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Narrative non-fiction

NARRATIVE NON-FICTION · WORKING DRAFT

Bitter Harvest

The blood economics of the world's most coveted spices — vanilla, saffron, cinnamon, cardamom, and cumin, traced back to the places that bleed to grow them.

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The Blood Economics of the World's Most Coveted Spices



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ABOUT THIS DRAFT

The flavor of the modern world is subsidized by turmoil.

Bitter Harvest traces the opaque supply chains of the world's most expensive and beloved spices back to the conflict zones, sanctioned states, and fractured nations that bleed to harvest them.

Each chapter follows one spice to one place, opens on the ground with the people who grow and move it, then widens to the economics and politics that shape their lives.

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Intro

THE PREMISE

The Illusion of the Spice Rack

The Pantry Deconstruction

Open any kitchen cabinet in America in October and you will find it: a small glass jar, a red or orange label, a picture of a pie. *Pumpkin Pie Spice*. It costs about four dollars. It smells like a holiday. It lists four ingredients, sometimes five, and not one of them tells you where it came from.

Start with the first ingredient, because it is almost always the largest by weight. The label says *cinnamon*, but in most American supermarkets that word means cassia — the thick, hard bark of *Cinnamomum cassia* or *Cinnamomum burmannii*, grown in southern China, in the highlands of Vietnam, and on the volcanic slopes of Sumatra. It is not the thin, papery, crumbling quill that Sri Lanka has exported for two thousand years. That one costs more, and it is the subject of Chapter 3.

The ginger in the jar most likely came from India, China, or Nigeria, the three giants of the rhizome trade. The nutmeg has a stranger pedigree. For most of human history, every nutmeg on Earth grew on a handful of tiny volcanic islands in eastern Indonesia called the Bandas. Today it also grows in Grenada, which put the seed on its national flag. The cloves came from Indonesia, from Zanzibar, or — increasingly — from the same eastern coast of Madagascar where the world's vanilla grows.

Four ingredients. At least four countries. Perhaps a dozen brokers, consolidators, fumigators, grinders, and blenders. And a label that erases all of it.

This is not an accident. It is the design. A spice jar is one of the most successful pieces of packaging ever invented, because it performs a small miracle every time you open it: it turns a commodity harvested by hand, often at night, often under threat, often for pennies, into a feeling. Warmth. Home. Autumn. The label sells the feeling, and the feeling works best when it is not interrupted by a map.

The question at the center of this book: What would we see if we put the map back on the label?

A History of Violence, Modernized

We already know the spice trade was once soaked in blood. We learned it in school, dimly, as a story about brave navigators and the Age of Discovery. The fuller version is darker.

In 1602 the Dutch founded the *Vereenigde Oostindische Compagnie* — the VOC, the Dutch East India Company — often described as the first modern multinational corporation. It issued shares, raised private armies, minted coin, and signed treaties. Its founding purpose was to control the trade in pepper, cloves, nutmeg, mace, and cinnamon.

In 1621, to secure a monopoly on nutmeg, the VOC's governor-general Jan Pieterszoon Coen led an assault on the Banda Islands. Historians estimate that of roughly fifteen thousand Bandanese, only about a thousand remained on the islands afterward; the rest were killed, starved, fled, or were enslaved. The nutmeg groves were then worked by enslaved laborers for Dutch planters. A few decades later, the English and Dutch settled a war partly by trade: the English gave up their claim to Run, a speck of nutmeg island in the Bandas, and the Dutch confirmed English control of a different island on the other side of the world — Manhattan.

That is the textbook version, and it tends to end there, in the seventeenth century, with the implication that the violence was a relic of empire.

The argument of this book is that the violence never left. It changed uniforms. Colonial navies gave way to export syndicates. Company monopolies gave way to cartels and sanctions-evasion networks. Plantation overseers gave way to middlemen who set the price at the farm gate and to armed men who decide who gets to harvest. The geography shifted, too — from the Moluccas to Madagascar, from Ceylon's cinnamon gardens to Guatemala's cardamom hills — but the underlying economic logic has been remarkably stable for four hundred years: an extremely valuable, extremely portable botanical product, grown in a place with weak protection for the people who grow it, sold to a place with strong appetite and little curiosity.

The "Conflict Mineral" Framework

In 2010, the United States passed a law requiring many publicly traded companies to disclose whether their products contained tin, tantalum, tungsten, or gold sourced from the Democratic Republic of the Congo or its neighbors. The logic was simple and, at the time, radical: if armed groups finance themselves by controlling the mines, then the phone in your pocket is part of the war, and the company that sold it to you should have to say so.

Blood diamonds had taught the same lesson a decade earlier. Cobalt is teaching it again now.

