

Chapter

Introductory Chapter: *Theobroma cacao* – Past, Present and Future Insights

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1. Introduction

On a humid morning in the ancient Maya lowlands, the air was thick with incense and the rhythmic beat of drums. In the flickering light of torches, priests poured a dark, frothy liquid from one vessel to another, raising it high before the gods. This mysterious potion was called ‘*kawkaw*’ (Mayan) and ‘*xocolatl*’ (Aztec)—a bitter, spiced drink made from the roasted seeds of the ‘*cacahuatl*’ tree, later named *Theobroma cacao* by the famous Swedish botanist Carl Linnaeus, the father of modern taxonomy in 1753 in his publication *Species Plantarum*. *Theobroma cacao* literally translates from Greek as “the food of the gods”. There are 41 accepted species in the *Theobroma* genus [1], and *Theobroma cacao*, Linnaeus is the most important and widely cultivated due to the value of its seeds [2].

To the Maya and later the Aztec peoples, cacao was no ordinary sustenance. It was sacred, a bridge between the earthly and the divine. Warriors drank it before battle, rulers sipped it in gilded cups, and priests offered it in ceremonies of life and death. To consume cacao was to partake in the essence of the gods. From its sacred role in the rituals of the ancient Mayan and Aztec civilizations to its transformation into a global commodity, now cocoa underpins a multibillion-dollar industry. The cacao’s story is one of cultural symbolism, economic power, and enduring human fascination.

2. From sacred drink to global commodity

Long before cacao became synonymous with chocolate bars and confections, cocoa has been sacred and used in religious ceremonies, as a medium of exchange, and a marker of social status. Cacao beans themselves were currency, traded in bustling markets with their value rivalling that of precious stones. The Spanish conquest of the Americas in the sixteenth century marked a turning point in the history and consumption of cocoa. Centuries later, by the late 1590s, cacao had crossed the Atlantic into Europe, where in the gilded halls of the Spanish court, it took on a new life. The bitter drink of the Americas was transformed with sugar, cinnamon, and vanilla, becoming a sweet, exotic indulgence for Europe’s elite. Courtiers whispered

of its invigorating powers, physicians debated its medicinal virtues, and aristocrats flaunted their access to this rare delicacy. The once-sacred drink of Mesoamerican ritual became a fashionable symbol of wealth and refinement that ignited a global appetite. This set the stage for its global spread.

3. Expansion and entrenchment in the tropics

The colonial era saw cacao cultivation expand rapidly across tropical regions, from the Americas to Africa and Asia. European powers established plantation systems that relied heavily on coerced and later wage labour, embedding cacao within broader histories of empire, trade, and exploitation. Globally, cocoa is cultivated on over 11.5 million hectares of land between 10°N and 10°S of the equator, with the majority (7.9 million ha) in Africa; and Oceania with the least (0.12 million ha) of land area (**Figure 1**) [2].

Today, West Africa dominates global production with more than 65% of the world's supply of cocoa coming from just four countries: Côte d'Ivoire (38 percent), Ghana (12 percent), Nigeria (7 percent), and Cameroon (7 percent). Millions of smallholder farmers and their families depend on cacao cultivation for their livelihoods, making the crop not only an economic staple but also a social lifeline. According to a publication of the European Supermarket magazine, the recent failed harvests experienced in West Africa, due to drought and diseases followed by the more than doubled cocoa prices (which reached record high of above \$12,000 per tonne) has incentivised cocoa growers in Ecuador, who receive 90% of the world market prices to increase their production capacity. Ecuador is reported to be on course to produce over 650,000 metric tonnes of cocoa in the 2026/27 season and could surpass Ghana as the world's second largest producer [3].

4. The modern cocoa economy

Since the early use of cocoa as a sacred drink, the applications of cocoa have grown into various fields of human activity due to a variety of beneficial properties, such as cocoa containing high levels of antioxidants [4]. The primary

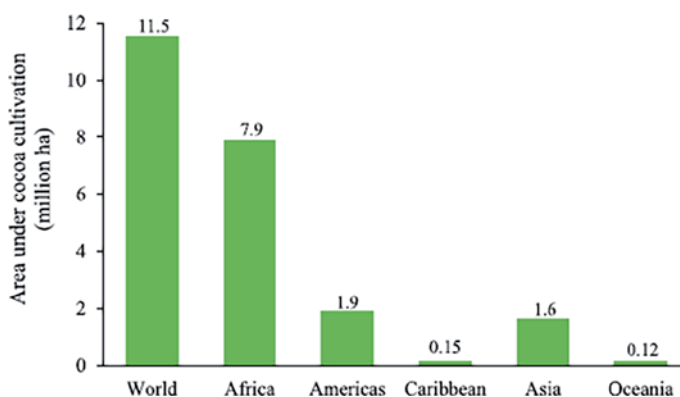


Figure 1.
Total land under cocoa cultivation in the producing regions in 2021 [2].

products are used in the confectionery industry in the production of slab chocolate, drink, sweets, toffee, caramel, lollipops, brittle and meringues. In the dairy industry, it is used in yoghurts, ice cream, chocolate milk, chocolate butter and other dairy products. In the baking industry, cocoa is used as a flavouring and colouring agent, feed for pets and livestock. It is used as an additives in the production of brandy, gin, wine, and vinegar in the distillery and wine industry. Cocoa butter is used for suppositories, medicinal creams and ointments in the pharmaceutical industry. Likewise, cocoa has great application in the perfumery and cosmetic industry in the making of toilet soap, liquid soap, essential oils, synthetic, aromatic substances, masks, creams, wraps etc.

