

Global Market Report: Bananas

Vivek Voora, Cristina Larrea, and Steffany Bermudez
Series Editor: Sofia Baliño

May 2020

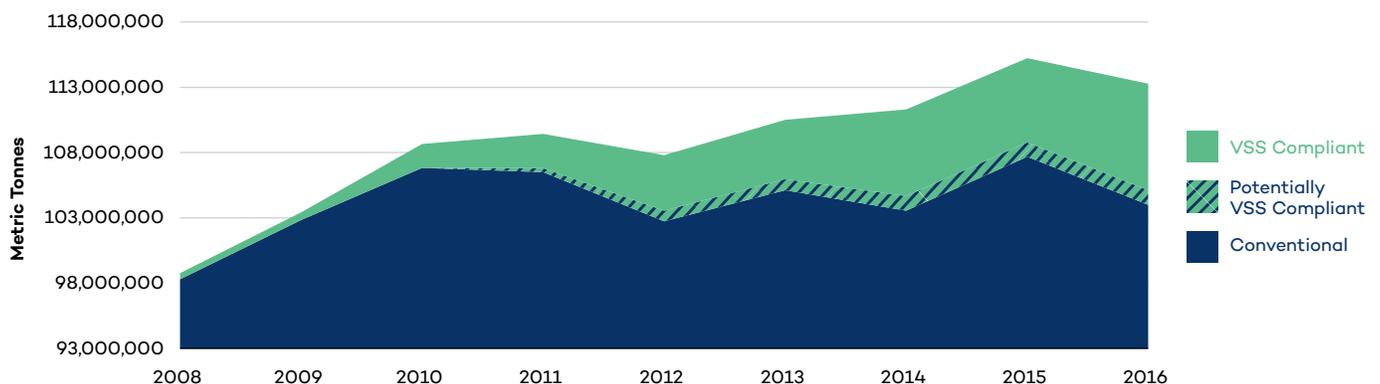
Bananas are the most important traded fruits in the world in terms of export value.

Bananas are among the most traded fruits in the world. In 2017 alone, 22.7 million tonnes of bananas, excluding plantains, were traded, representing almost 20% of global production that year. The value of this trade was worth USD 11 billion, which is higher than the export value of any other exported fruit.^{1–3,9} While Asia is the largest banana-producing region, Latin America and the Caribbean is the largest exporting region, responsible for approximately 80% of global exports.⁴ The retail value of the sector was estimated to be worth between USD 20 billion and 25 billion in 2016, providing livelihoods to millions of smallholder farmers and plantation workers around the world.^{5,6} In Africa alone, bananas are a source of income and jobs for more than 70 million people.⁷

Looking at production and trade figures at a country level, the largest producing and exporting countries in 2017 were spread out across geographic regions, with Ecuador at USD 3 billion, Costa Rica at USD 1.1 billion, and the Philippines at USD 1 billion.³ Meanwhile, the largest importing countries that year were the United States (USD 2.5 billion), Belgium (USD 1.4 billion), and Russia (USD 1.1 billion).³ Despite these high figures, it is worth noting that the banana trade balance (export–import) overall has fluctuated significantly during the 2015–2018 period, registering oversupply in some years and shortages in others, normally in the range of 1 million to 2 million tonnes in either direction.^{3,8,9} This fluctuation is due largely to the seasonality in banana demand and climate-related production challenges, such as severe floods, cooler temperatures, and mudslides. These

VSS-compliant bananas accounted for at least 7% of total banana production in 2016.

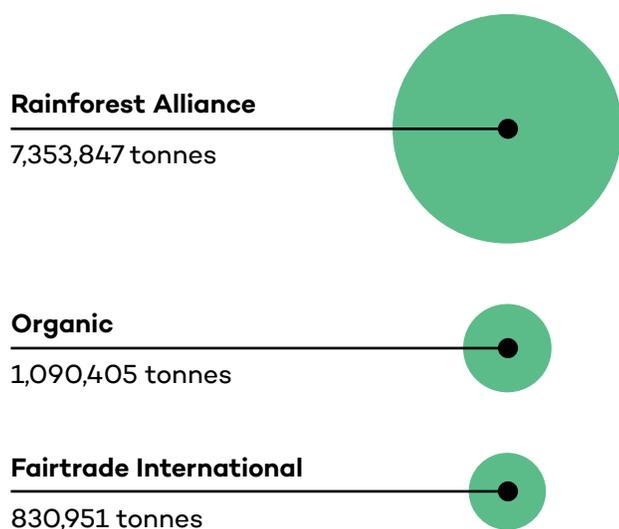
Figure 1. Bananas that comply with voluntary sustainability standards (VSSs) accounted for at least 7% of total banana production in 2016³⁴



Note: VSS-compliant production volumes refer to bananas produced in compliance with one or more VSSs. Conventional production volumes do not comply with any existing VSSs. Production volumes that are defined as potentially VSS-compliant cannot be definitively listed in either category with the data currently available.

How many tonnes of bananas are certified by each standard?

Figure 2. VSS-compliant banana production volumes in 2016^{34*}



** Production data for Global G.A.P. certification was not available when writing the report. The scheme reported a total of 252,602 hectares of land harvested certified globally in 2016, which represented the largest VSS-certified banana area in 2016.*

weather-related events and trends have affected some of the largest exporting countries in Latin America and the Caribbean, such as Colombia, Costa Rica, Guatemala, and Honduras.^{10–12}

Aside from these developments, the spread of the recently emerged Tropical Race 4 strain of the fungal disease Fusarium wilt in banana plantations is also threatening production volumes in the main growing regions and remains a situation to monitor closely.^{13,14} Despite these production challenges, the Food and Agriculture Organization of the United Nations estimates that banana exports will overtake imports in 2019 due to the expansion of production capacities in certain countries, including Ecuador, Panama, and the Philippines.⁴⁸

Bananas are largely consumed domestically in producing countries, where they provide a substantial source of nutrition and food security for more than 400 million people.⁶ They are the staple food for millions of people and are considered the world's preferred fruit, given that they provide an affordable source of energy, vitamins, and potassium.^{15–17} They are also a major export product; the Cavendish variety is the most commercialized type of banana, proving to be better

suitable to international trade than other varieties since it is more resistant to physical shocks in transport. Indeed, the particular transport challenges involving bananas are important to consider; their perishability means that bananas must be packed in boxes for export, shipped in refrigerated containers, and artificially ripened with ethylene before being transported to retailers and wholesalers.¹⁸ These steps, while important for trading bananas, contribute to greenhouse gas emissions.

