The State of Sustainable Markets 2017

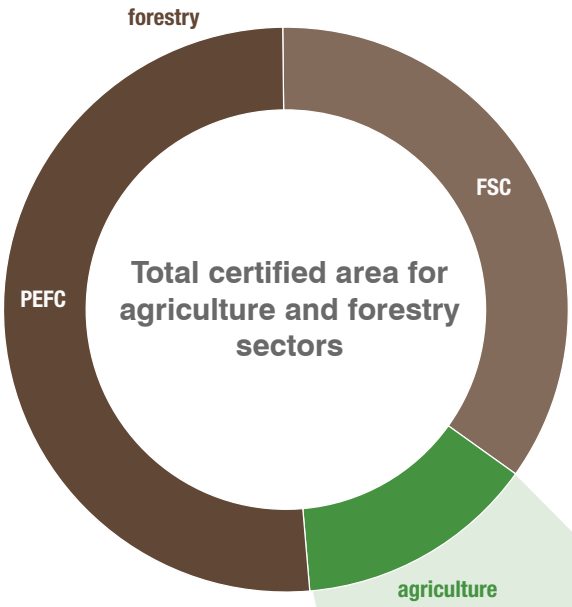
STATISTICS AND EMERGING TRENDS

International Trade Centre

In collaboration with:

FiBL

IISD
International Institute for Sustainable Development



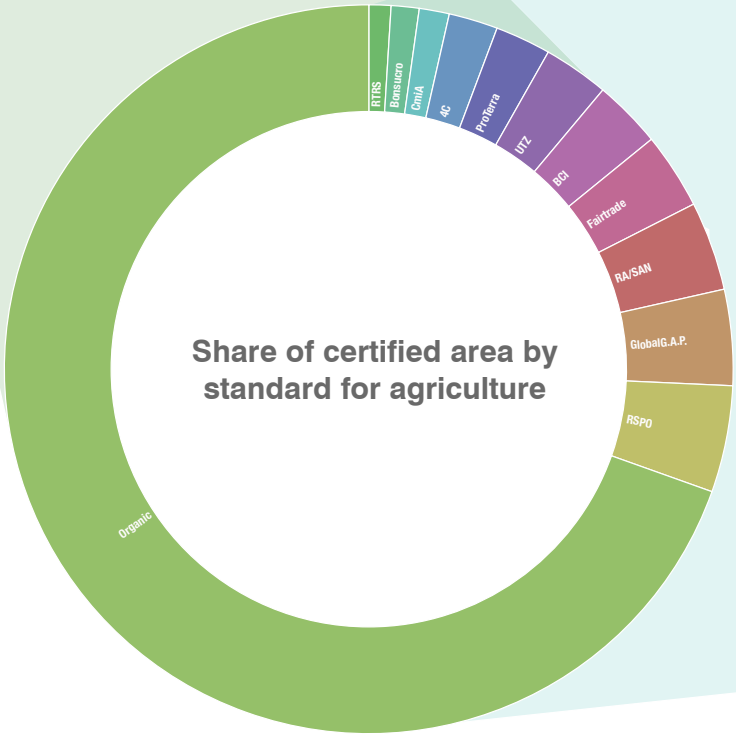
Sustainable production and trade allows us to produce, buy and sell in a way that ensures consumer protection, social responsibility and environmental sustainability.

This report features data on area, production volume and producers for 14 major voluntary sustainability standards covering forestry and eight agricultural products.

Collectively, these figures show that sustainable production and trade are no longer a novelty; they reflect consumer demand in mainstream markets.

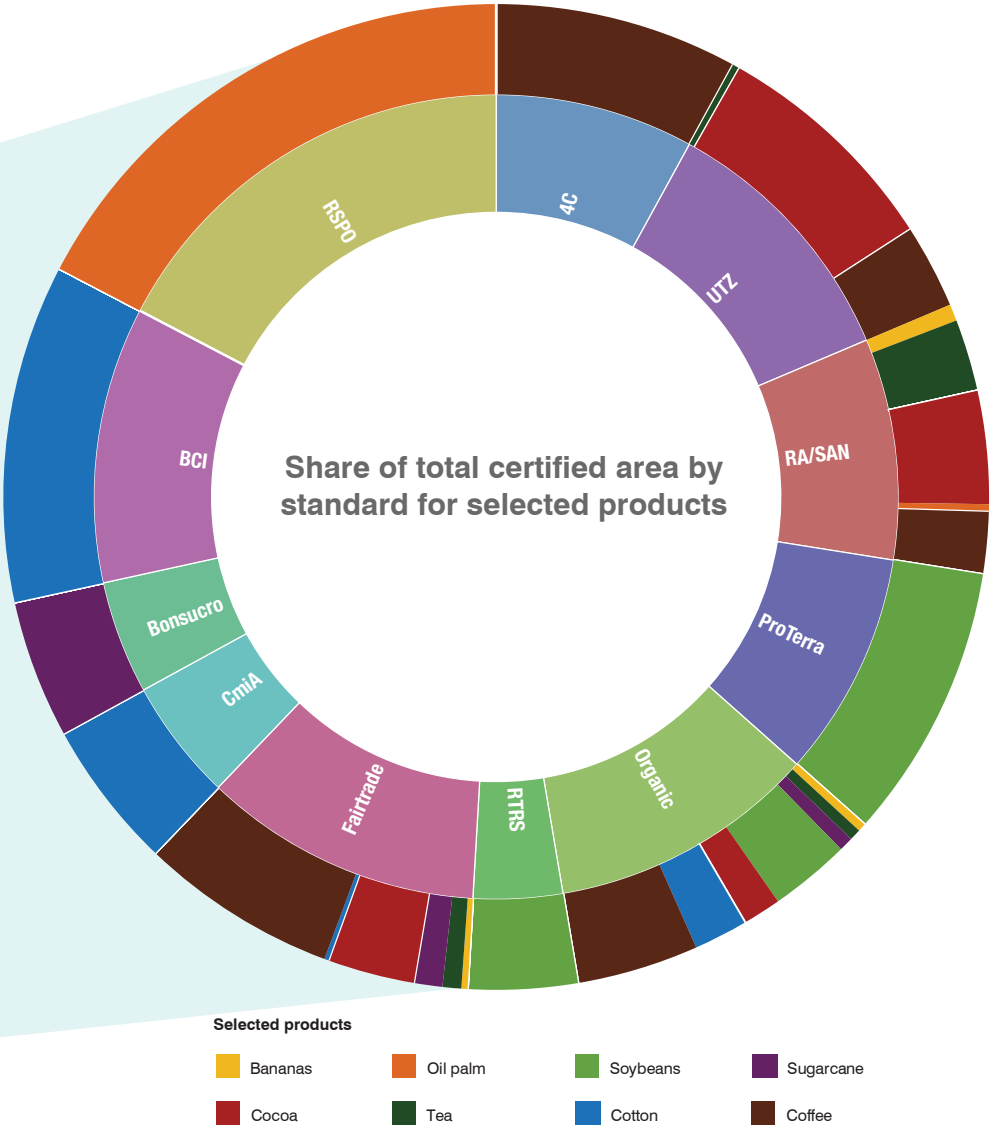
14 major voluntary sustainability standards:

- 4C
- Better Cotton Initiative
- BONSUCRO
- Cotton made in Africa
- Fairtrade International
- Forest Stewardship Council
- GLOBALG.A.P.
- IFOAM – Organics International
- Programme for the Endorsement of Forest Certification
- ProTerra Foundation
- Rainforest Alliance/Sustainable Agriculture Network
- Roundtable on Sustainable Palm Oil
- Round Table on Responsible Soy
- UTZ



THE STATE OF SUSTAINABLE MARKETS 2017

STATISTICS AND EMERGING TRENDS



About the report

Voluntary sustainability standards are in the mainstream, and no longer a novelty for niche markets.

