



An Investor Brief on Impacts  
that Drive Business Risks

# COCOA

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**This brief provides a summary of the main environmental and social factors that affect cocoa production worldwide; however, it spotlights key players in the U.S. and European value chain and provides examples of actions being taken by companies operating or headquartered in the United States.**

## KEY TAKEAWAYS

- Cocoa production has grown by more than 50% since 2000<sup>1</sup>, driven by rising demand in the food and beverage industries.<sup>2</sup> A wide range of consumer products are made from cocoa and its derivatives, including processed foods, beverages, pharmaceuticals and cosmetics.
- Around two-thirds of all cocoa is produced in Côte d'Ivoire and Ghana, in West Africa, where cocoa has historically been a large driver of deforestation. Despite industry-led attempts to mitigate risks by improving transparency and accountability, some cocoa is still linked to deforestation in protected forest areas, most notably in these two countries.<sup>3</sup>
- Millions of cocoa farmers operate roughly 6 million cocoa farms around the world.<sup>4</sup> The majority are smallholders who depend on cocoa production as their main source of income. Low average yields of cocoa produced in these regions, the resulting low incomes of cocoa farmers, and weak governance exacerbate poverty and a variety of environmental and social issues.
- In response to increasing media coverage and advocacy efforts, many companies have set public deadlines to eradicate child labor from cocoa supply chains. However, implementation of these commitments continues to lag behind, exposing companies to additional reputation risk.
- Climate change is expected to threaten the future viability of current cocoa-growing areas, exposing cocoa supply chains to substantial physical climate risk.<sup>5</sup>
- Investors should address business risks in the cocoa supply chain through: directly engaging with their portfolio companies and their suppliers, supporting relevant policies, and joining multi-stakeholder collaborations. Effective implementation of corporate sustainability policies requires portfolio companies to promote commodity traceability and demonstrate a clear approach to supplier engagement, verify compliance with these policies throughout their supplier chain, and disclose progress on implementation.<sup>6</sup>

## COMMODITY OVERVIEW

**The global chocolate industry, valued at \$106 billion, consumes 40% of all cocoa<sup>7</sup>**

Cocoa is the key ingredient in one of the world's most popular sweets – chocolate. Globally, food and beverage industries use 80% of all cocoa, while the remaining 20% goes to cosmetics and pharmaceutical companies, often for use in skincare products.<sup>8</sup> According to recent estimates, the global chocolate market is poised to increase by 7.3% between 2019 and 2025.

Cocoa is grown throughout the tropics. Though the crop originated in Latin America (and is still grown in Brazil and Ecuador) and can also be found in Indonesia, almost 80% of it is currently produced in African countries, including Cameroon and Nigeria. Almost two-thirds of the world's cocoa is grown in just two West African countries, Cote d'Ivoire and Ghana.<sup>9</sup>

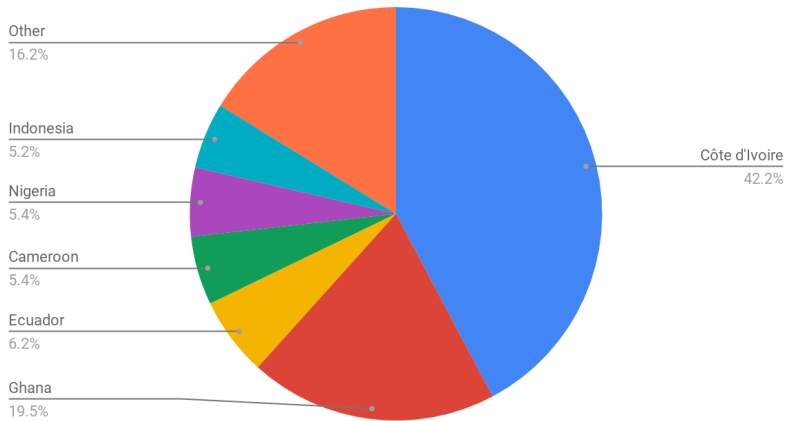
While most of the world's cocoa is produced by smallholders in Cote d'Ivoire and Ghana, the processing and manufacturing of finished cocoa products typically occur in Europe. Between 2017 - 2018, European markets exported the highest amount of chocolate, with Germany leading at approximately \$4.51 billion, followed by Belgium- Luxembourg ( \$3.06 billion), and Italy ( \$1.96).<sup>10</sup>



## GLOBAL COCOA PRODUCTION DATA TOP COCOA-PRODUCING REGIONS

Cote d'Ivoire and Ghana are the Leading Cocoa Producers with a combined 62% of Global Production.<sup>11</sup>

Metric Tonnes of Cocoa Beans Produced Globally 2017-2018



Production of cocoa beans  
Source: International Cocoa Organization

## COCOA PRODUCTION STATISTICS

Between  
**4,000,000 and 4,600,000 metric tonnes**  
of cocoa beans are produced annually.<sup>13</sup>

In 2018, the global production value of  
chocolate was valued at  
**\$49.4 billion**<sup>14</sup>

