect quality both positively and negatively.” **PM**

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—Cecilia Jalmasco, PMP

PEET'S COFFEE & TEA PLANT

Location: Suffolk, Virginia, USA

Budget: US\$58 million

Scheduled to be completed: 2018

The 175,000-square-foot (16,258-square-meter) roasting facility will ensure its coffee is fresher when customers buy it at grocery stores located far from the company's existing roasting plant in Alameda, California, USA.

CHINESE COFFEE FACTORY

Location: Chongqing, China

Budget: CNY1 billion

Scheduled to be completed: 2018

In response to skyrocketing consumer demand for coffee, China's Chongqing municipality is building the country's largest instant coffee factory. The factory will produce 10,000 tons of freeze-dried coffee, 2,000 tons of liquid coffee concentrate and 3,000 tons of roasted coffee beans per year.



COSTA COFFEE ROASTERY

Location: Basildon, Essex, England

Budget: £38 million

Completed: March 2017

The 16-month project to build Europe's largest coffee roaster more than quadrupled the company's roasting capacity from 11,000 tons per year to 45,000 tons. The 85,690-square-foot (7,961-square-meter) facility can process 24 tons of beans per hour and also includes a new coffee academy where Costa will train 3,000 baristas per year.