This second global report outlines data on area, production volume and producers for 14 major sustainability standards across bananas, cocoa, coffee, cotton, palm oil, soybeans, cane sugar, tea and forestry products.

The report is based on a partnership with the Research Institute of Organic Agriculture and the International Institute of Sustainable Development. The data can help shape decisions of policymakers, producers and businesses, working to address systemic labour and environmental challenges through certified sustainable production.

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Foreword from ITC

A growing world population, with its accompanying increase in the demand for food, is only heightened by climate change challenges. As environmental awareness grows, so too does the need to ensure the sustainability of what we consume.

Non-governmental organizations, the private sector and governments – including some in developing countries – are investing in voluntary sustainability standards and global supply chains. What does this mean for overall production and consumption patterns? What have recent efforts achieved, and where should they be directed next?

Assessing what works, what needs to be recalibrated and what practices are worth replicating to scale up sustainable production requires data – data on markets, impact, producer performance, certification and accessibility of voluntary standards. This is all the more important as we endeavour to report on progress towards the Sustainable Development Goals.

Over the years, ITC has made numerous contributions on data provision and transparency in the field of voluntary standards. The Trade for Sustainable Development Programme, with its database and website containing details on over 230 standard systems, codes of conduct and audit protocols, provides a unique point of departure for comparisons and projections on the future of sustainable value chains.

This year we are again partnering with the Research Institute of Organic Agriculture (FiBL) and the International Institute for Sustainable Development (IISD) to produce the second edition of the State of Sustainable Markets report, offering new insights into the evolution of certified markets. Among the most noteworthy developments:

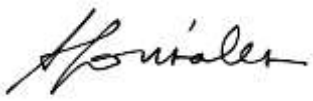
All standards in the report continue to show growth of total certified area, albeit not at the same pace as in the past.

About a quarter of all coffee grown is compliant with at least one standard.

Organic continues to be the largest standard, currently covering 50.9 million hectares, but accounting for only 1.1% of agricultural land worldwide.

This report is intended for policymakers and consumers alike. Both of these groups attach increasing importance to the protection of their own health and to the social, environmental and economic conditions surrounding the products they buy. Consumers are exerting their influence with their pockets and with their voices. At the tap of a finger or the stroke of a key, they can make their views known throughout the twittersphere. One mobile phone video can be shared millions of times in just a few minutes. The importance of transparency is at an all-time high, pushing us to improve traceability, information-sharing and partnership.

Consumers are powerful, and not afraid to wield their power both on their own behalf and on that of the planet. They are helping to ensure that the environmental impact and labour conditions associated with agriculture are duly monitored, and that appropriate sustainability standards are adopted and respected. These and other trends in sustainable markets are grounds for optimism – a message that is driven home by the findings of this report.



Arancha González
Executive Director
International Trade Centre

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Project partners

The **International Trade Centre (ITC)**, founded in 1964, is the joint agency of the World Trade Organization and the United Nations. Our aim is for businesses in developing countries to become more competitive in global markets, to speed up economic development and to contribute to the achievement of the United Nations Sustainable Development Goals.

Trade for Sustainable Development (T4SD) is ITC's partnership-based programme that helps businesses chart their path to more sustainable trade. The T4SD programme offers access to wide-ranging information for trade-related sustainability initiatives and standards. Building on well-established online tools, such as Standards Map and SustainabilityXchange, ITC will be launching a new platform, the Sustainability Map, in September 2017, which will provide new features such as the Sustainability Network. The online platform enables users, regardless of their position in the value chain, to better understand the sustainability initiatives landscape and to connect with business partners.

The **Research Institute of Organic Agriculture (FiBL)**, founded in 1973, links interdisciplinary research to the rapid transfer of knowledge from research to extension to agricultural practice, drawing on advisory work, training and conferences. FiBL has offices in Switzerland, Germany, Austria and France, as well as a representative office in Brussels. It also has numerous projects and initiatives in Africa, Asia, Europe and Latin America.

FiBL has more than 15 years of experience in collecting and publishing data on organic agriculture. Since 2000, the Institute has developed a network of some 200 experts from more than 180 countries, all of whom contribute to data collection. Every year, FiBL and IFOAM – Organics International jointly publish *The World of Organic Agriculture*, which documents recent developments in the field worldwide. Since 2008, this global data collection has been financially supported by the Swiss State Secretariat of Economic Affairs (SECO) in collaboration with the International Trade Centre (ITC). NürnbergMesse, organizer of the BIOFACH organic food fair, has supported the project since 2000. See www.organic-world.net.

FiBL works to encourage sustainable production in the food and agriculture sector, in part by contributing to the development of the guidelines for Sustainability Assessment of Food and Agriculture Systems (SAFA), published in 2013 by the Food and Agriculture Organization of the United Nations (FAO). Based on those guidelines, FiBL developed the Sustainability Monitoring and Assessment RouTine (SMART), which is now widely used for transparent and comparable assessments of the sustainability performance of farms and the impacts of voluntary standards.

The **International Institute for Sustainable Development (IISD)** is a public policy research institute renowned for its cutting-edge research in sustainable development. Established in 1990, its mission is to promote human development and environmental sustainability through innovative research, communication and partnerships. The Institute has offices in Canada, Switzerland, China and the United States of America, and operates in over 70 countries. It receives project funding from numerous governments, United Nations agencies, foundations, the private sector and individuals.

IISD has been working on assessing the characteristics, performance and market trends of VSS via the State of Sustainability Initiatives (SSI) project since 2008. The *SSI Reviews* of 2010 and 2014 are the most comprehensive reports published to date offering supply-chain decision makers – including procurement agents, investment advisers, CEOs, policymakers, sustainability initiatives and NGOs – the high-level data and analysis needed to navigate the increasingly complex world of sustainability standards. The Institute was also instrumental in establishing the Committee on Sustainability Assessment (COSA) and the Sustainable Commodity Assistance Network (SCAN), which are now independent organizations focused respectively on measuring sustainability impact and building capacity for the adoption of VSS. In addition to conducting strategic policy research and analysis on standards, IISD continues to make important contributions to sustainable consumption and production through its sustainable markets and responsible trade programme.

Contents

Tables and figures

Acronyms, units and measures

Unless otherwise specified, all references to dollars ($) are to United States dollars, and all references to tons are to metric tons.