**73.8%**  
of all cocoa beans are exported.<sup>15</sup>

## THE U.S. AND EU ARE THE LARGEST DRIVERS OF GLOBAL COCOA DEMAND

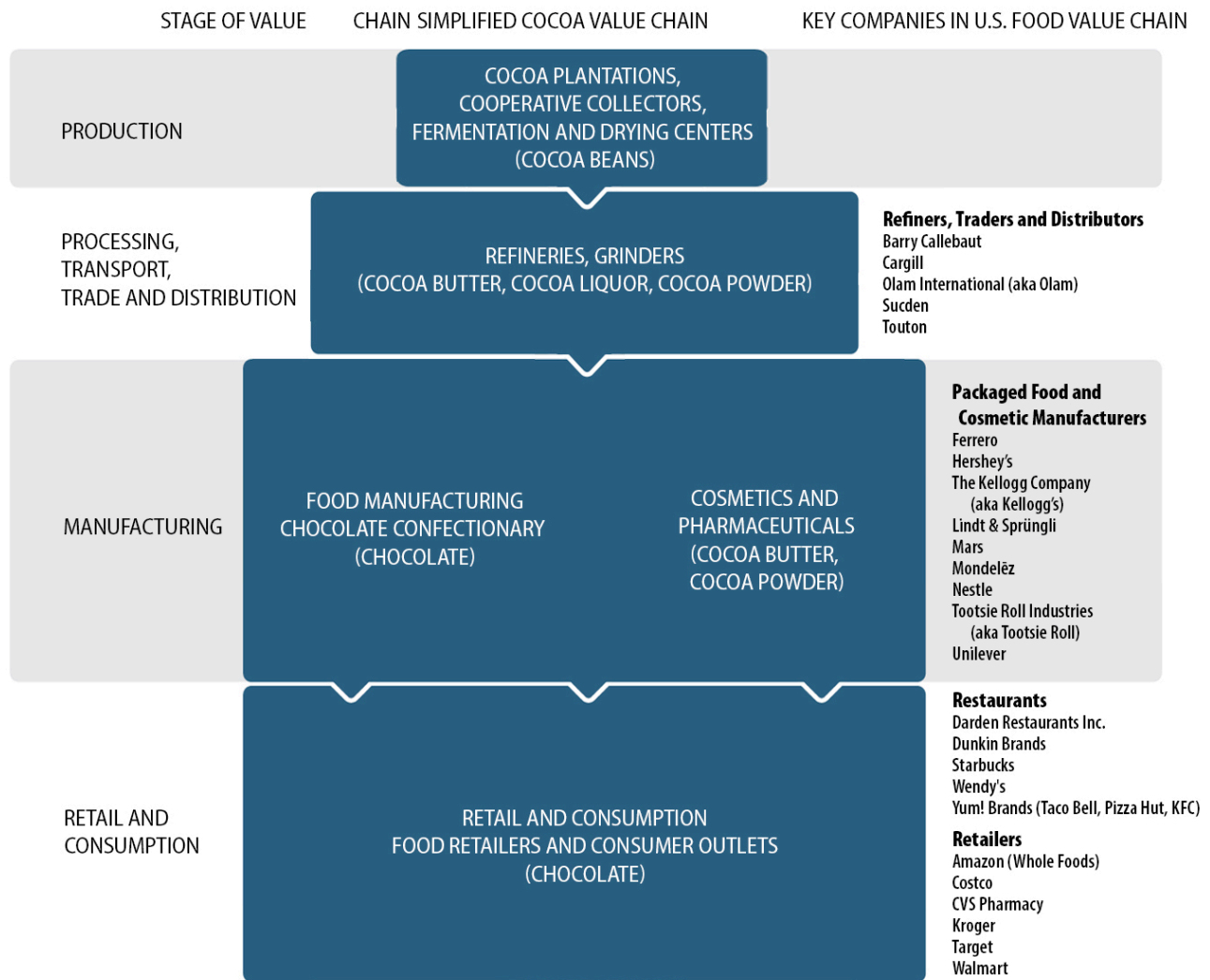
The United States is one of the largest consumers of cocoa globally, accounting for approximately 13% of all cocoa bean imports, valued at \$1.17 billion.<sup>16</sup> Roughly 3,400 U.S. businesses manufacture chocolate, employing more than 41,000 workers.<sup>17</sup> In 2019, the top chocolate manufacturers headquartered in the U.S. had combined chocolate sales of \$36 billion, led by Mars, Inc. (aka Mars, \$18 billion), Mondelez International (aka Mondelez, \$11.8 billion), and The Hershey Company (aka Hershey's, \$7.8 billion).<sup>18</sup>

The European Union exceeds the U.S. as the largest global consumer of chocolate, accounting for more than 63% of cocoa bean imports, valued at more than \$6 billion in 2017-2018.<sup>19</sup> European countries also have the highest per capita consumption.<sup>20</sup> In 2017-2018, Switzerland consumed 19.4 lbs per capita, followed by Austria (17.8 lbs), and Germany (17.4 lbs).<sup>21</sup> In comparison, the U.S. consumed approximately 9.7 lbs per capita, or the equivalent of 90 average-size chocolate bars.<sup>22</sup> In 2019, the top chocolate manufacturers headquartered in the EU shared a combined value of more than \$24 billion, led by Ferrero (\$13 billion), Lindt & Sprüngli (\$4 billion), and Nestle (\$7 billion).<sup>23</sup>