The increased uptake of voluntary sustainability standards (VSSs) in the banana sector is another important development to watch, especially given the pace of this uptake in recent years. In 2016, 7% of banana production was VSS-compliant—a notable development given that these standards were almost nonexistent in the sector about a decade ago.³⁴ That same year, 1% of production was potentially VSS-compliant, while conventional banana production accounted for 92% of the market.

Looking at future projections, the market advisory firm Mordor Intelligence predicts that the sector will experience a compound annual growth rate (CAGR) of 1.21% in consumption from 2019 to 2024, reaching a global consumption volume of 136 million tonnes by 2025, compared to 116.2 million tonnes in 2017.^{19, 20} This projected growth is primarily driven by increasing demand in producing countries, particularly in the Asia-Pacific region, which currently accounts for 61% of global consumption, led by India, China, and the Philippines.^{16,20} This growth in projected demand will be underpinned by population growth in developing countries, the availability of domestically grown bananas, improvements in per capita incomes, and associated shifts in diets related to health benefits and awareness.^{16,20} The consumption of local bananas in many African countries is also notable, such as in Uganda, Rwanda, and Cameroon. In those countries, per capita consumption can reach over 200 kg per year, especially in rural areas where the tropical fruit can provide up to 25% of a person's daily caloric intake.^{16,21} Bananas are also becoming increasingly popular in Europe and North America, with consumers increasingly looking for healthier options, such as bananas and other tropical fruits, to replace products containing refined sugar.^{4,16}

Despite the predicted increase in demand, the banana sector faces important supply challenges that need to be addressed to meet this estimated market growth.

Moreover, some of these problems also affect farmer livelihoods, which is an essential consideration.

Producing bananas has become a race to the bottom, and establishing a living wage for banana farmers and workers is both urgent and crucial.^{18,22} Farm gate prices, which is the price paid to the farmer at the farm and does not consider transport cost to the point of export, have remained mostly unchanged over the past decades, while the prices for raw material inputs have fluctuated, putting significant pressure on farmer revenues.^{16,27} According to the United Kingdom-based non-profit Banana Link, “[on] average, workers only earn between 5 and 9 per cent of the total value of bananas, while retailers manage to capture between 36 and 43 per cent.”²³ An additional USD 1.20 per 18.14 kg banana box, which retails for a loss at USD 14 per box, could provide producers and workers with better wages to alleviate poverty while having little impact on consumers.^{22,24–26}

The wage situation reflects the sector’s control by a few large multinational companies and retailers, which strive to provide customers with lower prices.^{2,6,27} These companies, which include Del Monte, Fyffe’s, Dole, and Chiquita, control entire supply chains and have little need for advertising, making price the main competitive factor for capturing market share.²⁷ Another factor affecting market prices is the move in recent years by large supermarket chains in the United States and Europe to purchase bananas directly from small wholesalers or growers. This trend also reflects the fierce competition between retailers, particularly in European countries such as Germany and the United Kingdom, who are cutting banana prices to attract customers, even though the low prices affect farmers, workers, and, eventually, the entire economy of producing countries.²⁸

Some countries are taking policy action to address low farm gate prices and provide greater certainty to farmers. For example, the Government of Ecuador, the leading banana exporting country, annually establishes minimum reference farm gate and Free On Board (FOB) prices for a box of bananas, which accounted in 2018 for USD 6.2 per 41.5–43-pound box and USD 8.01 per box, respectively.²⁹ FOB price is the price paid for a box of bananas at the point of export before it is shipped to importing countries. This price covers the price paid to the farmer plus export costs. While the intervention of the government aims to guarantee a decent price for farmers, some exporters argue that, by setting these reference prices, Ecuador loses

LIVELIHOODS

400 million people consume bananas as a source of nutrition and food security.

70 million people generate revenue from bananas in Africa.

competitiveness against other countries with lower prices, thus influencing the total volume of bananas exported.⁴⁹ Clearly, efforts are needed from the industry as a whole, especially in main producing countries, for consistent intervention to raise the bar of the price paid to the farmer across the board.

The banana sector is also facing a race against time, as resistant varieties are being sought to combat Fusarium wilt, which wiped out the Gros Michel variety in the 1960s and is now threatening the Cavendish with its new Tropical Race 4 strain. As noted previously, the latter is the main variety of banana cultivated and exported worldwide, accounting for around 47% of global production.^{2,16,19,30} A genetically modified Cavendish resistant to the Tropical Race 4 strain has recently been discovered, though questions remain over the cost of implementation and concerns in many quarters over the long-term effects of genetically modified crops.^{14,19,30} Besides this ominous prospect, the sector still faces other challenges to sustainable production, such as the impacts of climate change on crop yields; excessive pesticide use, which can pollute freshwater sources used in banana cultivation; and labour rights infractions.^{2,31,32} Indeed, climate change is expected to lead to declining

MARKET VALUE

Over USD 2.4 billion in VSS-compliant bananas based on 2016 banana producer prices.