Spices are not minerals. They grow, they rot, they are harvested by families rather than dug by conscripts. But look at the characteristics that make a commodity attractive to armed groups and illicit networks, and spices check nearly every box:

- 1 **Extremely high value per kilogram.** Saffron and vanilla have at various moments been worth more by weight than silver.
2. **Easy to transport and conceal.** A fortune in cured vanilla fits in a duffel bag. A year's saffron income fits in a coat pocket.
3. **Hard to trace.** Once dried, ground, or blended, a spice's origin is almost impossible to verify without laboratory testing.
4. **Produced in fragile places.** Many of the world's key spice regions sit in countries or provinces marked by conflict, sanctions, weak courts, or economic collapse.
5. **Consumed far away.** The buyer is thousands of miles from the farm, protected by several layers of intermediaries, and rarely asked a single question.

There is no Dodd-Frank for vanilla. There is no Kimberley Process for saffron. There is, instead, a jar on a shelf.

How This Book Works

The chapters that follow each follow one spice back to one place — or, in the case of saffron, three. Each chapter opens on the ground, with the people who grow and move the crop, and then widens out to the economics and politics that shape their lives. Each ends with the same question: *what, exactly, are we paying for when we pay for flavor?*

None of this is an argument for giving up cinnamon. It is an argument for knowing what it costs.

Ch. 1

VANILLA · MADAGASCAR

The Green Gold Rush

The scent of a vanilla farm at midnight is not sweet. There are no comforting notes of baking sugar, no warm hints of childhood birthdays or melting ice cream. Raw, unfermented vanilla vines smell of damp earth, bruised leaves, and standing water.

In the dense, suffocating humidity of the Malagasy jungle, it smells primarily of fear.

Mamy Rakoto grips the wooden handle of his machete, his knuckles white in the moonlight. He is twenty-eight years old, his frame lean and corded with muscle from a lifetime of hauling water and clearing brush. For the past three months, he has not slept in his bed alongside his wife and two young daughters. Instead, he sleeps here, on a woven plastic mat laid directly into the mud beneath the twisting canopy of *Vanilla planifolia* orchids.

When a mosquito bites his neck, he doesn't slap it; the sound would carry too far in the breathless night air. He just lets it feed. Mamy is listening for the snap of a twig, the rustle of underbrush, the muted whispers of men who have come to steal his future.

"They come in groups of four or five," Mamy whispers to me, gesturing with his chin toward the impenetrable wall of green at the edge of his plot. "They carry knives. Sometimes guns. If you are asleep, they will strip your vines bare in ten minutes. If you wake up and try to stop them... they will just kill you. For the beans."

To understand the madness of the Sava region — a lush, cyclone-battered stretch of northeastern Madagascar that produces roughly 80 percent of the world's vanilla — you must first understand the mathematics of botanical desperation.

The Botanical Prima Donna

Vanilla is the second-most expensive spice in the world, eclipsed only by saffron. But unlike saffron, which grows low to the ground in arid climates, vanilla is an orchid vine that demands the chaotic embrace of the rainforest canopy. It is a prima donna of the agricultural world. Left to its own devices outside its native Mexico, it will not fruit. The specific species of *Melipona* bee that naturally pollinates the flower does not exist in Madagascar.

Therefore, every single vanilla pod on Earth that comes from this island is the result of human intervention. It is an act of meticulous, exhausting botanical surgery.

The technique itself has a history the industry rarely tells. It was worked out in 1841 on the nearby island of Réunion by Edmond Albius, a twelve-year-old enslaved boy, who figured out how to lift the flap inside the flower and press its parts together with a sliver of bamboo. His method made the entire Indian Ocean vanilla industry possible. He was never paid for it, and he died poor.

For a few fleeting weeks in the spring, the yellow orchids bloom. But a flower only opens for a single day, usually for just a few hours in the morning. If it is not pollinated before the midday sun hits its peak, it wilts, dies, and falls off the vine. No pod will grow.

During the bloom, Mamy, his wife, and their extended family work in a frantic fever dream. Using a small bamboo splinter or a toothpick, they gently peel back the lip of the orchid, lift the flap separating the male and female organs (the rostellum), and press them together with their thumbs. *The marriage*, they call it.

They do this by hand. One by one. Thousands upon thousands of times.

It takes three years for a vine to produce its first flower. It takes nine months for the pollinated flower to swell into a long, green pod. But it takes only three minutes for a thief to rip the unripe pods from the vine and vanish into the jungle.

"The theft is worse than the cyclones," Mamy says, finally swatting the mosquito away as the first hint of gray dawn begins to break the darkness. "A cyclone is an act of God. The thieves are an act of greed."

The "Natural" Price Shock

That greed is driven by a global market that is entirely invisible to Mamy, yet dictates whether his children will eat. In 2015, a wave of announcements from massive Western food conglomerates — Nestlé, General Mills, Hershey — promised to strip artificial flavors from their products. Synthetic vanillin, made from petrochemicals or wood pulp, was suddenly out of favor with health-conscious consumers in Brooklyn, London, and Tokyo. They wanted the real thing.