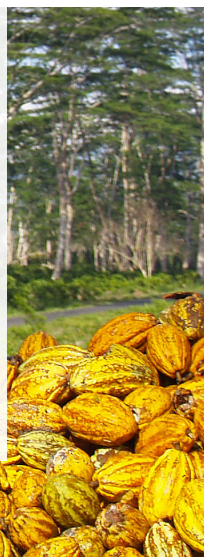
## THE COCOA VALUE CHAIN

The cocoa supply chain is complex, and cocoa passes through many hands before making it into products sold on supermarket shelves. Cocoa grown by multiple farmers, mostly smallholders, is mixed together at multiple stages of the production cycle. This mixing makes it difficult to trace cocoa back to the individual farm level, where most of the supply chain risks originate. Additionally, the complex nature of this supply chain leads to inequities along the value chain, with only 6.6% of the value of a chocolate bar going to farmers. Downstream manufacturers (35%) and retailers (44%) see the majority of profits from cocoa products, while the remaining 14% goes to grinders, processors, taxes, marketing, transportation and traders.<sup>24</sup>



### IMPORTING COUNTRIES' INCREASING REGULATORY RESPONSE TO ENVIRONMENTAL AND SOCIAL ISSUES IN COCOA SUPPLY CHAINS

In July 2019, the European Commission introduced the "2019 EU Communication on Stepping up EU Action to Protect and Restore the World's Forests,"<sup>25</sup> outlining potential increased reporting and due diligence requirements for companies to guard against human rights violations and environmental abuses in their cocoa supply chains.<sup>26</sup> Barry Callebaut, Hershey's, Mars Wrigley, Mondelēz, and Nestle have all demonstrated leadership in publicly declaring support for due diligence regulations requiring companies to be responsible for reporting and addressing such violations and abuses. Lawmakers in the U.S. have plans to introduce similar legislation in 2020 to make it illegal to import products made by illegal deforestation.<sup>27</sup>





## KEY PLAYERS AND PROCESSES IN THE COCOA CHAIN

The following section provides additional information about cocoa supply chains. While the focus is on publicly traded companies headquartered in the U.S., some of the companies mentioned are headquartered outside the U.S. and/or are privately held.

### SMALLHOLDERS AND COOPERATIVES

Smallholders make up 90% of all cocoa farmers.<sup>28</sup> In 2018, average yields per hectare were 490kg in Cote d'Ivoire and 530kg in Ghana, the two largest producers of cocoa.<sup>29</sup> Many smallholders work on farms with less than two hectares of land. At around \$2.29/kg in 2018, some farmers made roughly \$2,200 to \$2,400 a year from cocoa, their main source of income.<sup>30</sup> Since 2016, the number of global small-holder cocoa farms has grown by 37%, with approximately 6 million cocoa farms operating around the world.<sup>31</sup>

These farmers often do not have the financial capacity or access to resources necessary to invest in long-term yield improvements for cocoa. Cocoa trees take three-to-five years to become productive, and the trees typically produce cocoa pods for roughly 25 years.<sup>32</sup> Agricultural pests and diseases are a significant problem for many cocoa farmers so, if they can afford it, many rely on harsh agrichemicals like pesticides and fungicides to maintain yields.<sup>33</sup> Traditionally, cocoa is grown in the shade of larger trees in the forest understory, but cocoa farmers are increasingly converting forests in order to produce sun-grown cocoa.<sup>34</sup> This method is attractive because sun-grown cocoa trees produce higher yields in the short-term, but studies suggest these trees are less productive in the long-term, compared to shade-grown cocoa trees.

Cocoa production is manual labor intensive, and without the ability to pay livable wages for farmworkers, farmers sometimes depend on the labor of children in their extended family, or, in the worst cases, on the worst forms of child labor, which include child trafficking.<sup>35</sup> At harvest time, farmers remove the ripe cocoa pods from cocoa trees, leave them to rest, and then split them open with a sharp blade or club so the wet beans can be removed. The cocoa beans are piled together, left to ferment for several days and, depending on the climate, are either dried in the sun or by artificial means.<sup>36</sup> In some cases, the cocoa pods are sent to fermentaries to be split, fermented, and dried, but most small-holder farmers carry out the harvesting, fermentation and drying steps themselves.<sup>37</sup> The post-harvest processing is critical to cocoa bean quality, which it turn affects the price farmers receive for their beans.

Cocoa farmers are often separated from commodity traders by multiple intermediaries. In some cases, small traders will visit cocoa farms and buy the beans directly from the farmer and then sell them to wholesalers, who will resell them to exporters. In other cases, farmers sell beans to a middleman who buys the beans from the farmers, then transports them to sell to a cooperative.<sup>38</sup> Enhanced traceability among downstream traders, manufacturers and retailers can help determine whether supplier incentives and certification premiums reach and benefit cooperative members.



