Yaa Amekudzi bounces along dirt roads in a sport-utility vehicle from one village to the next as part of a $1 billion scramble by the world's top chocolate makers to fix the industry's most vexing problem.

Demand for chocolate is stronger than ever, especially now that more consumers in China and India are buying bars and bonbons long considered an unaffordable luxury. But cocoa production is down, including a steep slide last year in Ghana, the second-largest cocoa-growing country. Cocoa prices have jumped nearly 40% since the start of 2012.
As a result, the pressure is on Ms. Amekudzi and her team of five employees at Mondelez International Inc., the maker of Cadbury Dairy Milk bars and Oreo cookies, to help cocoa farmers boost their dwindling crop yields.

“They need to change the way they farm,” says Ms. Amekudzi, who runs Mondelez’s cocoa sustainability operations in Ghana. “We don’t have the forest cover we had, we don’t have the rain our grandfathers had, and the soil isn’t as fertile...Young people often leave to seek a better life in the city.”

She gives cocoa farmers advice on better ways to space seedlings, apply fertilizer and prune trees.

Similar instructions to farmers in neighboring Ivory Coast, the world’s No. 1 cocoa grower, have helped produce back-to-back record crops, companies say. But average crop yields are just one-third as big as they could be if all cocoa farmers in Ghana and Ivory Coast followed good agricultural practices.

The problems worry the industry so much that 10 of the largest chocolate producers and cocoa processors agreed in 2014 to begin sharing with each other a wide swath of private data on farming practices and crop yields. The move was unprecedented.

The gregarious Ms. Amekudzi is a big part of the next step in the process. She travels back and forth between hundreds of villages in Ghana to help retrain farmers and meet with community leaders.

She is responsible for about a quarter of the $400 million committed by Mondelez to its cocoa-sustainability program through 2022. The industrywide total of about $1 billion includes spending on cocoa-sustainability programs disclosed by the 10 big chocolate producers and cocoa processors.

“I think we’re going to see successes,” says Bill Guyton, former president of the World Cocoa Foundation, the industry group that is helping coordinate the information-sharing initiative.

So far, though, it has been hard for the chocolate companies to agree on how to measure progress. “It has challenges on all sides,” Mr. Guyton says.

Barry Parkin, Mars Inc.’s chief sustainability officer, said the maker of M&Ms and Snickers bars realizes that keeping up with demand “will require a big investment,” since there are “still one to two billion consumers around the world that don’t eat chocolate today, and we think they will.” Mr. Parkin also is the industry group’s chairman.

Voice-mail weather

Some previous efforts on a far smaller scale have been successful. Hershey Co. and the World Cocoa Foundation delivered weather and marketing information to Ghanaian farmers by text and voice mail from 2011 to 2013. Hershey says farmers who used the information increased their yields by 46%.
Global demand for chocolate rose 0.6% to a record 7.1 million tons in 2015, led by a 5.9% jump in Asia, according to research firm Euromonitor International. Cocoa production fell 3.9% to 4.2 million tons, estimates the International Cocoa Organization. The two totals are different because the ingredients in chocolate include sugar and often milk.

In the growing season that ended Sept. 30, Ghana’s cocoa production slid 18% from a year earlier because of disease, dry weather and shifts in government policy. Ivory Coast’s cocoa harvest increased 2.8%.

Many analysts expect production in those two countries, which grow about 60% of all cocoa, to drop in the current season, hurt by problems such as the old age of many trees, more bad weather and disease.

While prices for nearly all commodities fell last year, cocoa rose about 10%. It was the best performer in the S&P GSCI commodity index. While prices slipped at the start of this year, the long-term surge has led companies such as Hershey, Nestlé SA and Lindt & Sprüngli AG to hike chocolate prices since the start of 2014.

Farmers in Ivory Coast and Ghana receive a fixed price for their cocoa beans from the government. That means supply doesn’t increase from one season to the next to take advantage of short-term squeezes in the market, unlike wheat and corn.
Cocoa trees also take two to four years to yield pods, so output can’t rise rapidly from one season to the next.

The world isn’t about to run out of chocolate, an extreme scenario referred to in some news articles as the “chocopalypse.” The global market actually ended the latest growing season with a slight surplus. The volume of cocoa ground into powder and other semifinished products declined more than production did because of general macroeconomic weakness and weaker currencies in emerging markets where consumers are more price sensitive.

Still, candy makers have concluded that widespread changes in farming are essential to keeping up with rising long-term global demand. But government officials are reluctant to allow some of those changes.

For example, Mars has sent Ivory Coast agronomists on a three-month training course in Indonesia, the world’s No. 3 producer. There they learn the ancient technique of grafting new plants onto old ones to speed growth. A new cocoa tree spliced into an older trunk can begin production in nine months.

Yields from a small plot of grafted trees in the Ivorian village of Petit Bondoukou have swelled to 3,000 kilograms of cocoa per hectare, or about six times the national average. Purple and yellow pods drip from the grafted trees.