BCI	Better Cotton Initiative
CmiA	Cotton made in Africa
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FiBL	Research Institute of Organic Agriculture
FSC	Forest Stewardship Council
GAP	Good Agricultural Practices
GCP	Global Coffee Platform (formerly the 4C Association)
GDP	Gross domestic product
GIS	Geographic Information System
GMO	Genetically modified organism
HS	International Convention on the Harmonized System
IFOAM	IFOAM – Organics International
IISD	International Institute for Sustainable Development
ISEAL	International Social and Environmental Accreditation and Labelling Alliance
ITC	International Trade Centre
NGO	Non-governmental organization
PEFC	Programme for the Endorsement of Forest Certification
RA/SAN	Rainforest Alliance/ Sustainable Agriculture Network
RSPO	Roundtable on Sustainable Palm Oil
RTRS	Round Table on Responsible Soy
SDG	Sustainable Development Goal
SECO	Swiss State Secretariat for Economic Affairs
SME	Small and medium-sized enterprise
SSI	State of Sustainability Initiatives
T4SD	Trade for Sustainable Development
VSS	Voluntary sustainability standard
UNECE	United Nations Economic Commission for Europe

Executive summary

This year's report shows how certified agriculture and forestry continue to expand rapidly, in line with a growing global population and increasing consumption.

Access to natural resources will continue to be a major sustainable development challenge far into the future. Fortunately, many opportunities exist along international supply chains to meet resource shortfalls, from improving yields to reducing inputs and waste.

Voluntary sustainability standards represent one of these opportunities. These standards are a way to adopt production and trade practices that have the potential to lead to social, environmental and economic sustainability.[1]

This report, the second in what is now an annual update on the state of sustainable markets, is based on a global survey on sustainability standards, funded by the Swiss State Secretariat for Economic Affairs. The report is produced jointly by ITC, FiBL and IISD, building on their complementary, in-depth expertise for sustainability standards.

The report offers a comprehensive snapshot of significant growth in the use of global sustainability standards across nine sectors: bananas, cocoa, coffee, cotton, palm oil, soybeans, cane sugar, tea and forestry. It presents the latest data on area, production volume and producers for 14 major standard-setting organizations. It provides market and statistical data on the nine sectors, as well as at-a-glance tables for products and standards by country. The report also outlines its methodology, data sources and references.

The current market context shows:

- continued exceptional growth;
- expanding coverage of agricultural land; and
- dominance of single-sector standards in some sectors.

Among the highlights of this year's report:

Certified agriculture and forestry expand rapidly

Voluntary sustainability standards are no longer a novelty serving niche markets. They have found their way into mainstream markets for more than a decade. The trend is clear: sustainable agricultural products, demonstrably compliant (eg, third-party verified) with internationally recognized standards, are growing at a pace that outstrips markets for conventional products.

Overall, the rising share of total area and production volume shows significant potential for continued growth.

Organic leads top standards by certified area

Organic is the biggest sustainability standard in terms of area and product variety. In 2015, more than 50.9 million hectares of agricultural production were certified as organic (including areas in the process of becoming organic certified), representing 1.1% of agricultural land worldwide.

The Roundtable on Sustainable Palm Oil (RSPO) has the second-largest area of all the standards, accounting for 0.07% of the global agricultural area.

[1] VSS are voluntary schemes which guide agricultural production towards better practices in exchange for a seal or certification of standard-compliant production. "Certification is a subset of voluntary sustainability standards that has a codified set of standards for production and management practices. Certification programs optimally include third party auditing to confirm that the standard's requirements are being met" (Committee on Sustainability Assessments, 2013, p. xii).

GLOBALG.A.P. had more than 3.1 million hectares in 2015, making it the biggest standards in terms of area certified.

All of the standards covered by this report experienced growth in their compliant areas since 2011. Better Cotton Initiative (BCI) saw the greatest jump, with a ninefold expansion in its certified area between 2011 and 2015. The area of the Round Table for Responsible Soy (RTRS) increased nearly fivefold over the same period, while those of Cotton Made in Africa (CmiA) and RSPO trebled. The certified areas of the 4C and UTZ also expanded significantly.

Highest growth for cotton, bananas and oil palm

Cotton experienced the highest growth rate of its certified area (250% between 2011 and 2015), followed by bananas and oil palm. Between 2014 and 2015, soybeans grew the fastest (48%), followed by cotton and tea. Certified forest area expanded by 61% between 2008 and 2015.

Double-digit certification of their respective global areas was noted in 2015 for coffee (24% of the global coffee area), cocoa (16%), oil palm (15%) and tea (14% of the world's tea area).

Addressing persistent sustainability concerns

The increasing trends in certification reflect a response among consumers, buyers and producers to address common environmental and social concerns. For example, the banana industry, the world's second largest consumer of agrochemicals after cotton, faces such challenges as low wages, worker health and safety, child labour and lack of biodiversity.

The cocoa market is confronted with an unorganized production base, systemic poverty and child labour, while the cotton market is hampered by high water use, volatile prices and worker exploitation.

The increasing consumption of sugarcane is having a major impact on biodiversity amidst concerns over abusive labour practices. For the tea market, concerns include forest removal, soil erosion, chemical inputs and worker protection.

Standards compliance gains ground

In the face of these concerns, voluntary sustainability standards are rising to the challenge, prompted in large part by the ever-louder voices of consumers.

Some 16% of the world's cocoa area is now certified by four standards, and the coffee sector boasts the highest compliance rate, with the organic coffee area up 25% since 2011. The Cotton made in Africa (CmiA)-certified area grew by 67% in 2014–2015. Palm oil, a major driver of deforestation, is now among the fastest-growing VSS-compliant sectors.

Three standards now certify production of sugarcane, the world's largest source of sugar, and 14% of the world's tea area is VSS-certified. As to the forestry sector – accounting for 1% of global GDP – it is paving the way for voluntary standards worldwide.

Reporting challenges: multiple certification, lack of reliable data

In a context where access to sustainable markets tends to be concentrated in more developed economies, policymakers, producers and businesses need better-quality information to facilitate strategic planning.

It remains difficult to report a global total for individual sectors, as many producers are certified by more than one standard. There are not enough reliable data on the share of these multiple certifications. FiBL, IISD and ITC accordingly decided that the best approach was to provide the minimum, maximum and average of the area or production volume.

The report discusses where better quality and transparent data are deeply needed and feasible: prices and markets, trade data, consumption data, expansion of reporting and transparency requirements for certified producers, expansion of the Harmonized System coding system, expanded corporate reporting, and national statistics on sustainable consumption.

Standards featured in this report

This report covers the following standards: 4C Association, Better Cotton Initiative, Bonsucro, Cotton Made in Africa, Fairtrade International, Forest Stewardship Council, GLOBALG.A.P., IFOAM – Organics International, the Programme for the Endorsement of Forest Certification Schemes, ProTerra Foundation, Rainforest Alliance/Sustainable Agriculture Network, the Roundtable on Sustainable Palm Oil, the Round Table on Responsible Soy, and UTZ. We thank all standards for their support in the production of this report.

Strategies for sustainable trade

Voluntary sustainability standards offer explicit strategies to link trade with better practices. Better data will improve our understanding of the state of sustainable markets, and better reporting will help fill out the picture of sustainable supply chains.

This report's presentation of market conditions and trends thus intends to inform readers, encourage additional data collection and promote accountability within sustainability markets. It also serves as a resource for further analysis and informed decision making by researchers, policymakers, industry actors and other stakeholders.