## TRADERS AND GRINDERS

After purchasing cocoa beans, exporters either process (grind) the beans into cocoa liquor locally or, more commonly, ship the beans to be ground at processing facilities in North America or Europe, where they are processed into forms such as cocoa butter and cocoa powder.<sup>39</sup> The European Union has higher trade tariffs on imported cocoa derivatives than on unprocessed cocoa beans, discouraging domestic cocoa processing and chocolate manufacturing and instead encouraging cocoa bean exports.<sup>40</sup>

The cocoa trading and grinding industries are highly concentrated. The largest traders and grinders, by volume used in 2018, are Barry Callebaut, Olam, Cargill, Ecom Agroindustrial, Sucden, Touton, Cemoi, and Cocoanect.<sup>41</sup> Roughly half of the global trade of cocoa is controlled by three companies: Barry Callebaut (18%), Olam (17%) and Cargill (13%).<sup>42</sup> Actions by these three companies have a substantial impact on cocoa supply chains as they are the main suppliers for downstream manufacturers and retailers. These companies could ensure compliance with buyers' increasingly stringent no-deforestation and human rights policies by implementing their own robust policies, including non-compliance protocols and sufficient financial and technical support to suppliers to incentivize the adoption of sustainable production.

## CONSUMER BRAND MANUFACTURERS

Manufacturers typically purchase cocoa powder, cocoa butter, and other derivatives from traders and/or grinders. They transform these cocoa derivatives into chocolate and other cocoa-containing products. The cocoa manufacturing industry is also highly concentrated, with six companies representing 40% of the market share.<sup>43</sup> In 2018, the largest manufacturers of chocolate by net sales were Mars, Ferrero, Mondelez, Meiji Co. Ltd., Hershey's, Nestlé, Lindt & Sprüngli, Ezaki Glico, Pladis, and Kellogg's.<sup>44</sup> Many of these companies are also the largest users of cocoa by volume:

Company	Brands that use cocoa	Volume of cocoa used
Mondelez	Cadbury, Toblerone, Milka	450,000 tons
Nestlé	Nesquik, KitKat, Butterfinger	434,000 tons
Mars	Snickers, M&Ms, Twix	410,000 tons
Hershey's	Hershey's, Reese's, Heath	200,000 tons
Ferrero	Ferrero Rocher, Nutella, Kinder	135,000 tons
Lindt & Sprüngli	Lindt, Ghirardelli, Russel Stover	128,000 tons

Volume of cocoa used by major chocolate manufacturers in 2017. Source: Cocoa Barometer 2018.<sup>45</sup>

By adopting and implementing robust cocoa no-deforestation policies, consumer-facing brands could mitigate environmental and social risks related to cocoa production before they impact the companies' bottom lines. In addition, these companies could influence practices on the ground with both producers and traders through using procurement standards that include mechanisms to address non-compliance.



## RESTAURANTS AND RETAILERS

Many supermarkets, such as Costco, Kroger and Walmart, sell cocoa products under their store's brand ("own brand") and/or sell products branded by a manufacturer such as Hershey's or Mars. Restaurants such as McDonald's or Starbucks sell ice cream, drinks, baked goods, and other prepared foods and beverages that contain chocolate. Some restaurants advertise brand-name products manufactured by other companies. For example, McDonald's "McFlurry" ice cream contains Mondelēz-manufactured Oreos or Mars-manufactured M&Ms.<sup>46</sup> Restaurants and retailers could mitigate reputational risk from public criticism by proactively strengthening minimum environmental and social standards in their cocoa supply chains through vendor agreements, supplier codes of conduct and non-compliance policies.

A handful of prominent European retailers – including Ahold Delhaize, Aldi, Carrefour and Tesco, – formed the Retailer Cocoa Collaboration to identify ways retailers can effectively leverage their position in the supply chain to promote sustainable cocoa production. So far, no American retailers have joined, nor has the group yet publicized any joint commitments or actions.

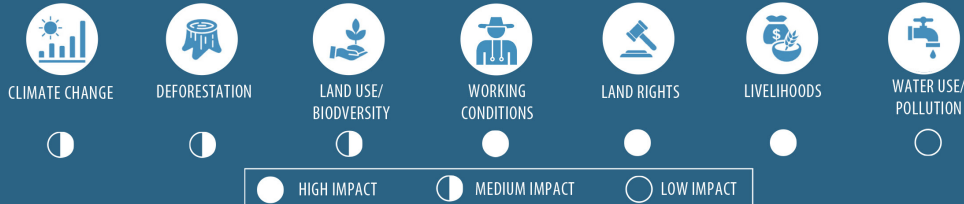
Restaurants and retailers play important roles in the cocoa supply chain. They are sensitive to external pressures, and responsive to market trends and consumer preferences. These companies can indirectly influence practices and supplier standards within their supply chains.