The market panicked. The price per kilo of cured Malagasy vanilla climbed from roughly \$20 in the early 2010s to a staggering peak of around \$600 by 2018. Cyclone Enawo, which tore through the Sava region in March 2017, destroyed a large share of the crop and poured fuel on the fire. For a brief, surreal window in human history, vanilla was worth more, by weight, than silver.

None of that price reached the farm in a straight line. It passed first through village collectors, then regional buyers, then exporters in the port towns of Sambava and Antalaha, each of them taking a margin and each of them holding more information about the world price than the grower did.

It was a green gold rush. And like all gold rushes, it brought the syndicates.

The Cartels and the Vigilantes

In Madagascar, the boom did not pave roads or build hospitals. Instead, the sudden influx of cash warped the local economy. Shadowy networks of "commissioners" and brokers — some with alleged ties to politicians and to illegal rosewood smuggling rings — gained leverage over collection and export. Buyers paid gangs of thieves to raid smallholder farms like Mamy's, bought stolen, unripe green beans for a fraction of their value, vacuum-sealed them in plastic, and hoarded them to wait out the market.

Farmers adapted first with ingenuity. Before harvest, many now prick each green pod with a pattern of pins — a personal brand, like a tattoo, that stays visible after curing. A pod with your mark on it in someone else's sack is evidence. Some communities register these marks with local authorities.

When ingenuity was not enough, the farmers militarized. Communities formed vigilante patrols. Suspected thieves caught in the fields were often no longer handed over to the police, who were widely believed to release them for a bribe. Instead, local and international reporting has documented thieves being beaten, hacked with machetes, or killed by crowds in village squares.

The comforting, creamy essence that flavors a scoop of artisanal ice cream on a warm July evening in Chicago is subsidized by this bloodletting.

Ecological and Economic Fallout

The boom left scars on the land as well as on people.

The Sava region is home to two of Madagascar's most important protected forests, Marojejy and Masoala — among the richest reservoirs of biodiversity on the planet. During the 2009 political crisis, those same forests were stripped of precious rosewood and ebony by logging networks, and the cash from that trade helped build the informal finance systems that would later move vanilla money. When vanilla prices soared, some farmers and speculators cleared new forest at the edges of protected areas to plant vines, because a plot planted today might be worth a fortune in three years.

Vanilla itself can be grown in a way that is gentle on forest — it climbs trees, it likes shade. But a price spike does not reward patience. It rewards whoever gets vines in the ground fastest.

And then the price fell. After the 2018 peak, a wave of new supply, early-picked low-quality beans, and a government attempt to set a minimum export price all collided. By the mid-2020s, farm-gate prices had collapsed to a small fraction of their peak. Families who had borrowed against expected harvests, or who had stopped growing rice to plant more vanilla, were left holding debt in a region where food is imported along roads that turn to mud every rainy season.

Meanwhile, the cyclones keep coming. The northeast coast faces the Indian Ocean head-on, and climate scientists expect storms in the region to intensify. A single bad storm can erase three years of vine growth. There is no crop insurance for a smallholder in Sava. There is only the next season.

The cruel paradox of the green gold rush is this: the most valuable crop on the island did not make its growers secure. It made them targets.

Mamy stands up, stretching his aching back as the jungle finally begins to wake around us. The lemurs start to call from the high branches. He walks over to a thick, winding vine and cups a cluster of bright green pods in his calloused hand. They look like oversized string beans.

"Three more weeks," he says, his voice thick with exhaustion. If he can keep the thieves at bay for three more weeks, the beans will be ready to harvest. He will boil them, sweat them in wooden boxes, and lay them out in the sun to cure for months until they shrivel, turn black, and finally release that unmistakable, intoxicating aroma.

If he survives the next three weeks, he can pay his daughters' school fees for the year.

"I have never tasted ice cream," Mamy tells me, looking at the machete in his other hand. "I hear it is very sweet. But for us, the vanilla is bitter."

Ch. 2

SAFFRON · IRAN, AFGHANISTAN, KASHMIR

Sanctions, Swords, and Stigmas

The saffron harvest begins before sunrise, because the flower will not wait.

On a cold morning in late October, across a field of low purple blooms, a line of women moves slowly forward in a crouch. Each flower of *Crocus sativus* opens for a very short time. Pick it at dawn and its three crimson threads — the stigmas — are fresh and full of color. Leave it until the afternoon sun and it wilts, and the value drains out of it.

The women pinch each flower off at the base and drop it into a basket. By mid-morning the baskets are carried indoors, where the real work begins: prying open every single blossom and pulling out three red threads by hand. The petals go to the animals. The threads are laid out to dry. A kitchen table covered in flowers produces a pile of saffron small enough to cup in one palm.

The Weight of Gold

The numbers are almost absurd. It takes something like 150,000 flowers to produce a single kilogram of dried saffron — roughly 75,000 blossoms for a pound. Every one of those flowers is picked by hand, and every one of its stigmas is separated by hand. No machine has ever done this well at scale.