CHAPTER 1

SUSTAINABILITY STANDARDS: IN THE MAINSTREAM

CHAPTER 1 SUSTAINABILITY STANDARDS: IN THE MAINSTREAM

With a growing global population and increasing consumption, improving and maintaining access to resources (e.g. water, food, energy) will continue to be a major sustainable development challenge far into the future (Stigson, 2013). Fortunately, many opportunities exist along international supply chains to meet resource shortfalls, ranging from improving yields to reducing inputs and waste. Adopting more sustainable production practices will be fundamental to achieving long-term resource security, and voluntary sustainability standards (VSS) provide a means to adopt production and trade practices that enable social, environmental and economic sustainability.[2]

Since the first major international agricultural standard, Organic, was established in the early 1970s, VSS have gained significant market shares in various commodity sectors.[3] Initially focused on niche markets, they have evolved considerably, offering more consumption choices over time. Motivated in part by private-sector commitments to green supply chains, the turn of the century saw the rise of several single-sector initiatives aimed at accessing mainstream markets (McCarthy, 2016; Potts et al., 2014).

Today, the coffee sector is poised to become the first sustainable commodity with at least 25% of its production compliant with one or several sustainability standards. Other agricultural sectors – cocoa, oil palm, tea and forestry products – are following closely behind, having reached double digits in standard-compliant production.

VSS have great potential for continued growth. Some standards focus on niche markets, while others target mainstream markets, smallholdings or plantations. Some standards emphasize gender equity; others aim to prevent deforestation. This diversity reflects an array of consumer demands for sustainable products and a range of sustainability challenges faced by each sector.

As these standards crowd the marketplace, it is increasingly important to enable informed consumption choices (Meng, Qin, & Jia, 2014). Indeed, one of the hallmarks of voluntary standards has been the transparency they bring to the market by promoting a more transparent value chain and offering consumers more information about where their products come from and how they are produced. Although their characteristics vary considerably, in general VSS are moving global consumption and production in the right direction, thereby enabling the international community to meet the Sustainable Development Goals it adopted in 2015.[4]

For this publication, 2015 data were collected. The report is divided into two sections:

- An overview of each of the standards surveyed, with a short description and key data.
- A product section showing the data by agricultural product and forestry.

[2] VSS are voluntary schemes which guide agricultural production towards better practices in exchange for a seal or certification of standard-compliant production. “Certification is a subset of voluntary sustainability standards that has a codified set of standards for production and management practices. Certification programs optimally include third party auditing to confirm that the standard’s requirements are being met” (Committee on Sustainability Assessments, 2013, p. xii).

[3] As a result of the organic movement, IFOAM – Organics International was established in 1972, representing the first major international standard in the agricultural sector (Potts et al., 2014).

[4] Seventeen Sustainable Development Goals (SDGs) were adopted by world leaders in September 2015, with SDG 12 focused on responsible consumption and production (United Nations - Department of Economic and Social Affairs, 2015).

Multiple certification and data on total VSS area and production

Reporting a global total of certain commodities remains difficult, as many producers are certified by more than one VSS, and there are not enough reliable data on the share of multiple certifications. Taking this into account, FiBL, IISD and ITC decided that the best approach was to provide a range that encompasses the minimum and the maximum amounts possible, along with the average of the two at the country level.

To calculate the maximum amount, the total production of all standards in the country was determined. For the minimum, the standard with the largest area or largest production volume in the country was used as the reference. An average of the maximum and minimum was then calculated.

These figures must be taken with caution as they are estimations that indicate a trend.

Trends in sustainability standards

VSS are no longer a novelty serving niche markets. For more than a decade, they have increasingly found their way into mainstream markets. There are many reasons for the growing adoption of these standards. For some producers and suppliers, adherence to a set of recognized principles for sustainable practice represents a stepping stone to implementing best practices within supply chains.[5]

For others, compliance with a given standard may offer a strategy for managing reputational risks or even supply risks. But regardless of the reasons, the trend is clear: sustainable commodities, as defined by products that are demonstrably (e.g. third-party verified) compliant with internationally recognized standards, are growing rapidly, and at a pace that far outstrips markets for conventional commodities. Highlights of the current market context are continued exceptional growth, expanding coverage of agricultural land, and dominance in some sectors of single-sector standards, as outlined below.

Exceptional growth continues.

- All of the standards covered by this report have experienced growth in their compliant areas since 2011.[6] Better Cotton Initiative (BCI) underwent the greatest jump, with the certified area expanding almost ninefold between 2011 and 2015. The Round Table on Responsible Soy (RTRS) area increased nearly five times over the same period, while those of Cotton Made in Africa (CmiA) and the Round Table on Responsible Soy (RSPO) trebled. Similarly significant growth of their certified area was also reported by 4C and UTZ.

- Looking at individual agricultural sectors, the certified area for cotton experienced the highest growth rate, increasing at least threefold between 2011 and 2015.[7] This was followed by bananas, which almost trebled in area, and tea, which more than doubled over the period. Between 2014 and 2015, it was soybeans that grew the most (48%), followed by cotton (46%) and tea (25%).

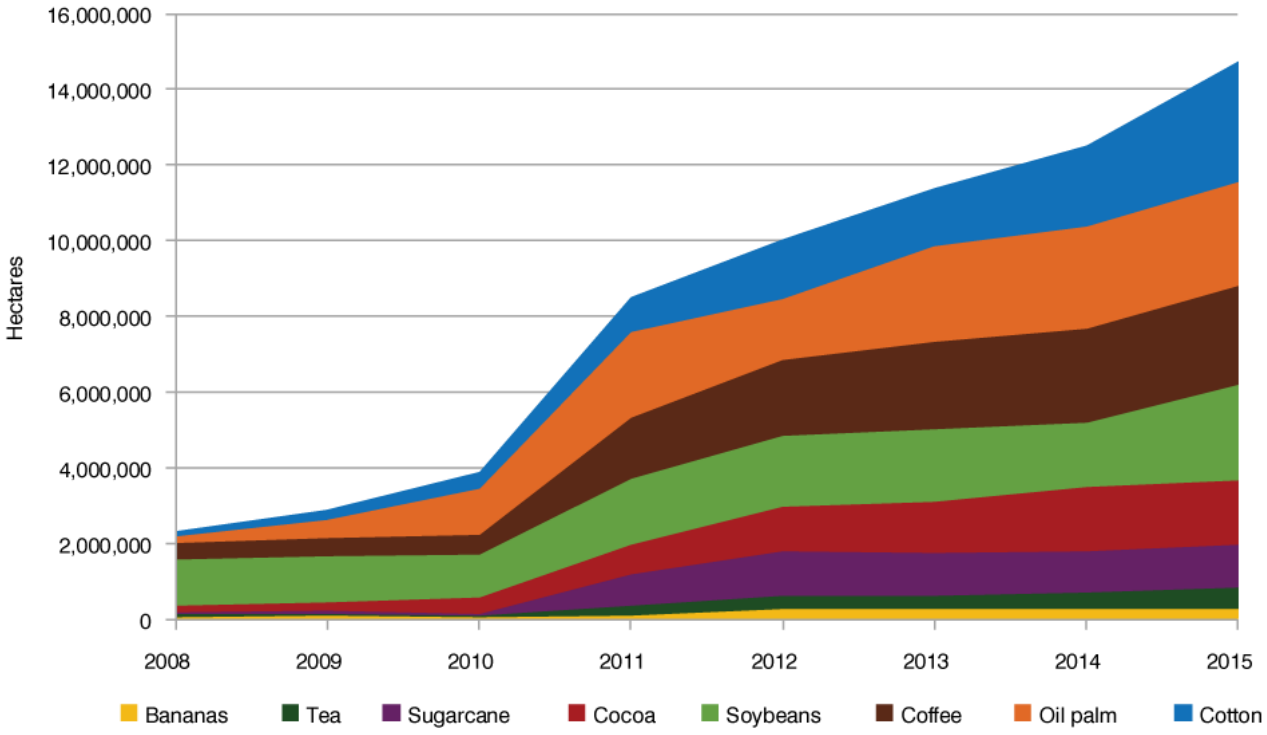
- Certified forest area expanded by 61% between 2008 and 2015, with the Forest Stewardship Council (FSC) area growing by 81% to 186 million hectares in 2015, and that of the Programme for the Endorsement of Forest Certification (PEFC) increasing by 25% to 272 million hectares in the same period.