## ENVIRONMENTAL AND SOCIAL IMPACTS

Globally, the environmental and social impacts linked to cocoa production include deforestation, biodiversity loss, climate change, poverty and child labor. The severity of these impacts varies between regions and countries and is affected by local regulatory bodies. This section of the brief provides an overview of the key environmental and social issues in cocoa supply chains and outlines how companies can identify and mitigate the associated material risks.



### INCREASED TRACEABILITY HELPS MITIGATE RISKS

Because most cocoa is produced by small-holder farmers, many supply chain levels removed from factories and stores, tracing cocoa back to the point of origin can be a difficult undertaking for U.S. manufacturers and retailers. Consequently, a mere 25% (roughly) of the most influential companies in U.S. cocoa supply chains have set time-bound commitments to trace their cocoa supplies back to the farm level.

Without effective traceability mechanisms, companies cannot identify or manage potential risks related to the environmental and social factors listed below. Recognizing this gap, a growing number of companies are beginning to map their supply chains to assess the risk status of their direct suppliers; Mars has gone a step further and is beginning to evaluate the performance of its indirect suppliers.<sup>47</sup> Enhanced traceability allows companies to identify appropriate avenues to provide suppliers with technical, financial, community development or other support to meet corporate commitments and mitigate risks.

### 1. POVERTY AND CHILD LABOR ARE SALIENT ISSUES THAT POSE MATERIAL RISKS TO COMPANIES

Poverty is widely prevalent among cocoa producers, the majority of whom are smallholders. Media outlets frequently report on the human rights and child labor issues in cocoa production, leading to a number of campaigns against companies that source cocoa. Failing to address these salient risks can cause serious harm in cocoa growing communities and leaves companies susceptible to significant and long-term reputational, operational, litigation, regulatory and market risks.

Two-thirds of African cocoa farmers live below the poverty line.<sup>48</sup> In West Africa, where the majority of cocoa is grown, few farmers earn a living income.<sup>49</sup> Farmers in Ghana earn an estimated single dollar per day; farmers in Cote d'Ivoire earn even less.<sup>50</sup> The low yields and low prices farmers see for their cocoa perpetuates a vicious cycle, as poverty prevents farmers from being able to invest in long-term farm productivity, further exacerbating their low incomes.

Poverty drives many producers to employ children in cocoa production, especially in West Africa, where approximately 2 million children work on cocoa farms in Cote d'Ivoire and Ghana.<sup>51</sup> Although almost all (99%) of these children work on their families' cocoa farms, the remaining 1% are often migrants, trafficked from neighboring countries like Burkina Faso or Mali, and may be as young as ten years old.<sup>52</sup> Children working in cocoa production are exposed to dangerous work, including using harmful agrichemicals, lifting heavy loads, burning fields and wielding sharp tools for splitting cocoa beans.



- Traders, chocolate brands and retailers face **litigation and reputation risk** if their supply chains are shown to source cocoa produced by child labor. This issue has recently been a focus of media attention, as illustrated by the Washington Post's<sup>53</sup> exposé that captured the experiences of some child laborers involved in cocoa production and named specific brands that may be culpable. In its most recent annual report,<sup>54</sup> Hershey's directly references how negative publicity related to human rights issues impacts its operating results.
- Unless addressed, the above risks will only increase and thus also cause **regulatory risk** as regulators in Europe consider increasingly stringent human rights due diligence and disclosure requirements. Investors across Europe and North America have also shown their support for these types of mandatory regulations.<sup>55</sup>
- In the near future, the U.S. may pass legislation prohibiting imports of cocoa linked to child labor violations, as it has done for other raw materials and products produced with forced labor.<sup>56</sup> Such a change would expose U.S. companies to potential **regulatory risk** related to supply chain disruptions and manufacturers could incur substantial costs.
- Suppliers and traders who leave salient human rights risks unmitigated face **market risk** as downstream manufacturers increasingly implement stricter human rights policies. For example, Mars has a commitment to exclusively source from suppliers that are verified compliant with its Responsible Cocoa Specification, which includes robust child labor monitoring and remediations systems, as well as an overhaul of premiums to ensure farmers receive a fair share of cocoa profits.<sup>57</sup> Suppliers and traders that remain unwilling or unable to comply with such policies stand to lose contracts with such buyers.

To mitigate and, more importantly, prevent human rights violations in cocoa supply chains, companies across the cocoa supply chain should have robust human rights policies and management systems in place to address any issues.

#### **Recommended actions for companies include, but are not limited to:**

- Aligning disclosures with the United Nations Guiding Principles on Business and Human Rights (UNGPs), which encompasses leading international human rights standards such as The Universal Declaration of Human Rights (UDHR) and the International Labor Organization's (ILO) core conventions.
- Aligning human rights and related procurement policies with the four core ILO conventions: freedom of association and the effective recognition of the right to collective bargaining; the elimination of forced or compulsory labor; the abolition of child labor; and the elimination of discrimination in respect to employment and occupation.
- Creating grievance mechanisms to ensure all potential rights holders, including farmworkers and community members, are able to voice any concerns they have regarding their treatment within the supply chain, and reporting any incidents of human rights violations.
- Providing financial and technical support to farmers, either directly or through cooperatives, that goes beyond providing a livable wage, with mechanisms in place to ensure that any premiums make their way to upstream in the supply chain to them.
- Collaborating, when possible, with local and international governments and organizations to support policies and initiatives to ensure improved economic stability and viability for cocoa smallholders.