After a year, farmer Date Yoboua was eager to spread the practice across all 50 hectares of his land but was told “this could not be done, because it was a pilot project,” he says.

Government officials are reluctant about the widespread use of grafting. Some of them fear grafting trees could spread disease faster, since it can take more than a year to tell whether a tree is infected with certain viruses.

Indeed, Mr. Yoboua’s own farm, with which he supports two wives and a dozen children, has been overrun with cocoa swollen shoot virus disease, shriveling his production to six tons last season from a peak of 50 tons.

Because of the small crop, “I must confess that I do not have money to buy fertilizer,” Mr. Yoboua says. “I used to have good agricultural practices.”

Ivory Coast and Ghana each have about 800,000 cocoa farmers, with an average age older than 40. Many live far from good roads or social services and have farmed the same way for decades.
Ms. Amekudzi is spearheading the drive to retrain them for Mondelez, which is based in Deerfield, Ill., and had revenue of $22.27 billion in the first nine months of 2015.

“Yes, Mondelez is corporate, but I am a development worker,” she said on her way out of one village recently, sighing deeply as her SUV sprang down another rural road lined with cocoa trees. “You are the steward for Mondelez’s money, but you need to be accountable to the communities as well.”

Chocolate companies say farmers could easily grow 1,500 kilograms per hectare with the right knowledge, planting material and fertilizers. Average output is now roughly 500 kilograms per hectare.

Most West African cocoa trees have long passed their peak production age of 10 to 20 years. The Ghanaian government estimates that 40% of the country’s trees are unproductive because of age or disease.

Farmers and industry officials say poor productivity is aggravated by a shortage of labor as more people migrate to cities.

Cocoa production in Ghana also was hurt when the government changed its cocoa-subsidy program, including paying farmers a higher price for their beans so they would buy fertilizer and seedlings directly. The government previously distributed those items to farmers.

The changes backfired. Many farmers pocketed the extra cash instead of investing it in their farms. The government decided last year to backtrack.

Meanwhile, some cocoa farmers have sold their property to gold prospectors because cocoa production looks less appealing. “It’s a quick way to make some money, but there are long-term costs,” says Vincent Manu, a World Cocoa Foundation coordinator in Ghana. “They don’t have business skills, so they don’t invest and they’re back to square one. It’s a big problem.”
And there is yet another looming threat: climate change. “Even if they do continue to improve their infrastructure and pump more and more money into the system, we’re still going to be dealing with Mother Nature,” says Hector Galvan, senior market strategist at brokerage firm RJO Futures, a unit of R.J. O’Brien & Associates LLC.

Shriveled cocoa pods
Mohammed Tahiru farms four hectares of six-year-old cocoa trees in Mantukwa, Ghana. During the season that ended in September, his production dropped 26% despite his trees being a year closer to peak production age.

“It’s because of the weather conditions,” says Mr. Tahiru, a father of six, while looking at the shriveled black pods on a nearby tree. “The pods on the trees aren’t reaching maturity. It is quite worrisome.”

Below-average rainfall persisted in Ivory Coast and Ghana through the start of the current season. Now the weather phenomenon known as El Niño is further threatening production. This El Niño has helped bring much of Africa its most severe drought conditions in about three decades.

In addition, a seasonal dusty, dry wind from the Sahara that blows over West Africa has been worse than usual, hurting developing cocoa pods.

Global chocolate companies are also battling the entrenched use of child labor. Last year, a Tulane University study commissioned by the Labor Department calculated an 18% rise from 2008 to 2014 in the number of children who work on Ivorian and Ghanaian cocoa farms under hazardous conditions such as clearing land, carrying heavy loads, or for long hours, at night or with exposure to agrochemicals.

Nestlé set up a child-labor monitoring system in Ivory Coast in 2013 that has identified some 4,000 children working on family farms in hazardous tasks the company classified as child labor.
Ivory Coast and Ghana have largely banned the use of child labor, but it is hard for authorities to check all the farms in rural areas. “Child labor is a complex problem, and there are no quick or easy solutions,” says Darrell High, cocoa manager at Nestlé.

Nestlé provides school supplies, obtains birth certificates so children can register for classes and helps farmers develop other income-generating activities, like growing and selling food crops.

“The biggest challenges remain...making cocoa farming a worthwhile occupation for future generations,” says Mr. High. Chocolate companies have to help make cocoa-growing look appealing enough to attract young people who are increasingly drawn to the possibilities of city life.

Standing recently in front of dozens of Ghanaian cocoa growers inside a tin-roofed building in Abankrom, Ms. Amekudzi shouted her typical greeting: “Ghana!” The farmers shouted back “Cocoa!”

“We need to break this cycle, improve productivity and incomes, and inspire the next generation to become cocoa farmers,” Ms. Amekudzi said. “Without the next farming generation, there will be no cocoa.”

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