[5] Some of the VSS covered here are members of the non-governmental organization ISEAL, the International Social and Environmental Accreditation and Labelling Alliance. For more information see http://www.isealalliance.org/.

[6] 2011 is the first year for which data is available for all voluntary sustainability standards in this report.

[7] These growth rates are calculated by taking the minimum area possible as the reference.

Figure 1: Growing fast – Selected products certified by sustainability standards (minimum possible), 2008–2015



Note: The products are sorted by largest area. The data in this figure were not adjusted for multiple certifications. For purposes of the figure it is assumed that there is a maximum amount of multiple certifications occurring within each commodity, corresponding to the minimum VSS-compliant area per commodity in a country. Therefore, the total VSS-compliant area corresponds to the VSS with the largest compliant area operating within a given sector.

Sources: FiBL-ITC-SSI survey 2017: 4C 2014, 2015 and 2016; Better Cotton Initiative 2014, 2015 and 2017; Bonsucro 2014, 2015 and 2016; Cotton Made in Africa 2014, 2015 and 2016; Fairtrade International 2017; GLOBALG.A.P. 2015 and 2016; FiBL survey 2017; ProTerra Foundation 2014, 2015 and 2016; Rainforest Alliance/SAN 2014, 2015 and 2016; Roundtable of Sustainable Palm Oil 2014, 2015 and 2016; Round Table for Responsible Soy 2014, 2015 and 2016; UTZ 2014, 2015 and 2016.

Table 1: Selected commodities: Minimum area 2015, 1-year growth 2014–2015, and 5 years' growth, 2011–2015

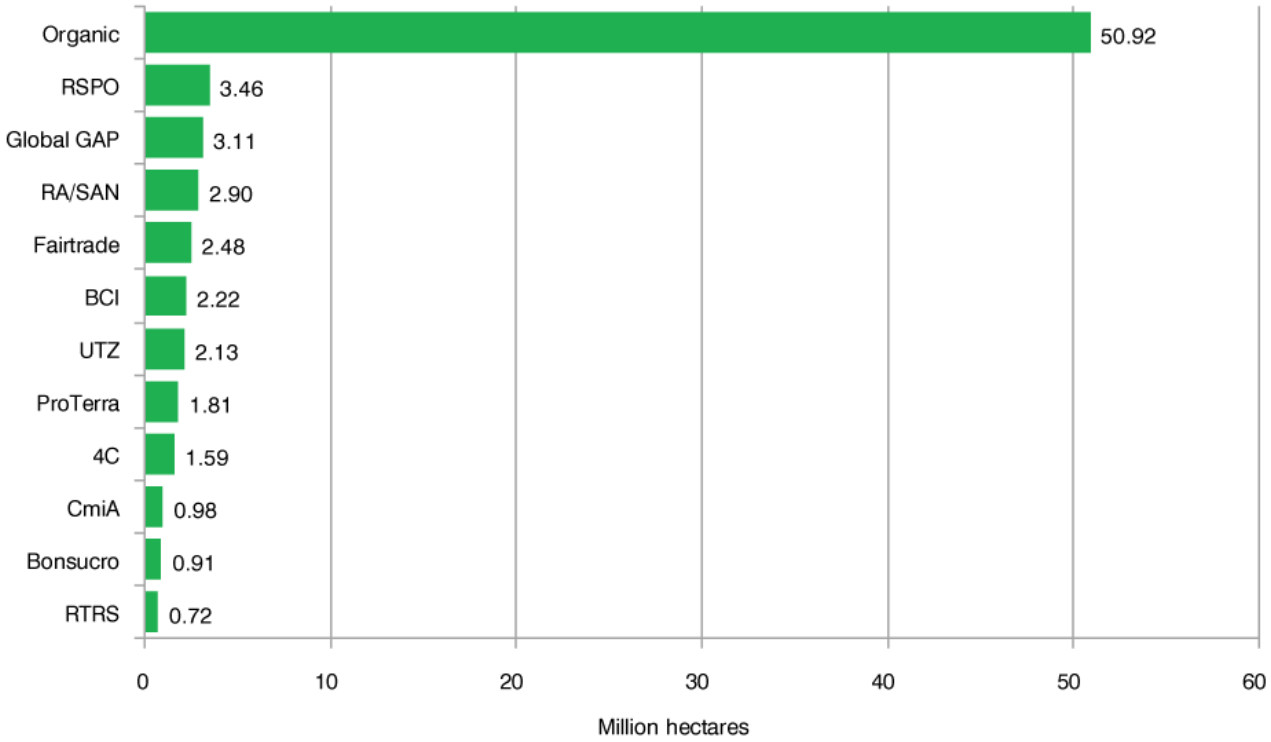
Commodity	Minimum area [ha]	Growth 2014–2015 [%]	Growth 2011–2015 [%]
Bananas	290'511	3.9%	185.1%
Cocoa	1'694'513	1.3%	109.9%
Coffee	2'596'294	3.9%	63.3%
Cotton	3,178,819	46.0%	252.8%
Oil palm	2'783'615	4.6%	22.1%
Soybeans	2'533'182	48.3%	45.9%
Sugarcane	1'140'129	2.5%	37.6%
Tea	538'315	25.2%	115.7%

Note: The data in this table were not adjusted for multiple certifications. For this table, it is assumed that there is a maximum amount of multiple certifications (100% multiple-certified) occurring within each commodity, corresponding to the minimum VSS-compliant area per commodity in a country. The total VSS-compliant area corresponds to the VSS with the largest compliant area operating within a given sector.
Source: FiBL-ITC-SSI survey 2017.

Standards are expanding their agricultural land coverage. In 2015:

- More than 50.9 million hectares were organic certified (including land that is in the process of becoming certified as organic), representing 1.1% of all agricultural land worldwide. Organic is the biggest sustainability standard in terms of area, and the one with the largest variety of agricultural products.
- RSPO certified almost 3.5 million hectares (2.8 million hectares cultivated), making it the standard with the second-largest area, representing 0.07% of the global agricultural area.
- GLOBALG.A.P. had more than 3.1 million hectares and is one of the biggest standards in terms of area certified.

Figure 2: Certified area by standard, 2015



Note: For organic, a large part of the organic agricultural land is made up of permanent grassland areas (65%), which also include extensive grazing areas.
Sources: FiBL-ITC-SSI survey 2017: 4C 2016; Better Cotton Initiative (BCI) 2017; Bonsucro 2016; Cotton Made in Africa (CmiA) 2016; Fairtrade International 2017; GLOBALG.A.P. 2016; FiBL survey 2017; ProTerra Foundation 2016; Rainforest Alliance/SAN (RA/SAN) 2016; Roundtable of Sustainable Palm Oil (RSPO) 2016; Round Table for Responsible Soy (RTRS) 2016; UTZ 2016.