The global cocoa market today is valued in the billions, with the chocolate industry alone generating over \$100 billion annually. Yet, despite this immense wealth, the distribution of value along the cocoa chain remains starkly unequal. A handful of multinational corporations and Western consumer markets control the lion's share of profits, while producers—often small-scale farmers—struggle with low and volatile prices. This imbalance has entrenched cycles of poverty, limited opportunities for rural development, and raised pressing questions about equity and sustainability in the global food system (Figure 2).

In monetary terms, as shown in Figure 3, cocoa provides considerable amount of revenue for the economies of the major countries involved in the cocoa value chain, particularly Cote d'Ivoire, Ghana, Ecuador, Nigeria and Cameroon.



Figure 2.
 Cocoa: the global production and import trade of brown gold [5].

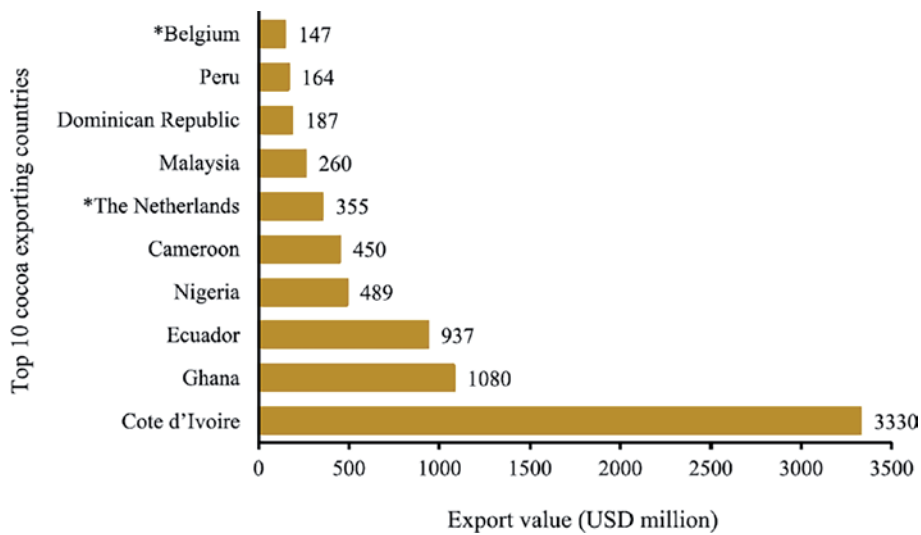


Figure 3. Major cocoa exporting countries in the world. Source: Data obtained from Observatory of Economic Complexity [OEC], 2024. *The Netherlands and Belgium are not cocoa-producing countries, but they re-export imported cocoa beans [2].

5. Challenges to sustainability

The longevity of cacao as both a crop and an industry is increasingly uncertain. Farmers face a host of agronomic challenges, including devastating diseases such as black pod and witches' broom, as well as pests that threaten yields. For instance, in West Africa where 70 percent of the global production comes from, the major causes of low yield are high incidence of pests and diseases, old age of cocoa farms and lack of soil nutrients [6]. Environmental pressures compound these difficulties: deforestation, soil degradation, and the encroachment of illegal logging and mining undermine the ecological foundations of cacao cultivation. Climate change further exacerbates these vulnerabilities, with shifting rainfall patterns and rising temperatures threatening the viability of traditional growing regions. Beyond the farm, structural issues such as ageing farmer populations, child labour, and political instability add layers of complexity to the sustainability of the sector.

6. A crop at the crossroads

Cacao thus stands at a crossroads. On one hand, it remains a symbol of pleasure, luxury, and cultural identity, deeply embedded in global consumption patterns. On the other, it embodies the contradictions of globalisation: immense wealth generated alongside persistent poverty, environmental degradation, and social inequities. The global allure of chocolate and cocoa products continues to grow across the world with consumers willing to pay increasing prices for their loved confectionaries in the wake of reduced supplies of the raw materials. At the same time, the welfare of the growers has not improved in a commensurate way to the huge profits being made by the manufacturing superpowers in the cocoa industry. The very regions that sustain

the world's love affair with chocolate are under threat, raising urgent questions about sustainability, equity, and resilience. The central question—how long the global allure of chocolate can be sustained—demands urgent attention from scholars, policymakers, industry leaders, and consumers alike.

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