That labor is why saffron is the most expensive spice in the world, commonly retailing in Western markets at prices that rival or exceed gold by weight. It is also why saffron has always attracted fraud: dyed corn silk, safflower petals, turmeric-stained threads, even shredded paper. A spice this valuable is a spice worth faking — and a spice worth smuggling.

Saffron's story in the twenty-first century is a story about three places, each with its own kind of pressure. In Iran, the pressure is sanctions. In Afghanistan, it is regime change. In Kashmir, it is militarization and a changing climate. Follow one red thread and you cross all three.

The Iranian Smokescreen

By most estimates, Iran grows around 90 percent of the world's saffron, most of it in the dry eastern province of Khorasan, around towns like Torbat-e Heydarieh and Qaen. Saffron is not a luxury crop there; it is a lifeline in a region with little water and few alternatives. Crocus is prized precisely because it needs far less irrigation than wheat or melons.

But Iranian saffron has a marketing problem, and the problem is Iran. After the United States reimposed sweeping sanctions in 2018, Iranian banks were largely cut off from international finance, and many Western buyers would not openly purchase anything labeled as Iranian.

So the saffron found other passports. Trade analysts and journalists have long documented bulk Iranian saffron moving through the United Arab Emirates — particularly Dubai — and through Spain, where it can be repackaged and sold as "Spanish saffron." Spain does grow its own highly regarded saffron in La Mancha, protected by a formal designation of origin, but Spain has for years exported far more saffron than it grows. The difference has to come from somewhere.

For the Iranian farmer, this arrangement is ruinous in slow motion. Every intermediary who launders origin takes a cut. The farmer sells at home, in a currency that has lost enormous value, to a trader who sells to another trader who sells, eventually, to a European packer who earns the premium. The spice leaves Iran as a commodity and arrives in Western kitchens as a brand — with the Iranian name carefully peeled off along the way.

Afghanistan's False Hope

Across the border to the east, saffron was supposed to be a story of redemption.

In the years after 2001, Western governments and aid agencies promoted saffron in western Afghanistan — especially around Herat — as an alternative to opium poppy. The pitch was compelling: saffron, like poppy, is high-value and drought-tolerant; unlike poppy, it is legal, and it employs large numbers of women in harvest and processing. Afghan saffron began winning international taste awards. Cooperatives formed. For a while, it looked like a genuine success story.

Then, in August 2021, the Taliban returned to power. International aid froze. Afghanistan's central bank reserves abroad were frozen. The banking system seized up; paying foreign buyers or receiving payment from them became extraordinarily difficult. Many of the NGOs that had connected farmers to international markets withdrew or scaled back. Restrictions on women's work and movement cut directly into the labor force that saffron relies on most.

In 2022 the Taliban banned poppy cultivation, and by most accounts poppy acreage dropped sharply — which, on paper, should have made saffron more important than ever. In practice, the farmers were left with a legal crop and almost no legal way to get paid for it abroad. Saffron that does leave increasingly moves through informal money-transfer networks and through neighboring countries, where — like its Iranian cousin — it can lose its name on the way out.

Kashmir's Militarized Harvest

The saffron that many connoisseurs consider the finest in the world grows on a plateau called the *karewa* around Pampore, a small town a short drive south of Srinagar in the Indian-administered Kashmir Valley. Kashmiri saffron is famously deep in color and strong in aroma, and in 2020 it received India's Geographical Indication tag, a formal recognition of its origin.

It also grows in one of the most heavily militarized places on Earth. The highway that runs past the saffron fields is a major military artery, and Pampore itself has been the site of deadly militant attacks and of security operations. Harvest seasons have coincided with curfews, strikes, and lockdowns.

In August 2019, the Indian government revoked the region's special constitutional status and imposed a sweeping communications shutdown. Internet access was cut for months, and high-speed mobile internet was not fully restored until early 2021. For saffron growers and traders, the blackout arrived just before harvest: no way to reach buyers, check prices, arrange payment, or ship online orders.

Politics is not the only pressure. Kashmir's saffron output has fallen dramatically over the past three decades, pushed down by erratic rainfall, drought during critical growing weeks, aging corms, and the steady conversion of saffron land into housing and cement works. A national program launched in 2010 aimed to revive the crop with irrigation and better planting material, with mixed results.

The growers of Pampore describe themselves as caught between forces they cannot control: a state that shuts off their connection to the world, militancy that turns their highway into a battlefield, and a sky that no longer rains when it should.

One Red Thread

Put the three places side by side and a pattern emerges. The value of saffron is created in the field, by hand, mostly by women. But the value is captured somewhere else — by whoever can move the product across a border and give it a respectable name.

In Iran, sanctions strip the name. In Afghanistan, the collapse of banking strips the payment. In Kashmir, the shutdown strips the connection. In each case, the farmer is the person with the least power over the price and the most exposure to the conflict.

The next time a recipe calls for "a pinch of saffron threads," it is worth remembering how many hands, and how many borders, are inside that pinch.