Rising share of total area shows potential for continued growth:

- At a product level, the highest share was noted for the 4C licenced coffee, accounting for 15.2% of the global total.
- In oil palm, RSPO certified 15% of the global oil palm area.
- High shares were also noted for the UTZ-certified cocoa area (14.7% of the global cocoa area) and for Rainforest Alliance/Sustainable Agriculture Network (RA/SAN)-certified tea, representing over 12% of the global tea area.

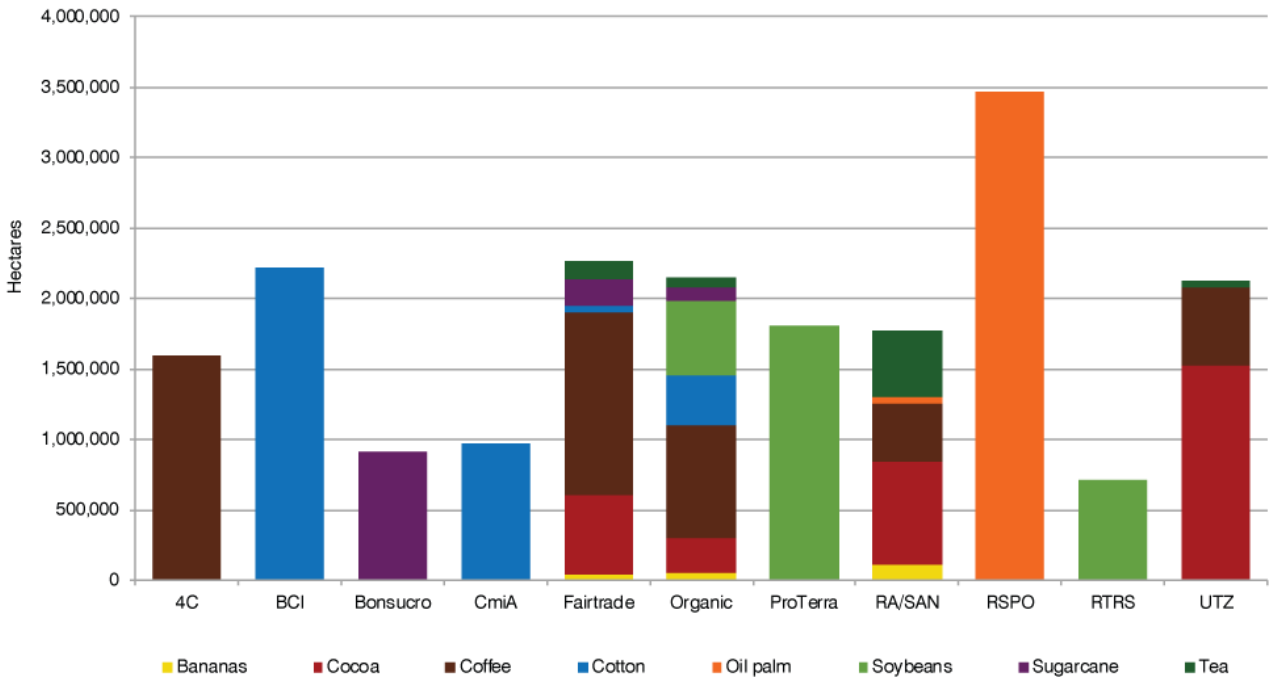
- CmiA had high shares of the total seed cotton production in Africa: almost 22% of the continent's seed cotton area and 17% of its seed cotton production volume.
- In the forestry sector, PEFC holds the highest share of the global forest area, representing 6.1%.

For more details about each product, see Chapter 3.

Single-sector standards continue to dominate:

- Growth and market uptake appear to be largely driven by standards directly targeting mainstream adoption within a specific sector. In each of the sectors discussed, where single-commodity standards[8] have been developed (coffee, cotton, forestry, oil palm, sugarcane and soy), they are by far the largest standard. The dominance of single-commodity standards is particularly remarkable given that they tend to be the newest standards on the market, with the exception of the forestry sector.
- Multiple-commodity standards[9] might, however, have lower coverage of a specific commodity than single-commodity standards due to their wider scope. This is most notable for organic agriculture, which has slightly more than 2 million hectares for the eight agricultural productsdiscussed in this report, but 50.9 million hectares in total, with at least 27 product groups.[10]

Figure 3: Certified area by standard and selected agricultural product, 2015



Sources: FiBL-ITC-SSI survey 2017: 4C 2016; Better Cotton Initiative (BCI) 2017; Bonsucro 2016; Cotton Made in Africa (CmiA) 2016; Fairtrade International 2017; GLOBALG.A.P. 2016; FiBL survey 2017; ProTerra Foundation 2016; Rainforest Alliance/SAN (RA/SAN) 2016; Roundtable of Sustainable Palm Oil (RSPO) 2016; Round Table for Responsible Soy (RTRS) 2016; UTZ 2016.

[8] Single-commodity standards: voluntary sustainability standards that certify only one commodity. An example is the Global Coffee Platform, which only certifies coffee.

[9] Multiple-commodity standards: voluntary sustainability standards that certify multiple commodities. An example is Fairtrade International, which certifies a wide variety of commodities.

[10] Most of these groups cover a number of individual commodities, such as tropical fruit (bananas, pineapples, mangoes, avocados, etc.).

Highlights by agricultural and forestry products

What follows is an overview of the key statistics for each of the selected sectors (bananas, cocoa, coffee, cotton, palm oil, soy, sugarcane, tea and forestry products). As noted above, there is little information available from the share of multiple certification, and it has thus been decided to provide the minimum area of production (100% multiple-certified) and the maximum (no multiple certification taking place), along with the average.

Bananas

Four of the VSS covered in this report – **Fairtrade International**, **GLOBALG.A.P.**, **Organic** and **RA/SAN** – certified banana production in 2015. Combined, they certified a minimum of 290,000 hectares and a maximum of 451,000 (for an average of 371,000 hectares). In terms of the proportion of the VSS-certified area of the global banana area, the minimum represents 5.4%, the maximum 8.4%, and the average, 6.9%. With more than 248,000 hectares, **GLOBALG.A.P.** had by far the largest VSS-certified banana area in 2015,; the area with the highest growth (42%) in 2012–2015 was that of **RA/SAN.**

Cocoa

Four of the standards – **Fairtrade International**, **Organic**, **RA/SAN** and **UTZ –** certified cocoa production. Combined, they certified a minimum of 1.7 million hectares and a maximum of 3.1 million hectares in 2015 (an average of 2.4 million hectares). In terms of the proportion of the VSS-certified area of the global cocoa area, the minimum represents 16.2%, the maximum 29.8%, and the average, 23.0%. **UTZ** reported the largest VSS-certified cocoa area (1.5 million hectares), while the **RA/SAN** area grew the fastest (fivefold between 2011 and 2015).

Coffee

Five of the standards combined – **4C**, **Fairtrade International**, **Organic**, **RA/SAN** and **UTZ-**certified coffee production – certified a minimum of 2.6 million hectares and a maximum of 4.6 million hectares in 2015 (average: 3.6 million hectares). In terms of the proportion of the VSS-certified area of the global coffee area, the minimum represents 24.8%, the maximum 44.3%, and the average, 34.5%. **4C** had the largest VSS-certified coffee area, 1.6 million hectares, and registered the largest growth in area (a threefold increase between 2011 and 2015).