## NESTLÉ'S EFFORTS TO MITIGATE SALIENT HUMAN RIGHTS RISKS

In a human rights saliency assessment, Nestlé found that the majority of its salient human rights issues were in its supply chain.<sup>58</sup> For its cocoa supply chain, it found that the most salient issues include combating child labor, ensuring access to water, sanitation and hygiene, protecting communities against land acquisition and ensuring a living wage for workers. To address the child labor issues in its cocoa supply chain, Nestlé established a Child Labor Monitoring and Remediation System (CLMRS) in coordination with the International Cocoa Initiative. In 2019, Nestlé reported that its CLMRS monitored 78,580 children in the communities it sources cocoa from, and discovered 18,283 child-laborers within its supply chains, of whom 62% were engaged in hazardous labor. Nestlé's CLMRS currently covers 70% of its supply chain, which it achieved through investing millions of dollars in efforts to make cocoa farming more sustainable. This system helps Nestlé target its efforts to reduce child labor. Nestlé is also working to create robust grievance mechanisms across its supply chains, informed by local context, to ensure those mechanisms will be accessible to and meet the needs of communities in its supply chain.<sup>59</sup>



## 2. COCOA PRODUCTION DRIVES TROPICAL DEFORESTATION AND BIODIVERSITY LOSS

Cocoa production has historically been a major driver of deforestation, particularly in Cote d'Ivoire and Ghana. The presence of deforestation in cocoa supply chains leaves companies susceptible to litigation, reputation and market risk.

To date, roughly 90% of West Africa's primary forests have been destroyed.<sup>60</sup> In Côte d'Ivoire, roughly a quarter of forest loss since 1970 is tied to the expansion of cocoa production.<sup>61</sup> Cocoa production also drives deforestation in other parts of the world; for example, approximately 9% of commodity-driven deforestation in Indonesia has been attributed to cocoa production,<sup>62</sup> and thousands of hectares of rainforest were destroyed in Peru to make way for cocoa plantations in recent years.<sup>63</sup> Widespread poverty often motivates cocoa farmers to cut down remaining forests, including in protected areas, to increase their harvests and income.<sup>64</sup>

- Due to increased investor, media and public interest in deforestation, companies face **reputation risk** if media and advocacy campaigns expose deforestation within corporate cocoa supply chains.
- Companies may also face **litigation risk** if any cocoa they source is linked to production in legally protected forest areas.
- Deforestation within supply chains also exposes companies to **regulatory risk**. Laws being proposed in both producing and importing countries may penalize the production or sourcing of deforestation-linked products, with financial and legal consequences for companies, if enacted.<sup>65</sup>
- Enforcement of stricter procurement standards as a part of no-deforestation commitments among downstream buyers may lead to **market risk** for suppliers producing and/or traders sourcing deforestation-linked cocoa. This risk to suppliers and traders is increasingly material given heightened efforts by influential cocoa buyers to map and monitor deforestation impacts throughout their supply chains.

The tropical rainforests where cocoa crops thrive, including the Amazon, those in Southeast Asia, and those in Upper Guinea, are also some of the most biodiverse areas in the world, providing critical habitat for many endangered and endemic species.<sup>66</sup> In 2015, less than half of the protected areas surveyed in Côte d'Ivoire still contained any of the country's 22 primate species, and seven out of the 23 areas surveyed had been converted almost entirely into cocoa production.<sup>67</sup>



- Recent research indicates that preserving biodiversity and related ecosystem services is vital to limiting average global temperature rise to 1.5°. Failure to address this issue may expose companies to **climate risk** (elaborated upon in the next section).

To mitigate against risks related deforestation in cocoa supply chains, companies should have proper supply chain oversight and mechanisms in place to address any issues.

**Recommended actions for companies include, but are not limited to:**

- Creating and enforcing comprehensive no-deforestation policies that cover the company’s entire cocoa supply chain and all regions from which it sources cocoa.
- Achieving origin-level traceability for both direct and indirect suppliers.
- Monitoring and verifying both direct and indirect suppliers to ensure they don’t violate corporate policies regarding deforestation, nor local laws that protect forest areas.
- Establishing and employing non-compliance protocols for suppliers found violating corporate no-deforestation policies.
- Providing financial and technical support to suppliers to incentivize sustainable production and allow smallholders to sustainably increase yields and earn a living income.

### MARS WORKS TO INCREASE TRANSPARENCY IN ITS COCOA SUPPLY CHAIN

Mars has actively sought to eliminate deforestation in its cocoa supply chain, both through its own Cocoa for Generations plan and through its action plans submitted as a member of the Cocoa and Forests Initiative, a collaboration between 35 major cocoa companies and producer-country governments addressing deforestation from cocoa production. In March 2019, Mars released the names of its direct cocoa suppliers for the previous year and committed to achieving traceability to the farm level for 100% of its cocoa supply by 2025.<sup>68</sup> To date, Mars has reported it can trace 95% of its cocoa to the country of origin, 40% to the farmer group, and 24% to the farm level. Mars is one of a few companies that have extended their own monitoring beyond their direct suppliers; while many other companies rely only on third-party certifications to verify that their upstream cocoa supply is deforestation-free.