CAGR 2008–2016

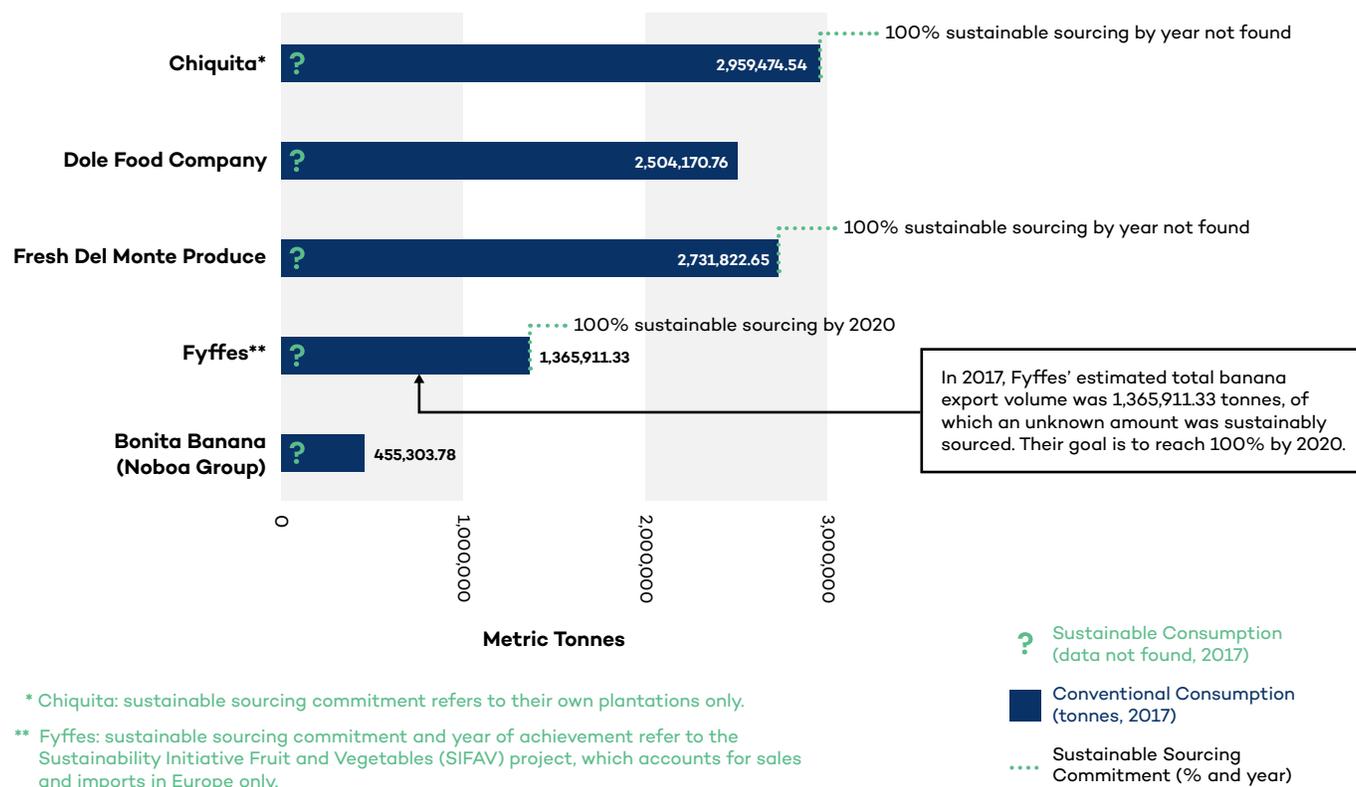
Conventional production is up by 0.71% while VSS production is up by 43.11%.

BANANA PRODUCTION IN LHDCs

12% of total bananas produced

2% of VSS-compliant bananas produced based on 2016 data

Figure 3. Major banana-consuming companies, their sustainable sourcing commitments and related data



yields in the largest banana-producing countries, such as India, Brazil, Colombia, Costa Rica, Guatemala, Panama, and the Philippines, which could lead to a demand-supply imbalance in the years to come.³³

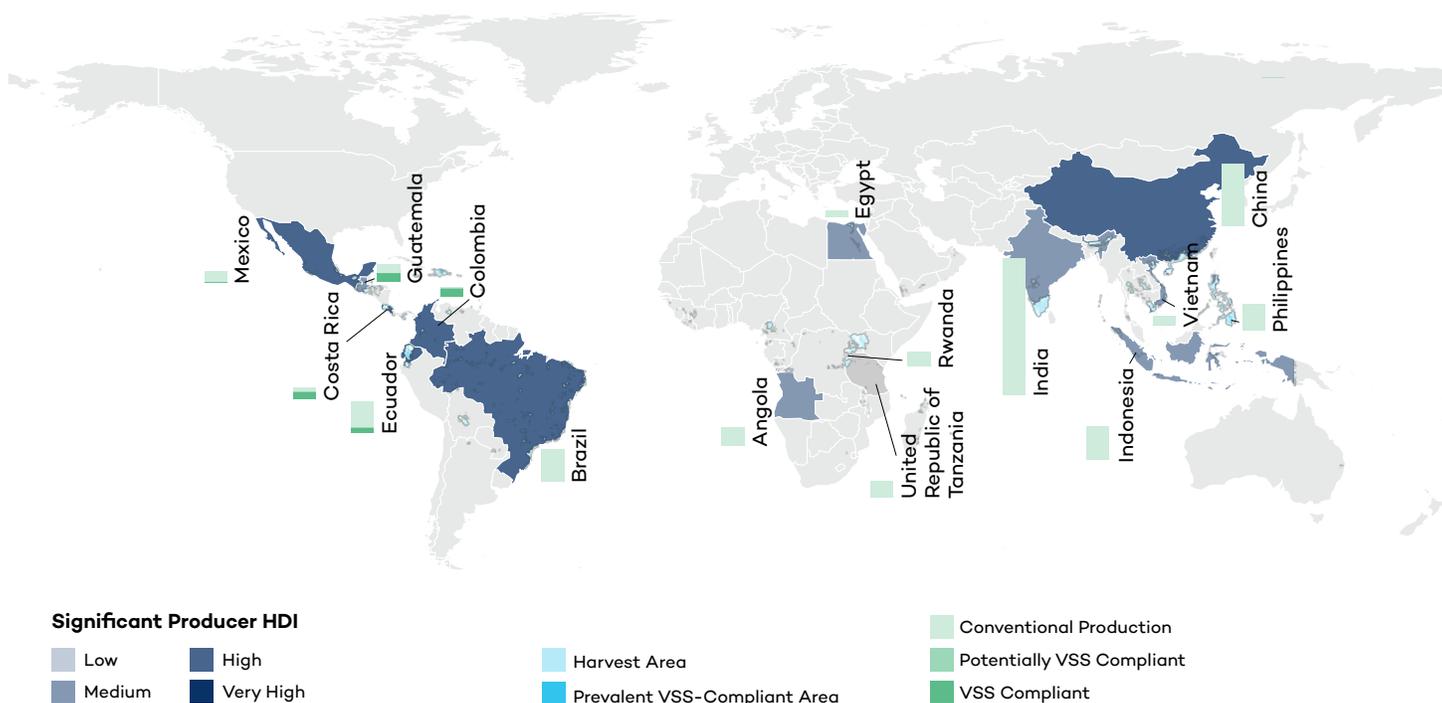
VSSs can lower the societal costs associated with banana production.