Cotton

Four of the standards – **BCI**, **CmiA**, **Fairtrade International** and **Organic** – certified cotton production. Combined, they certified a minimum of 3.2 million hectares and a maximum of 3.6 million hectares in 2015 (average: 3.4 million hectares). In terms of the proportion of the VSS-certified area of the global cotton area, the minimum represents 9.1%, the maximum 10.3%, and the average, 9.7%. **BCI** had the largest VSS-certified cotton area, 2.2 million hectares, and showed the largest growth, a ninefold increase (2011–2015).

Oil palm

Three of the standards – **Organic**, **RA/SAN** and **RSPO** – certified oil palm production. Combined, they certified a minimum of 2,784,000 hectares and a maximum of almost 2,828,000 hectares in 2015 (average: 2,806,000 hectares). In terms of the proportion of the VSS-certified area of the global oil palm area, the minimum represents 14.9%, the maximum 15.1%, and the average, 15%. **RSPO** had the largest VSS-certified oil palm area, 3.5 million hectares, while **RA/SAN** showed the largest growth: 36% between 2013 and 2015.

Soy

Three of the standards – **Organic**, **ProTerra Foundation** and **RTRS** – certified soybean production. Combined, they certified a minimum of 2.5 million hectares and a maximum of almost 3.1 million hectares

in 2015 (average: 2.8 million hectares). In terms of the proportion of the VSS-certified area of the global soybean area, the minimum represents 2.2%, the maximum 2.6%, and the average, 2.4%. **ProTerra Foundation** had the largest VSS-certified soybean area, 1.8 million hectares; the largest growth (a fivefold increase in 2011–2015) was noted for **RTRS**.

Sugarcane

Three of the standards – **Bonsucro**, **Fairtrade International** and **Organic** – certified sugarcane production. Combined, they certified a minimum of 1.1 million hectares and a maximum of 1.2 million hectares in 2015 (average: 1.16 million hectares). In terms of the proportion of the VSS-certified area of the global sugarcane area, the minimum represents 4.2%, the maximum 4.4%, and the average, 4.3%. **Bonsucro** had the largest VSS-certified sugarcane area, 0.9 million hectares; the largest growth was noted for **Fairtrade International**, whose area doubled between 2011 and 2015.

Tea

Four of the standards – **Fairtrade International**, **Organic**, **RA/SAN** and **UTZ –** certified tea production. Combined, they certified a minimum of more than 538,000 hectares and a maximum of 717,000 hectares in 2015 (average: 628,000 hectares). In terms of the proportion of the VSS-certified area of the global tea area, the minimum represents 14.2%, the maximum 18.9%, and the average, 16.5%. **RA/SAN** had the largest VSS-certified tea area, almost 0.5 million hectares, and showed the largest growth in area, a fourfold increase between 2011 and 2015.

Forestry products

In 2015, an estimated 396 million hectares of certified forest were reported, representing almost 10% of the global forest area. There is an estimated certification overlap in the forestry sector of 15% between **FSC** and **PEFC**.

CHAPTER 2

GETTING TO KNOW STANDARD-SETTERS

CHAPTER 2 GETTING TO KNOW STANDARD-SETTERS

The following section presents the latest available data on each of the selected voluntary sustainability standards. Data were collected on 2008–2015, but no data were available from all years for all VSS. Data on area, production volume and producers were available for all VSS except for production volume data on GLOBALG.A.P. For some standards, further data were collected; these are presented in the following tables and graphs.

4C

In April 2016, the 4C Association became the Global Coffee Platform (GCP), combining the membership of the 4C Association with activities of the Sustainable Coffee Program of the Sustainable Trade Initiative (IDH).[11] GCP's main future strategy is built on Vision 2020, an international public-private action agenda aimed at streamlining resources, reducing fragmentation and developing a common framework for sustainability performance within the coffee sector (GCP 2016a).

GCP and its three core platforms – the Global Platform, the Progress Framework and the GCP Baseline – will be fully operational in 2017. The Global Platform aims to help to form the global agenda for its members to achieve a common vision for sustainability in the coffee sector. The Progress Framework aims to provide the coffee sector with a framework to systematically define common indicators and metrics to report on its performance and activities.

The GCP Baseline provides the coffee sector with a commonly agreed set of baseline principles and practices which define the minimum level of sustainability which all coffee production in the world would reach, as a contribution to move the coffee sector. The GCP Baseline is currently (2016) operated as the 4C Code by Coffee Assurance Services.[12] The GCP Baseline can also serve as a baseline for other schemes and can be integrated into national strategies (GCP 2016b).

In 2015, almost 1.6 million hectares of coffee worldwide received a 4C licence, representing 0.04% of the total agricultural land and 15.2% of the global coffee area. More than 500,000 producers were 4C licenced and produced more than 2.6 million metric tons of coffee. Brazil had the largest 4C area (almost 660,000 hectares), followed by Colombia (more than 333,000 hectares) and Viet Nam (over 167,000 hectares). Since 2008, the 4C- licence area grew almost sevenfold. This followed a slight (4%) drop between 2014 and 2015.

More information is available at www.cas-veri.com. For more information on 4C coffee, see Chapter 3.

Table 2: 4C: Key indicators

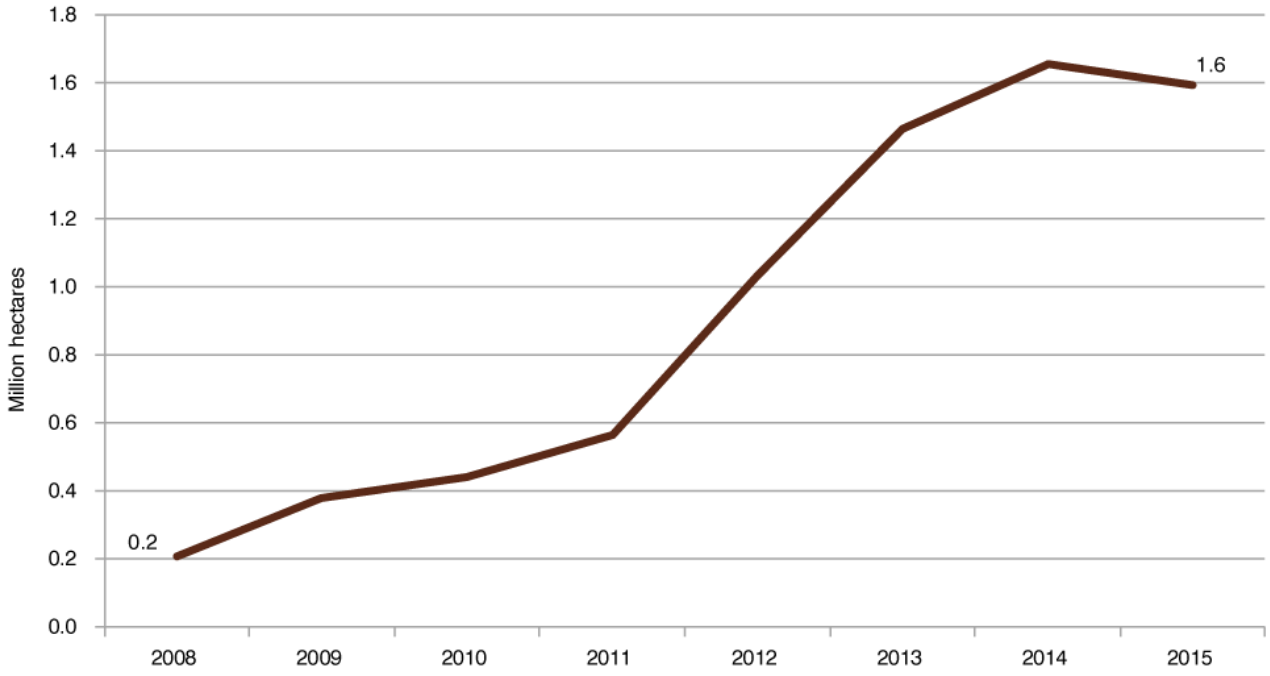
	4C 2015
Area [hectares]	1,594,405
Share of 4C area of global agricultural land [%]	0.04
Share of 4C coffee area of global coffee area [%]	15.21
Production volume [metric tons]	2,629,339
Production volume sold under the label [metric tons]	609,537
Certificate holders [no.]	321
Producers [no.]	504,820

Source: 4C, 2016.