### 3. CLIMATE CHANGE THREATENS FUTURE COCOA PRODUCTION AND BRANDS’ SUPPLY CHAINS

Climate change poses significant material risk to global cocoa supply chains. The increase in global temperatures will lead—and, to some extent, has already led—to shifts in global precipitation patterns and greater moisture loss in soil and plants.<sup>69</sup> Climate-related changes in areas currently suitable for cocoa production, and the resulting increased volatility in cocoa supplies and prices, pose operational and market risk for both upstream and downstream supply-chain actors.

In many cocoa-growing areas, the effects of climate change are already manifesting. Changes in temperature and rainfall have led to an increased prevalence of agricultural diseases, negatively impacting cocoa production in recent years.<sup>70</sup> Climate change is likely to increase the prevalence of droughts, pests and disease, all of which threaten cocoa production. Disease and pests are already responsible for the loss of up to 40% of global cocoa production.<sup>71</sup>

- These physical effects of climate change pose **operational risk** for upstream supply-chain actors, and **market risk** for downstream actors, for whom the price and volume of cocoa may become increasingly variable.<sup>74</sup>

Experts predict that climate change will shift suitable cocoa growing regions. Areas highly suitable for cocoa production are expected to decrease by 9% worldwide by 2050,<sup>75</sup> with some regions being harder-hit than others. Changing temperature and rainfall patterns can also shift the ranges of agricultural pests and diseases and may increasingly affect cocoa production in the next few decades.<sup>74</sup> In current cocoa-growing areas, the optimal altitude at which to grow cocoa is expected to increase. Some of the hillier regions expected to have improved cocoa-growing conditions also contain the last remaining forests.<sup>75/76</sup> Other, currently unsuitable regions may also become more suitable for cocoa production, leading to deforestation and other land use changes. Studies predict that conditions will shift favorably for cocoa production in heavily forested areas in Central Africa and parts of Southeast Asia.<sup>77</sup>

- The need to shift sourcing regions poses potential **operational risk** to companies, as they will have to establish new infrastructure, expand traceability mechanisms and invest further resources to ensure human rights and environmental violations are not occurring in these new areas.

To mitigate against climate-related operational and market risks, companies must take steps to ensure their entire supply chains and their current suppliers are prepared for the effects of climate change.

**Recommended actions for companies include, but are not limited to:**

- Conducting climate-change scenario analyses using different levels of warming to assess the short- and long-term impacts of climate change on any supply chains that use cocoa.
- Investing in resources to improve the resiliency of cocoa farming, including climate-smart cocoa production techniques.

### MAJOR CHOCOLATE PLAYERS INVEST IN CLIMATE-SMART COCOA PRODUCTION

Barry Callebaut, Cargill, Inc., ECOM Agrotrade, Hershey's, Lindt & Sprüngli, Mars, Nestlé, Olam International, and Touton have partnered with the World Cocoa Foundation to map and model projected climate impacts, stimulate private sector investment, and implement on-the-ground "climate smart" agriculture solutions. Their Feed the Future Partnership for Climate Smart Cocoa provides some potential solutions, such as designing and implementing sustainable agroforestry systems, which can also include intercropping, planting drought and disease-resistant plants, and soil fertility management. Shade-grown cocoa in agroforestry systems, for example, may lose less water via evaporation than sun-grown counterparts. Cocoa grown this way may also be able to mimic natural ecosystem processes such as weed control, water regulation, nutrient cycling and promoting biodiversity.



## COLLABORATIVE INITIATIVES

### Multi-stakeholder sustainability efforts

- The **World Cocoa Foundation (WCF)** is a prominent global cocoa industry association covering roughly 80% of the global cocoa market, and has established several global and regional sustainability programs for its members. The WCF's Cocoa Livelihoods Program, for example, provides members with guidance for boosting farmer incomes and productivity in West Africa, while its Cocoa Action Program provides a pre-competitive outlet for members to share best practices and collaborate to address issues around child labor.
- The WCF, the governments of Cote d'Ivoire and Ghana, and 35 major cocoa buyers collectively established the **Cocoa & Forests Initiative (CFI)** Frameworks for Action, which issued a joint commitment to ending cocoa-driven deforestation within signatory countries. The CFI has been particularly influential in boosting transparency and accountability in cocoa supply chains. In March 2019, 33 of the 35 signatory companies released detailed individual action plans, outlining specific actions each will take by 2022 to achieve the commitments in the CFI's Frameworks for Action. As part of the joint agreement, upcoming government guidance around land use designations will inform company action plans; in the meantime companies are finding ways to report on these plans' implementation and on-the-ground impacts.
- **The International Cocoa Initiative** formed in 2002 as part of the international agreement to develop a joint foundation under the Harkin-Engel protocol to end child labor in cocoa production in Cote d'Ivoire and Ghana. The ICI provides a forum for large chocolate manufacturers, traders, governments and civil society to work together in ending child labor. ICI provides a variety of resources, trainings and guidance for communities, small-holder farmers, companies, and governments. ICI has developed Child Labor Monitoring and Remediation Systems (CLMRS), which are embedded in a growing number of chocolate and cocoa company supply chains. CLMRS serves to inform supply chain stakeholders of the risks, identify potential instances of abuse, and jointly engage with companies to remediate any instances of child labor.