VSS-compliant banana exports can be traced as far back as 1996, when small quantities of Organic bananas were shipped to the United States and Canada.³⁵ Fairtrade bananas were exported to the Netherlands, Denmark, and Belgium the next year.³⁵ VSS-compliant banana production, which at first primarily came from smallholders, expanded significantly at the turn of the century, as large plantations owned by Dole, Fyffe, and Chiquita became certified.³⁵ Today, VSSs continue to play an important role in helping to address the sector's sustainability challenges, since the criteria embedded in each standard, which certified plantations and producers need to comply with, encourage the improvement

of agricultural practices. These criteria include soil conservation measures that can enhance crop yields and the resilience of banana plantations to climate change, the definition of minimum and living wages for workers, and the application of integrated pest management measures. The external costs of conventional banana production, such as insufficient wages for small producers and workers and social security for workers, land occupation, greenhouse gas emissions, and water scarcity, are typically borne by society. These costs were estimated in 2017 to be USD 6.70 per 18.14-kg box. By comparison, the external cost of Fairtrade-produced bananas was estimated to be USD 3.70 per box—a significant difference that demonstrates the reduced adverse impacts from VSS-compliant production. These findings highlight the potential for VSSs to lower and internalize societal costs in the banana sector, as they work to provide hired workers and small producers with sufficient wages, income, and social security.³⁶ They also play a crucial role in preventing environmental damage,

Banana-growing regions of the world

Figure 4. Distribution of banana production in the top 15 producing countries in 2016^{34,45,52,53}



Download high resolution version of the map at <https://www.iisd.org/sites/default/files/publications/ssi-global-market-map-banana.pdf>

natural habitat losses, excessive pesticide use, water depletion, and climate change impacts.³⁶

Nevertheless, the adoption of VSSs in the banana sector does not always result in clear sustainability benefits. For instance, an insect and bird diversity study conducted in banana farms in Costa Rica found that, while Rainforest Alliance-certified plantations resulted in lower insect diversity compared to non-Rainforest Alliance banana plantations, both types of plantations yielded lower results than organic farms, which showed higher insect diversity.³⁷ Greater insect biodiversity might be related to less pesticide and fertilizer use, and, in turn, it provides beneficial ecosystem services to banana plantations that could improve farm productivity, such as biological control of pests.³⁷

The prospects for VSS growth in the sector are promising. Compared to conventionally produced bananas, the production of VSS-compliant bananas has grown significantly faster in recent years. Bananas experienced a production CAGR of 43% from 2008 to

2016, accounting for at least 7% of banana production overall.³⁴ Rainforest Alliance, Fairtrade, and Organic are the main VSSs in the banana sector when ranked by production size. In 2016, at least 8 million tonnes was VSS-compliant, with bananas valued at approximately USD 2.4 billion.^{34,38} This value is derived from the average producer prices per country, as reported by the Food and Agriculture Organization of the United Nations, which is then applied to the volume of VSS-compliant bananas produced per country.^{34,38} The majority of VSS-compliant production, at nearly 95%, comes from Latin America, led by Guatemala, Colombia, and Costa Rica, with some important volumes coming from the Philippines and Côte d'Ivoire.³⁴

On the demand side, most VSS-compliant bananas that are produced are sold and marketed as such. In 2012, more than 80% of VSS-compliant bananas that were produced were sold as such in the market.³¹ This dynamic is quite different than other sectors, such as coffee and tea, where mismatches between VSS-

compliant production and sales can be significant.^{31,50,51} The five largest banana companies are responsible for approximately 44% of total bananas traded, or an estimated 10 million tonnes in 2017. Chiquita, Del Monte, and Fyffes have all made commitments to grow only sustainable bananas. However, based on our research, it is unclear when they plan to achieve this objective or if they have made any progress in doing so. Chiquita reports an increase in the share of organic bananas produced versus total volume, going from 1.6% in 2011 to 5.8% in 2016.³⁹

Based on the sourcing commitments of these three companies and assessing them against estimated information on their traded volumes, it is expected that a total of 7 million tonnes of VSS-compliant bananas will be annually exported in the future, but the timeline remains unknown. The leading buyers' sourcing commitments are driven mainly by end-consumer preferences to purchase more sustainable and healthy products. This is especially apparent in the more affluent countries in North America and Europe, where consumers are more aware of the social and environmental issues associated with banana production and are willing to pay a premium for VSS-compliant products. Over the last two decades, the consumption of Fairtrade and Organic bananas has increased considerably, capturing approximately 10% of the market in these regions.²⁷ According to the United Nations Conference on Trade and Development (UNCTAD), sales of Fairtrade bananas have risen in Europe. The United Kingdom is leading the way, as its retailers are increasingly committed to selling Fairtrade bananas.²⁷ Organic and Fairtrade banana sales have also risen in Belgium and the Netherlands, while organic bananas have captured approximately 10% of the market in the United States, with retail sale volumes increasing by 17.5% in 2017 relative to 2016 figures.^{40, 41} Awareness-raising efforts are needed to expand demand among price-conscious consumers so they can become familiar with the potential benefits of consuming VSS-compliant bananas, given that they are often more expensive compared to conventionally produced bananas.⁴¹

Developing demand for VSS-compliant bananas in producing countries could be a substantial source of growth for this market.