Ch. 3

CEYLON CINNAMON · SRI LANKA

The Collapse of the Cinnamon Island

A cinnamon peeler works sitting on the ground.

Legs folded, a short, curved brass tool in one hand, a freshly cut stick of cinnamon in the other. First he scrapes away the rough outer bark. Then he rubs the stick with a brass rod until the inner bark loosens. Then, with a single practiced cut down the length of the stick, he eases off a sheet of bark as thin as paper — and rolls it, while it is still moist, inside other sheets into a long, fragile tube called a quill.

It is slow, precise, skilled work, and in Sri Lanka it has been done more or less this way for centuries. No machine has fully replaced it. When the peelers stop, the cinnamon stops.

In 2022, for a while, the peelers stopped.

True Cinnamon vs. Cassia

First, a distinction that the spice aisle hides. There are two things sold as cinnamon.

The first is *Cinnamomum verum* — "true cinnamon," or Ceylon cinnamon — native to Sri Lanka. It is pale tan, soft enough to crumble between your fingers, and rolled into many thin layers like a cigar. Its flavor is delicate and floral. Sri Lanka produces the large majority of the world's supply.

The second is cassia — a group of related species grown mainly in China, Indonesia, and Vietnam. Cassia is darker, thicker, harder, and hotter in flavor. It is also much cheaper, and it is what most North American supermarkets sell under the plain label "cinnamon."

There is a health dimension too. Cassia contains far higher levels of coumarin, a natural compound that in large amounts can harm the liver; European regulators set limits on coumarin in foods partly with cinnamon in mind. Ceylon cinnamon contains only trace amounts.

Ceylon cinnamon has always been worth fighting over. The Portuguese seized control of the trade in the sixteenth century. The Dutch took it from them in the seventeenth and ran it as a brutal monopoly, forcing quotas on peelers. The British followed. Through all of it, the actual peeling was done largely by one community: the Salagama, a caste historically associated with cinnamon peeling along Sri Lanka's southwestern coast, who were compelled to deliver cinnamon under colonial rule and whose families still make up much of the skilled workforce today.

That workforce was already shrinking and aging before the crisis. Young people were leaving for jobs in cities or abroad. Then the whole economy fell out from under them.

The Organic Mandate Disaster

In April 2021, President Gotabaya Rajapaksa's government abruptly banned imports of chemical fertilizers and pesticides. It was presented as a bold leap: Sri Lanka would become the first country to go fully organic.

The real motivation, many economists argued, was that the country was running out of foreign currency and fertilizer imports were expensive. Whatever the reason, the transition was not phased, not piloted, and not supported with enough organic alternatives. Farmers were told, almost overnight, to grow the same crops without the inputs they had relied on for decades.

The results were swift. Rice yields fell sharply. Tea, the island's biggest agricultural export, suffered significant losses. The government reversed much of the ban within about seven months, but the damage — to harvests, to farmer incomes, to confidence — had already been done. Cinnamon growers, many of them smallholders, took their share of the hit in lower yields and higher costs.

The fertilizer ban did not cause Sri Lanka's collapse on its own. But it arrived at the worst possible moment, and it turned an economic crisis into a food crisis.

The Death Spiral of an Economy

The deeper problems had been building for years: heavy foreign borrowing, large tax cuts in 2019 that slashed government revenue, the collapse of tourism after the 2019 Easter bombings and then the pandemic, and dwindling foreign reserves.

In April 2022, Sri Lanka defaulted on its foreign debt for the first time in its history. Inflation soared, peaking at around 70 percent later that year. The country could not afford to import enough fuel, and lines at petrol stations stretched for kilometers and lasted for days. Power cuts ran for hours each day. Medicines ran short.

For the cinnamon trade, fuel was the choke point. Peelers often travel between plantations; without transport, they could not reach the estates. Growers could not move cut sticks to peeling sheds. Exporters could not reliably truck bales to the port in Colombo. Even the fires used to dry the quills depended on firewood that someone had to haul.

The public anger that followed became a mass protest movement, the *Aragalaya* — "the struggle." In July 2022, protesters stormed the presidential residence, and Gotabaya Rajapaksa fled the country and resigned. An IMF bailout was agreed in 2023, and the economy has since begun, slowly, to stabilize.

The Human Toll

It is easy to describe a sovereign default in the language of bond markets. It is harder to describe it in the language of a single household.

At the height of the crisis, the United Nations' World Food Programme estimated that millions of Sri Lankans — close to three in ten — were food insecure. Families skipped meals, bought less protein, pulled children out of school, and sold possessions. For a cinnamon peeler paid by the kilogram of finished quills, every day without transport to an estate was a day without pay.

Cinnamon turns out to be an unusually sensitive gauge of a country's health. It depends on skilled human labor that cannot be quickly replaced, on fuel and transport to move between farm and shed and port, on foreign exchange to buy inputs, and on stable enough politics to keep export channels open. When any of those break, the quills stop coming.