### THIRD-PARTY SUSTAINABILITY STANDARDS

Companies that want to support more sustainable production often rely on third-party sustainability certifications to assure their cocoa supply is sourced from sustainably managed areas with limited risk of human rights abuses and deforestation. The main third-party certification providers for cocoa include Fairtrade International, the Rainforest Alliance (RA), and UTZ (which recently merged with the Rainforest Alliance).

While these certifications can appear either together or separately in corporate commitments, there are some critical differences to be aware of. Both Fairtrade and RA use location audits and chain-of-custody systems to ensure farms and farm groups are certified by production standards, but differ in the following aspects:

- Fairtrade International's main goals are to address poverty and provide a fair and guaranteed price to cocoa producers; they do not track or monitor deforestation activities.
- The Rainforest Alliance certification program sets standards to strengthen farm management, increase transparency, and provide oversight to mitigate both deforestation and human rights abuses.

Companies may choose to rely on a number of certifications to ensure critical aspects of human rights and environmental impacts are covered.

However, certifications are not foolproof. Despite RA-certified farms being monitored for deforestation and human rights standards, media outlets have reported potential child labor violations and the conversion of protected forests associated with RA-certified cocoa.<sup>78</sup>

## ADDITIONAL RESOURCES

### COMMITMENT DEVELOPMENT, DISCLOSURE AND TRACKING

- **Cocoa & Forests Initiative** | The governments of Côte d'Ivoire and Ghana, and 35 leading cocoa and chocolate companies representing 85% of global cocoa usage, have joined together in the Cocoa & Forests Initiative to end deforestation and restore forest areas. In Colombia, the government and the largest local cocoa and chocolate companies signed a comparable agreement called the Cocoa, Forest & Peace Initiative to eliminate cocoa-related deforestation.
- **CDP** | CDP is a non-profit that provides a global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. Companies and other actors can disclose impacts on forests, climate, water security and other environmental areas.

### IMPLEMENTING SUSTAINABILITY

- **World Cocoa Foundation** | WCF's members include cocoa and chocolate manufacturers, processors, supply chain managers, and other companies worldwide, representing more than 80% of the global cocoa market. WCF's activities benefit farmers and their communities in cocoa-growing regions of Africa, the Americas and Southeast Asia.
- **IDH** | The Dutch Sustainable Trade Initiative (IDH) helps companies and governments reach their sustainability goals by facilitating cooperation, innovating scalable solutions and embedding these practices into the market. Through programs like the Cocoa & Forests Initiative, Beyond Chocolate, the Farm and Cooperative Investment Program and Cocoa Origin, IDH aligns groups of stakeholders around a way forward and creates the conditions necessary for their success.
- **ICCO** | The International Cocoa Organization (ICCO) is an organization designed to put into effect international cocoa agreements with the seventh having come into force in October 2012. With public and private sector representation from both cocoa-producing and cocoa-consuming member countries, the organization provides a forum for advancing multi-stakeholder agreements, research and trade around the cocoa industry.
- **Rainforest Alliance Certification** | The Rainforest Alliance (RA) is an international non-profit organization working at the intersection of business, agriculture and forests to make responsible business the new normal. RA is building an alliance to protect forests, improve the livelihoods of farmers and forest communities, promote their human rights and help them mitigate and adapt to the climate crisis. In 2018, RA merged with the UTZ organization, which also had a popular certification standard for cocoa. In 2020, RA released one new, merged sustainability standard based on both prior certifications.
- **Fairtrade International** | Fairtrade International, known in many countries as Fairtrade Labelling Organizations International e.V. (FLO), was established in 1997 and is an association of three Producer Networks, 19 National Fairtrade Organizations (formerly the Fairtrade Labelling Organizations) and eight Fairtrade Marketing Organizations that promote and market the Fairtrade Certification Mark in their countries.

### GOVERNMENT COORDINATION

- **CCC** | Côte d'Ivoire's Coffee and Cocoa Council (ccc) is a regulatory body of the Ivorian government which fixes a guaranteed price for cocoa in Côte d'Ivoire. The price-fixing is intended to support local farmers and further the development of domestic cocoa industries in Côte d'Ivoire, the world's top cocoa grower.
- **COCOBOD** | The Ghana Cocoa Board (Cocobod) is an agency of the Ghanaian government that fixes a guaranteed price for cocoa in Ghana. As the prices on the international market can fluctuate, Cocobod's price-fixing is intended to protect farmers and reinforce the growth of local industries in Ghana as the world's second largest cocoa-producing country.



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