The growth of VSS-compliant bananas is based on boosting demand from importing countries, as well as banana-growing countries. As noted previously, the total production of VSS-compliant bananas represented almost 36% of total banana exports in 2016, indicating that there is room for VSS-compliant producers to capture more of the banana export market. It is reasonable to assume that the majority of VSS-compliant bananas are exported to meet the demand of more wealthy consumers, who are demanding more sustainably grown bananas. Furthermore, building demand in producing countries represents a significant growth opportunity for VSS-compliant bananas, since they are mostly grown for domestic consumption.

Another core consideration in assessing opportunities for expanding VSS-compliant production in the sector—along with the potential sustainability benefits this could generate—is the human development level of banana-producing countries, as assessed by the Human Development Index (HDI). Out of 130 banana-growing countries in 2016, 27 were countries that are classified in the HDI as Low Human Development Countries (LHDCs). However, only three of these produced VSS-compliant bananas. These LHDCs produced approximately 12% of total bananas grown in 2016 and 2% of the total VSS-compliant bananas produced worldwide that same year.

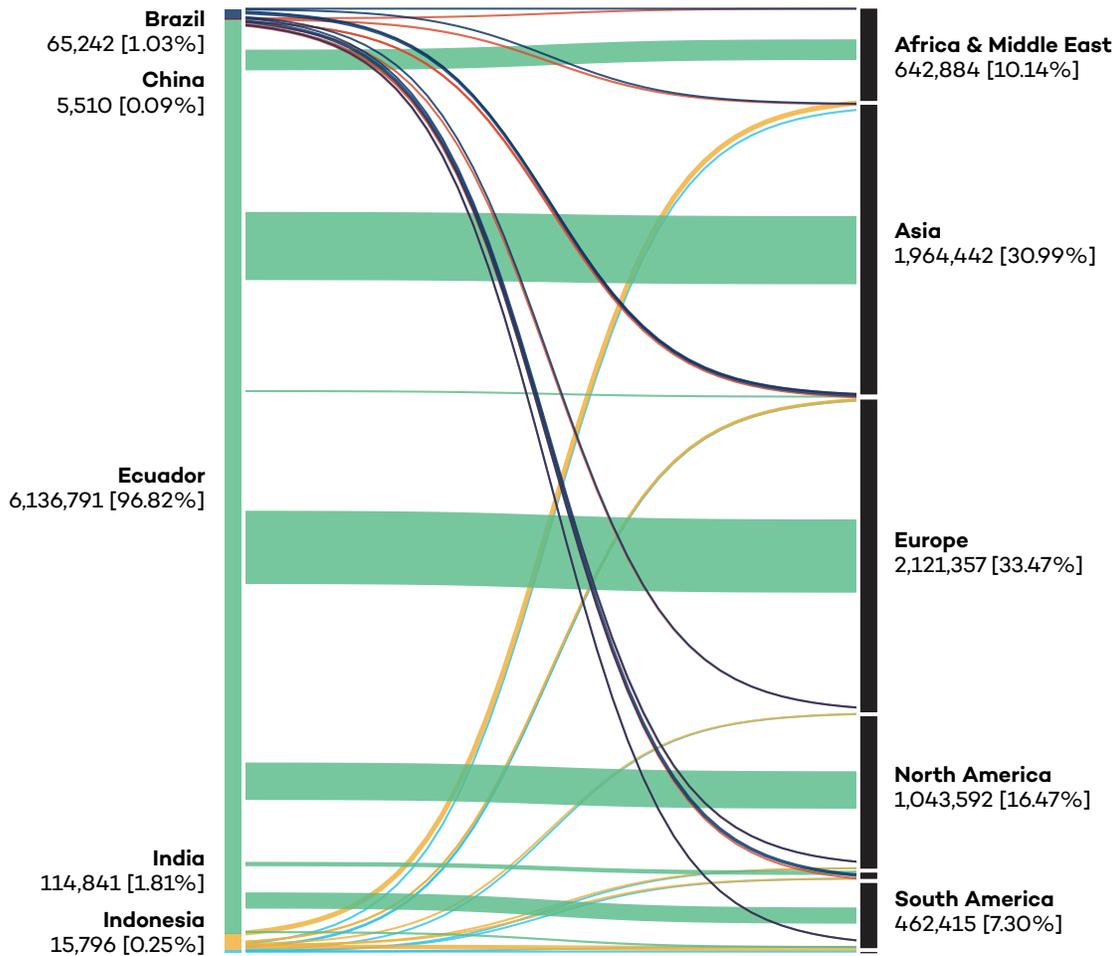
Moreover, despite experiencing growth in conventionally produced bananas, some LHDCs saw a decline in their VSS-compliant banana production. The already-limited VSS-compliant banana production in Mozambique, Rwanda, and Togo dropped to zero from 2008 to 2016.³⁴ Rainforest Alliance had the largest volumes of bananas coming from LHDCs in 2016, followed by Organic.³⁴

These observations indicate that expanding VSS compliance in LHDCs might be challenging, and there is the risk of setbacks. However, this expansion could result in important sustainable development benefits via the adoption of more sustainable farming practices, such as reducing pesticide use and preventing deforestation. It can also lead to more equitable sharing of wealth across the banana supply chain.¹⁸

Growing demand for VSS-compliant bananas will require moving into the larger banana-growing countries

India and China were the leading banana-producing countries in 2016. Most of the production is for domestic consumption. Ecuador leads in global banana exports.