In 2022, all of them broke at once.

The next time you shake cinnamon over your oatmeal, it is worth asking which cinnamon it is. If it is Ceylon, it passed through the hands of a peeler sitting on the ground, in a country that very nearly came apart. If it is cassia, it is the cheaper substitute that the market reached for when that country could not deliver.

Ch. 4

CARDAMOM · GUATEMALA

The Narco-Spices

In the mist-soaked hills of Alta Verapaz, in northern Guatemala, cardamom grows in the shade.

The plants look like tall grasses or small banana plants, their leaves reaching well over a person's head. The pods grow on long runners close to the ground, and picking them means crouching in the mud under the canopy, working through the plants by hand every few weeks during the harvest season. The families who do this work are overwhelmingly Q'eqchi' Maya, and many of them speak Q'eqchi' at home rather than Spanish.

Almost none of them will ever taste cardamom the way its biggest customers do.

The Geographic Paradox

Cardamom is native to the Western Ghats of southern India. Its biggest consumers are in the Arabian Gulf, where it flavors *qahwa*, the spiced coffee poured in tiny cups as a gesture of hospitality, and in the Nordic countries, where it perfumes sweet buns like Swedish *kardemummabullar*. By a strange twist of history, the world's largest exporter of it is Guatemala.

The twist runs through coffee. In the late nineteenth and early twentieth centuries, German immigrants built large coffee estates in Alta Verapaz, often on land taken from indigenous communities, and relied on Q'eqchi' labor to work them. Around the early twentieth century, a German planter is credited with bringing cardamom seeds to the region. The plant thrived in the cool, wet, shady mountain climate.

Cardamom later spread from the big estates to smallholders, because it had qualities that suited poor farmers: it grows under forest cover, it can be dried and stored, and it is light enough to carry to market. Over the second half of the twentieth century it became a mainstay of the rural economy in Alta Verapaz, and Guatemala became the world's leading exporter, shipping most of its crop to the Middle East.

That success rests on a very narrow foundation. Guatemala sells almost all its cardamom to a small number of countries, so a shift in Gulf demand, a price swing, or a crop disease can send prices crashing — and they have crashed, repeatedly, leaving families who planted cardamom instead of food with nothing to eat.

Indigenous Labor and Narco-Deforestation

Alta Verapaz sits along one of the routes by which cocaine moves north from South America to the United States. Guatemala's northern departments, including neighboring Petén, are rugged, sparsely policed, and close to the Mexican border — ideal terrain for trafficking.

In the late 2000s, the Mexican criminal organization Los Zetas expanded into Guatemala. Their presence in Alta Verapaz became so overt that in December 2010 the Guatemalan government declared a *state of siege* in the department, sending in the army to reassert control. The Zetas were weakened in later years, but trafficking networks, local successors, and allied groups did not disappear.

Researchers and journalists who study the region have documented a pattern sometimes called "narco-ranching" or "narco-deforestation": trafficking networks buying or seizing large tracts of land, clearing forest for cattle pasture, and using ranches and remote clearings to launder money and hide clandestine airstrips for drug flights. Much of this has been documented most extensively in Petén and the lowlands, but the pressures reach into the cardamom-growing hills as well.

This chapter's central investigative question is how far that shadow economy has entered cardamom itself — how cash from trafficking mixes with an agricultural export that is seasonal, largely informal, and paid for in bulk. Cardamom has all the features that make a commodity useful for moving money: high value, cash transactions at the farm gate, many small sellers, and few questions asked. What is already clear is that the people growing it live alongside armed actors whose economic interests have nothing to do with spice.

The Crossfire

For Q'eqchi' families, the pressure comes from several directions at once.

The first is land. Many Q'eqchi' communities have never had secure legal title to the land they farm, a legacy of the coffee estates and of Guatemala's thirty-six-year civil war, which ended in 1996 and devastated Maya communities. Land without clear title is land that can be bought, taken, or claimed — by ranchers, by plantations, by extractive projects, and by trafficking networks.

The second is extortion. Across Guatemala, criminal groups demand "rent" from transport operators, shopkeepers, and traders.

Cardamom buyers and cooperatives that move cash and product along rural roads are exposed to the same risks.

The third is violence against those who resist. International monitors such as Global Witness have for years ranked Guatemala among the most dangerous countries in the world for land and environmental defenders. Indigenous leaders who oppose land grabs, deforestation, or big projects have been threatened, criminalized, and killed. Alta Verapaz has been one of the frontlines.

Cardamom cooperatives exist in this environment. Some are genuine success stories — organized farmers who dry and grade their own pods and bargain collectively for better prices. But even a well-run cooperative cannot opt out of the region's politics. Its members still drive the same roads, live beside the same ranches, and bury the same neighbors.

The Taste of Hospitality

There is a bitter irony in where cardamom ends up. In the Gulf, a small cup of cardamom coffee is one of the most important gestures of welcome a host can make. In Scandinavia, cardamom buns are the smell of family weekends and holidays.