Figure 5. Trade flows of the largest banana-producing countries in 2016, in tonnes



Note: These five countries represented 48.74% of total banana production in 2016. The percentage in brackets for each country represents the share produced by that country, by volume, out of those five countries' total production levels. The percentage in brackets for each region represents the proportion of the total volume of bananas imported that year that came from those same countries.

Source: 45, 54

based in Asia and Latin America, where domestic consumption is mostly made up of conventionally grown bananas. India could provide good prospects for boosting VSS-compliant banana demand, given its status as the largest banana producer, by far, and with its growing middle class demanding healthier and more sustainable products.⁴² This could eventually include bananas.⁴² In fact, none of the 29 million tonnes of Indian bananas produced in 2016, which accounted for 26% of total global banana production, were VSS-

compliant. This suggests that India is a good candidate for expanding its production of VSS-compliant bananas.^{34,43,44} According to our analysis based on 2016 data, after India and based on their total banana output and the existing presence of VSSs, China, Indonesia, Brazil, and the Philippines offer the best prospects for expanding VSS-compliant banana production.

The overall contribution of LHDCs to global banana production remains small, relative to the largest banana producers. In terms of the opportunities for expanding

VSS-compliant banana production in LHDCs and the potential for maximizing sustainable development outcomes, we looked at the countries that show the most potential for growth given their share of total banana production, the presence of VSSs, and their HDI value. These are Tanzania and Rwanda, followed by Papua New Guinea, Burundi, and Sudan, according to our analysis based on 2016 figures.^{38,45} Of course, positive development outcomes through the expansion of VSSs can also take place in the largest banana-producing countries, as noted previously with the examples of India, China, and Indonesia.⁴⁵

Nevertheless, efforts to boost demand for VSS-compliant bananas in producing countries need to consider the important livelihood and food security role that bananas can have and, thus, the need for VSS-compliant bananas to be cost-effective and affordable for local populations. After wheat, maize, and rice, the banana is the fourth most important staple crop (this figure includes plantains). This status is especially true in LHDCs, where bananas are mostly grown by smallholders for subsistence purposes or for sale in local and regional markets.^{2,46} In addition to food security concerns,

efforts to provide better wages to hired labour and smallholders in the banana sector remain important.¹⁸

Despite the product's popularity and successes to date, the banana sector faces some formidable challenges, which will require coordinated responses by the stakeholders in its supply chains.⁴⁷ The World Banana Forum was established as a multistakeholder platform that brings together public and private sector actors, as well as civil society and others, to work together toward more sustainable banana production and trade. VSSs also play an important role in moving the sector toward sustainability and convening stakeholders across the banana sector to address these challenges. Nevertheless, these standards will need to be more accessible for plantations and smallholders to expand global VSS-compliant banana production, particularly in LHDCs and in producing countries where the largest sustainability gains in the sector can be attained. Platforms like the World Banana Forum can help define mechanisms and alternatives to lower the cost of third-party verification and/or certification that can support the growth of VSS-compliant production and consumption of bananas in leading producing countries and LHDCs.

ENDNOTES

1. ITC News. (2018). *What are the world's favourite fruits?* International Trade Centre. <http://www.intracen.org/news/What-are-the-worlds-favourite-fruits/>
2. Hays, J. (2009). *Bananas: Their history, cultivation and production*. <http://factsanddetails.com/world/cat54/sub343/item1577.html>
3. United Nations Department of Economic and Social Affairs. (2019). UN Comtrade Database. <https://comtrade.un.org/data/>
4. Organisation for Economic Co-operation and Development & Food and Agricultural Organization of the United Nations. (2019). *OECD-FAO Agricultural Outlook 2019-2028*. OECD Publishing, p. 326. https://doi.org/10.1787/agr_outlook-2019-en
5. Fairtrade Foundation. (2019). *Banana farmers and workers*. <http://www.fairtrade.org.uk/Farmers-and-Workers/Bananas>
6. Banana Link. (n.d.). *All about bananas and why bananas matter...* <http://www.bananalink.org.uk/why-bananas-matter>
7. InAfrica24. (2016). *Bananas from Africa*. <http://inafrica24.com/modernity/bananas-from-africa/>
8. Fresh Plaza. (2018). *Considerable shortages on banana market*. <https://www.freshplaza.com/article/2187837/considerable-shortages-on-banana-market/>
9. Food and Agricultural Organization of the United Nations. (2016). *Crops*. FAOSTAT. <http://www.fao.org/faostat/en/#data/QC>
10. Craymer, L. (2018, April 10). Why you aren't paying more for bananas, but retailers are. *Wall Street Journal*. <https://www.wsj.com/articles/floods-strikes-and-mudslides-why-american-retailers-are-paying-more-for-bananas-but-you-wont-1523358003>
11. Cirad. (2019, March 19). *Banana monthly market review: February 2019*. <https://www.fruitrop.com/en/Articles-by-subject/Review-and-Forecasts/2019/Banana-monthly-market-review-February-2019>
12. Food and Agriculture Organization of the United Nations. (2018). *Banana market review: Preliminary results for 2018* (Report No.: CC BY-NC-SA 3.0 IGO). Food and Agriculture Organization of the United Nations, p. 12. http://www.fao.org/fileadmin/templates/est/COMM_MARKETS_MONITORING/Bananas/Documents/Banana_Market_Review_Prelim_Results_2018.pdf
13. Food and Agricultural Organization of the United Nations. (2019). *FAO forecasts strong growth prospects for global production and trade of tropical fruits*. La FAO en Amerique latine et aux Caraibes. <http://www.fao.org/americas/informations/ver/fr/c/1193642/>
14. Gan, J. (2019). The world's banana supply is at risk. Here's what you need to know. *AgFunderNews*. <https://agfundernews.com/the-worlds-banana-supply-is-at-risk-heres-what-you-need-to-know.html>
15. Sergeeva, A. (2017). Global banana market to reach 158M tonnes by 2025. *Indexbox*. <https://www.indexbox.io/blog/global-banana-market-to-reach-158m-tonnes-by-2025/>
16. Food and Agriculture Organization of the United Nations. (2019). *Banana facts and figures*. Trade and Markets. <http://www.fao.org/economic/est/est-commodities/bananas/bananafacts/en/#.XDkq51xKiM8>
17. Ileri, M. (2018). Banana production. *Horticultural News*. <https://www.hortinews.co.ke/2018/04/06/banana-production/>
18. Cohen, R. (2009). Global issues for breakfast: The banana industry and its problems FAQ (Cohen Mix). *Science Creative Quarterly*. <https://www.scq.ubc.ca/global-issues-for-breakfast-the-banana-industry-and-its-problems-faq-cohen-mix/>
19. Mordor Intelligence. (2018). *Banana market size, share, analysis, trends and forecast (2018-23)*. <https://www.mordorintelligence.com/industry-reports/banana-market>
20. FreshFruitPortal.com. (2018). *Global banana consumption recovered in 2016 after three-year decline, report finds*. <https://www.freshfruitportal.com/news/2018/03/19/global-banana-consumption-recovered-2016-three-year-lull-report-finds/>