The spice that stands for hospitality at one end of the supply chain is grown, at the other end, by people whose land, safety, and livelihood are under constant threat — and who are rarely treated as guests anywhere.

Ch. 5

CUMIN & CORIANDER · SYRIA

Seeds of the Caliphate

In early summer, on the dry plains of northeastern Syria, the cumin fields turn from green to straw.

Cumin is a small, delicate plant, knee-high at most, with feathery leaves and tiny white or pink flowers. It is harvested by hand or by sickle when the seeds begin to brown, then threshed and winnowed and left to dry in the sun. It does not need much water — which is exactly why it has been grown here for thousands of years.

For most of the last decade, the question for the people who grow it has not been whether it would rain. It has been who would control the land, the water, and the road to market by the time the seeds were dry.

The Cradle of Agriculture

The region that stretches from the Mediterranean coast through Syria and into Iraq and southern Turkey is often called the Fertile Crescent. It is where, around eleven or twelve thousand years ago, people first domesticated wheat, barley, lentils, and chickpeas — the beginnings of farming itself.

Seed spices belong to this story. Cumin, coriander, anise, fennel, and nigella (black seed) have been grown and traded in the region since antiquity; cumin turns up in ancient Egyptian and Mesopotamian records. Before the war, Syria was one of the world's significant exporters of cumin and other seed spices, grown largely in the northeast around Hasakah and in the northwest around Idlib and Aleppo. These were not luxury crops. They were ordinary family income — the kind of cash that pays for a winter's fuel or a daughter's wedding.

The Climate Multiplier

The war did not begin in a vacuum. From roughly 2006 to 2010, northeastern Syria suffered one of the worst droughts in its recorded history. Crops failed across the region's rain-fed farmland, herds were lost, and hundreds of thousands of rural families — by some estimates well over a million people — left for the edges of cities like Aleppo, Homs, and Damascus.

Scholars still debate how much weight to give the drought in explaining the uprising that began in 2011. Few think it was the sole cause; government corruption, repression, and mismanagement of water and land were central. But most agree it made things worse — hollowing out rural livelihoods and concentrating angry, impoverished people in cities just as the political crisis erupted.

The drought did not end the story, either. Climate projections for the eastern Mediterranean point toward hotter, drier conditions. Farmers who survived the war now face a harder sky than their grandparents did.

Farming in a Failed State

After 2011, Syria fractured. The government, a shifting array of rebel groups, Kurdish-led forces, and, from 2013 onward, the Islamic State (ISIS) all controlled pieces of the country at different times. The farming regions of the north and east were among the most contested.

For farmers, war meant that every stage of growing a crop became a negotiation with armed power. Seeds and fertilizer became scarce and expensive. Fuel for pumps and tractors had to be bought on black markets. Roads to market passed through checkpoints, each run by a different group, each demanding a payment.

Water became a weapon. Syria's agriculture depends heavily on the Euphrates and its irrigation systems. ISIS seized the Tabqa Dam on the Euphrates, one of the most important pieces of infrastructure in the country, and control of dams, canals, and pumping stations became a way to reward or punish entire regions.

At the height of its power, ISIS ran something that looked like a state bureaucracy, including taxation. It levied religious taxes and fees on agricultural output — well documented for wheat and barley, the region's staple grains — and the same system reached into the other crops farmers grew and sold. For a family growing cumin on a few hectares, the harvest was no longer just their income; some share of it became revenue for whichever authority controlled the land.

The Smuggler's Route

Syria's seed spices did not stop moving during the war. They changed routes.

With formal export channels broken and much of the country under sanctions or armed control, a great deal of the trade shifted north, across the long and porous border with Turkey. Brokers moved cumin, coriander, and other seeds through smuggling routes and informal crossings to reach Turkish trading hubs such as Gaziantep. From there, a spice grown in Syria could re-enter the global market as a Turkish product — its origin erased, just like Iranian saffron passing through Dubai.

That journey was dangerous. The border was militarized, and at various points Turkish border guards were reported to have fired on people crossing irregularly. Smugglers charged heavily for the risk, which meant the farmer received a smaller share of an already falling price.

After the Regime

In December 2024, the Assad government collapsed after a rapid rebel offensive, ending more than five decades of the family's rule. For Syrian farmers, the fall of the regime opened a new and uncertain chapter: the possibility of rebuilding irrigation, reopening trade routes, and lifting sanctions — alongside enormous risks of renewed conflict, unresolved land disputes, and a shattered economy. How that transition is unfolding, and whether it reaches the cumin fields of the northeast, is a story still being written as this book goes to press, and it will need fresh reporting from the ground.

What will not change quickly is the land itself. The soil of the Fertile Crescent that gave the world its first farms is still there. So are the farmers who stayed — people who planted cumin in the middle of a war because there was nothing else to do, because the seeds were cheap, and because the plant, stubborn as they were, did not need much water to survive.

End

THE RESOLUTION

Decolonizing Flavor

Go back to the jar in the cabinet.

By now, you know more about it than the label ever intended you to. The cinnamon might be cassia from Sumatra, or it might be true cinnamon peeled by hand in a country that nearly came apart in 2022. The cloves might have come from the same cyclone-battered coast as Mamy Rakoto's vanilla. And if your spice rack includes saffron, cardamom, or cumin, you are holding pieces of Khorasan, Herat, Pampore, Alta Verapaz, and Hasakah.

So the question is the obvious one. What are we supposed to do about it?

The Fair Trade Fallacy

The first instinct of a conscientious shopper is to look for a label. Fair Trade. Organic. Rainforest Alliance. These certifications were built by people with good intentions, and in some supply chains they have made real differences — minimum prices, premiums for community projects, bans on the worst labor practices.

But in spices, their reach is thin, and their promise often exceeds their power.

Certification works best in supply chains that are simple and traceable: a cooperative sells to an importer who sells to a roaster. Spice supply chains are rarely like that. A single container of vanilla or cumin can contain product from thousands of small farms, collected by village-level buyers, consolidated by regional traders, cleaned and graded by processors, and blended by an exporter before a label is ever applied.

Certification is also expensive for small farmers — audits, paperwork, record-keeping — and the premiums rarely reach the person at the very bottom of the chain. And no label protects a vanilla farmer from a thief at midnight, a saffron grower from a banking freeze, or a cardamom cooperative from extortion. At worst, labels become a marketing tool: a way for a brand to signal virtue without taking responsibility for what actually happens on the ground.

The Threat of Synthetic Biology

The second answer comes from Silicon Valley, and it sounds almost too good to be true: take the farm out of the equation.

Vanillin, the main flavor compound in vanilla, can already be made from petrochemicals and wood pulp — that is the "artificial vanilla" consumers rejected. Now biotechnology firms can produce vanillin by fermentation, using engineered yeast or bacteria fed on sugars or plant compounds. Depending on the process and the jurisdiction, some of these products can even be marketed as "natural flavor." Researchers are also working to produce the key compounds in saffron — the pigments and aromas that give it color and flavor — using engineered microbes.

If a lab can make vanillin without a vine, there are no pods to steal, no forests to clear, no cyclone to wipe out a crop.

But there is a catch that is easy to miss from far away. Synthetic biology does not only remove the violence from the supply chain. It removes the people. Tens of thousands of households in Madagascar alone depend on vanilla. Millions of people across the regions in this book depend on spice income. A breakthrough in a fermentation tank in California could, in a few years, make their crops nearly worthless — without offering them any alternative.

Solving the ethics of the supply chain by eliminating the growers is not a solution for the growers.

A Path Forward

Between the flawed label and the lab, there is a narrower path, and some people are already walking it.

A new generation of direct-trade spice companies — such as Diaspora Co. and Burlap & Barrel — buy directly from named farms and cooperatives, pay well above commodity prices, and put the name of the farm, the harvest year, and often the farmer on the package. Their spices cost more. That is the point.

Cooperatives in several of the regions in this book have begun processing and exporting their own crops, keeping more of the value at home instead of selling raw product to brokers. Madagascar vanilla cooperatives cure their own beans. Afghan saffron cooperatives have competed for, and won, international quality awards.

Traceability technology — from simple QR codes that link to a farm's profile, to blockchain ledgers recording each handoff in a supply chain — promises to make origin visible again. It is still early, and a database is only as honest as the people entering the data. But the idea behind it is right: put the map back on the label.

None of these alone fixes a failed state, a sanctions regime, or a cartel. They are small. They are also the only models so far that treat the farmer as a partner rather than a cost.

Final Thought: The Price of Flavor

We live with an illusion: that spices are cheap. A few dollars for a jar that lasts a year. A pinch here, a teaspoon there.

That cheapness was never real. It is a subsidy — paid by a farmer sleeping in the mud with a machete, by a woman plucking crocus flowers before dawn in a country the world has sanctioned, by a cinnamon peeler with no fuel to reach his estate, by a Q'eqchi' family farming land they cannot legally own, by a Syrian grower handing part of her harvest to whoever holds the dam.

Paying the real price of flavor does not mean giving up flavor. It means knowing where it came from, choosing the sources that pay the people who grow it, and refusing to let the label do our forgetting for us.

The spice rack was never a pantry. It was always a map. This book is an invitation to read it.

WHO IT'S FOR

Foodies, cooks, history buffs, and readers of global politics.

Urgent, immersive, and grounded — every geopolitical crisis anchored in the life of a specific farmer, smuggler, or broker. In the tradition of investigative food media like Netflix's *Rotten*, for readers increasingly anxious about the ethical footprint of what they consume.

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Treatment, sample chapters, and updates.

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*“I have never tasted ice cream. I hear it is very sweet.
But for us, the vanilla is bitter.”*

— Chapter 1, The Green Gold Rush



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