21. Prisco, J. (2016, January 8). Why bananas as we know them might go extinct (again). *CNN Marketplace Africa*. <https://edition.cnn.com/2015/07/22/africa/banana-panama-disease/index.html>
22. Fresh Plaza. (2017). "Give us 1.20 dollar more per box." www.freshplaza.com/article/2185196/give-us-1-20-dollar-more-per-box/
23. Banana Link. (n.d.). Banana value breakdown between main supplying countries and the EU [Infographic]. <https://www.bananalink.org.uk/wp-content/uploads/2019/05/Banana-value-breakdown-between-main-supplying-countries-and-the-EU.png>
24. van der Westen, D. (2016). *US (FL): Green banana import market continues steady growth*. Fresh Plaza. www.freshplaza.com/article/2001121/us-fl-green-banana-import-market-continues-steady-growth/
25. Morazan, P. (2010). *A snapshot of the banana trade: Who gets what?* European Parliament Directorate-General for External Policies, p. 28. <https://www.ecologic.eu/sites/files/project/2013/A%20snapshot%20of%20the%20banana%20trade%20who%20gets%20what%20published%20EST32122.pdf>
26. International Labor Rights Forum & Banana Link. (2017). *A call to action from workers in the global banana industry*. <https://laborrights.org/releases/call-action-workers-global-banana-industry>
27. United Nations Conference on Trade and Development. (2016). *Banana* (INFOCOMM Commodity Profile). UNCTAD Trust Fund on Market Information on Agricultural Commodities, p. 21. https://unctad.org/en/PublicationsLibrary/INFOCOMM_cp01_Banana_en.pdf
28. Banana Link. (n.d.). *The problem with bananas: Environmental, social & corporate issues*. <https://www.bananalink.org.uk/the-problem-with-bananas/>
29. Ministerio de Agricultura y Ganaderia. (2017). *Acuerdo Ministerial NRO. 227*. El Ministerio de Agricultura y Ganaderia Considerando Gobierno Nacional de la Republica del Ecuador. <http://www.acorbanec.com/descarga/precios2018.pdf>
30. Drenth, A., Kema, G., & Stergiopoulos, I. (2016). With the familiar Cavendish banana in danger, can science help it survive? *The Conversation*. <http://theconversation.com/with-the-familiar-cavendish-banana-in-danger-can-science-help-it-survive-64206>
31. Potts, J., Lynch, M., Wilking, A., Huppe, G., Cunningham, M., & Voora, V. (2014). *State of Sustainability Initiatives Review 2014: Standards and the green economy*. International Institute for Sustainable Development. <https://www.iisd.org/library/state-sustainability-initiatives-review-2014-standards-and-green-economy>
32. Food and Agricultural Organization of the United Nations. (2020). *Water footprint of the banana industry*. World Banana Forum. <http://www.fao.org/world-banana-forum/projects/good-practices/water-footprint/en/>
33. Varma, V., & Bebbler, D. P. (2019). Climate change impacts on banana yields around the world. *Nature Climate Change*, 9, 752–757.
34. Lernoud, J., Potts, J., Sampson, G., Schlatter, B., Huppe, G., Voora V., Willer, H., Wozniak, J., & Dang, D. (2018). *The state of sustainable markets 2018: Statistics and emerging trends*. International Trade Centre. <http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/Sustainability%202018%20layout-FIN-web2.pdf>
35. Committee on Commodity Problems. (2001). *The market for "Organic" and "Fair-Trade" bananas*. Intergovernmental Group on Bananas and on Tropical Fruits (Second Session). Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/Y1767e/Y1767e.htm>
36. de Groot, A., Fobelets, V., Grosscurt, C., Galgani, R., Lord, R., Hardwicke, R., Tarin, M., Gautham, P., McNail, D. & Aird, S. (2017). *The external cost of banana production: A global study*. Fairtrade International, True Price & Trucost.
37. Bellamy, A. S., Svensson, O., van den Brink, P. J., & Tedengren, M. (2016). What is in a label? Rainforest-Alliance certified banana production versus non-certified conventional banana production. *Global Ecology and Conservation*, 7, 39–48.
38. Food and Agricultural Organisation of the United Nations. (2018). *Value of agriculture production*. FAOSTAT. <http://www.fao.org/faostat/en/#data/QV>
39. Chiquita. (2017). *Chiquita sustainability report 2016-2017*. Chiquita Brands International, p. 36. https://chiquitabrands.com/wp-content/uploads/2019/10/Chiquita_Sustainability_Report_2016_2017.pdf

40. Slavin, T. (2018). *Fairtrade shrugs off Sainsbury's controversy with 7% growth in sales*. Ethical Corporation. <http://www.ethicalcorp.com/fairtrade-shrugs-sainsburys-controversy-7-growth-sales>
41. FreshFruitPortal.com. (2017, November 17). *U.S.: Organic bananas gain appeal*. <https://www.freshfruitportal.com/news/2017/11/17/u-s-organic-bananas-gain-appeal/>
42. Wilson, J. (2018). *Consumer preferences continue to shift toward sustainability, market research shows*. Triple Pundit. <https://www.triplepundit.com/story/2018/consumer-preferences-continue-shift-toward-sustainability-market-research-shows/55496>
43. Ravi, R. (2016). *Banana prices to stay low; check out why*. *Financial Express*. <https://www.financialexpress.com/market/commodities/banana-prices-to-stay-low-check-out-why/276816/>
44. Shahbandeh, M. (2019). *Global leading producers of bananas 2016*. Statista. <https://www.statista.com/statistics/811243/leading-banana-producing-countries/>
45. Food and Agriculture Organization of the United Nations. (2016). FAOSTAT Database. <http://www.fao.org/faostat/en/#home>
46. Tripathi, L., Tripathi, J. N., & Vroh-Bi, I. (2007). *Bananas and plantains (Musa spp.): Transgenics and biotechnology*. *Transgenic Plant Journal*, 17.
47. De Buck, S. & Swennen, R. (2016). *Bananas: The green gold of the South* (Fact Series). VIB, p. 56. <http://www.vib.be/en/about-vib/Documents/FACT%20SERIES%20Bananas%20the%20green%20gold%20of%20the%20South.pdf>
48. Food and Agriculture Organization of the United Nations. (2019). *Banana market review: Preliminary results 2019*. <http://www.fao.org/3/ca7567en/ca7567en.pdf>
49. Primicias. (2019). *Bananeros en desacuerdo por nuevo precio de la caja y la reforma tributaria*. <https://www.primicias.ec/noticias/economia/bananeros-desacuerdo-precio-caja-reforma-tributaria/>
50. International Institute for Sustainable Development. (2019). *Global market report: Coffee*. <https://www.iisd.org/ssi/commodities/coffee-coverage/>
51. International Institute for Sustainable Development. (2019). *Global market report: Tea*. <https://www.iisd.org/ssi/commodities/tea-coverage/>
52. Monfreda, C., Ramankutty, N., & Foley, J. A. (2008, March). *Farming the planet: 2. Geographic distribution of crop areas, yields, physiological types, and net primary production in the year 2000*. *Global Biogeochemical Cycles*, 22, 1. <https://doi.org/10.1029/2007GB002947>
53. Tayleur, C., Vickery, J., Butchart, S., Corlet W. C., Buchanan, G., Sanderson, F., Milder, J., Thomas, D., Tracewski, L., Green, R., Blamford, A., & Ducharme, H. (2017, October 29). *GIS data for: Where are commodity crops certified, and what does it mean for conservation and poverty alleviation?* (Version 2). Mendeley Data. <https://data.mendeley.com/datasets/mpdf6ytswm/2>
54. Resource Trade. Earth. (2017). *Exploring interdependencies in global resource trade*. Chatham House. <https://resourcetrade.earth/>
55. Rainforest Alliance. (2018). *List of certified individual farms and groups*. <https://www.rainforest-alliance.org/business/wp-content/uploads/2018/12/Certified-Farms-CoC-Operations-November2018.pdf>
56. Fresh del Monte. (2014). *Corporate sustainability report 2014*. <https://freshdelmonte.com/wp-content/uploads/2014/03/Sustainability-2014.pdf>
57. Fyffes Plc. (2015). *Fyffes plc annual report 2015*. <http://investors.fyffes.com/fyffesplc/uploads/finreports/FyffesAR2015.pdf>

The Sustainable Commodities Marketplace Series provides a market performance overview and outlook for key agricultural commodities that comply with a number of voluntary sustainability standards (VSSs), focusing on global sustainable consumption and production. Each year, the series focuses on a different overarching theme, with individual reports for that year devoted to providing a market update for a chosen commodity. These reports are designed to be accessible and relevant for a range of audiences, including supply chain decision makers, procurement officers, policy-makers and producers. The series builds on *The State of Sustainable Markets 2018: Statistics and Emerging Trends*, a joint publication from IISD, the International Trade Center (ITC), and the Research Institute of Organic Agriculture (FiBL), which examines over a dozen sustainability standards for various commodities.

This *Global Market Report* analyzes recent trends in banana production, consumption, trade flows, and other relevant areas. The report also emphasizes the potential for expanding VSS-compliant production in Low Human Development Countries (LHDCs), given factors such as share of global banana production, VSS presence, and Human Development Index (HDI) value. It uses 2016 data across all three factors, given that this is the latest year with data available for VSS-compliant bananas when conducting the analysis. By comparing the growth rates and patterns of standard-compliant versus conventional consumption and production of banana, this report provides insights on how sustainable and conventional markets are performing at a global level, along with highlighting which countries have the potential to produce more VSS-compliant banana crops.

The State of Sustainability Initiatives (SSI) is an international transparency and capacity-building project that aims to improve strategic planning and sustainable development outcomes related to VSSs. It does so by providing in-depth, credible, and needs-based information on VSS characteristics, market performance, and potential contributions to addressing development challenges.

©2020 The International Institute for Sustainable Development
Published by the International Institute for Sustainable Development.

Head Office

111 Lombard Avenue, Suite 325
Winnipeg, Manitoba
Canada R3B 0T4

Tel: +1 (204) 958-7700

Website: www.iisd.org

Twitter: @IISD_news

In collaboration with ITC and FiBL



FiBL

With the support of the Swedish government



iisd.org