[11] For more information, see www.sustainablecoffeeprogram.com/en/home.

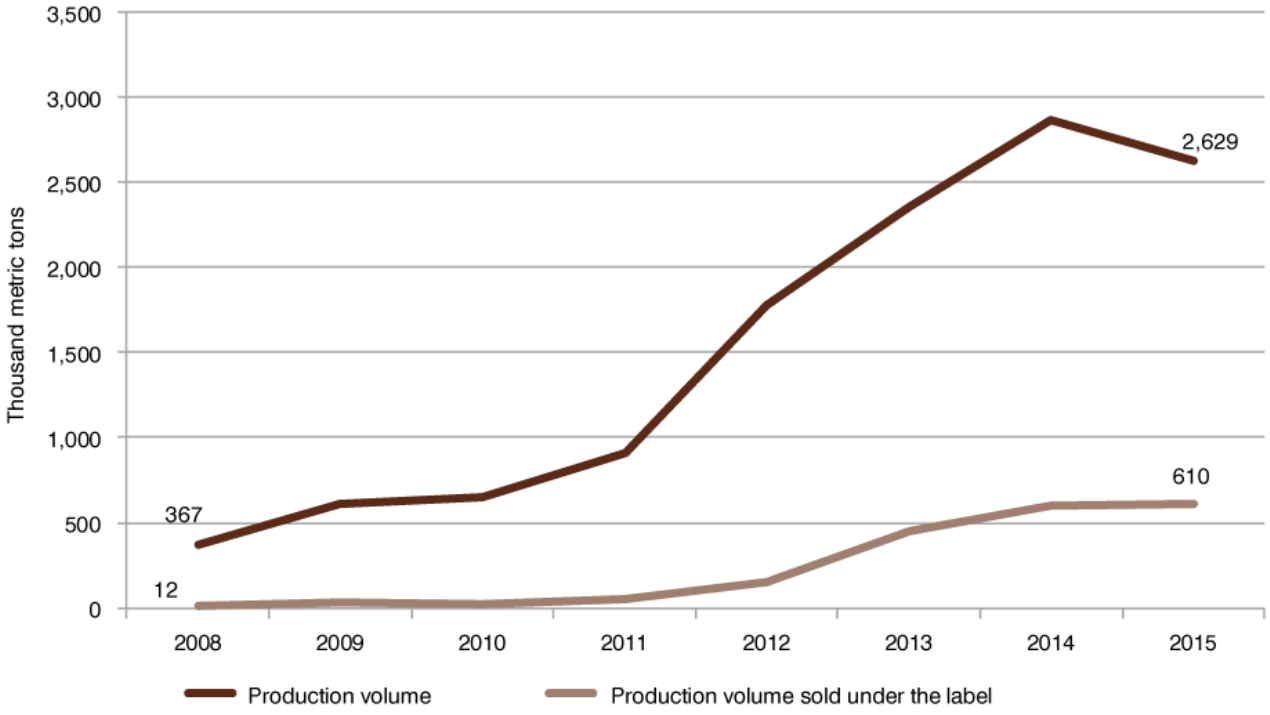
[12] For more information, see http://cas-veri.com/.

Figure 4: 4C: Certified area, 2008–2015



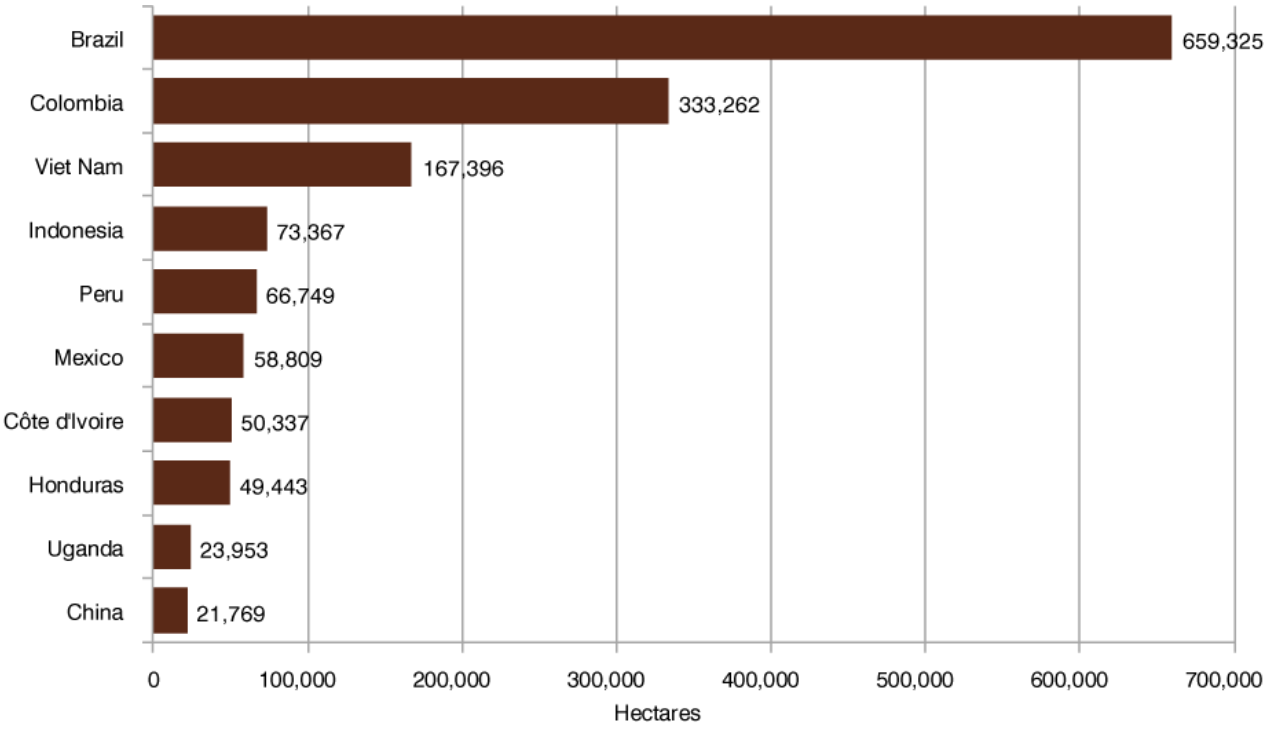
Source: 4C, 2016.

Figure 5: 4C: Production volume and production volume sold under 4C label, 2008–2015



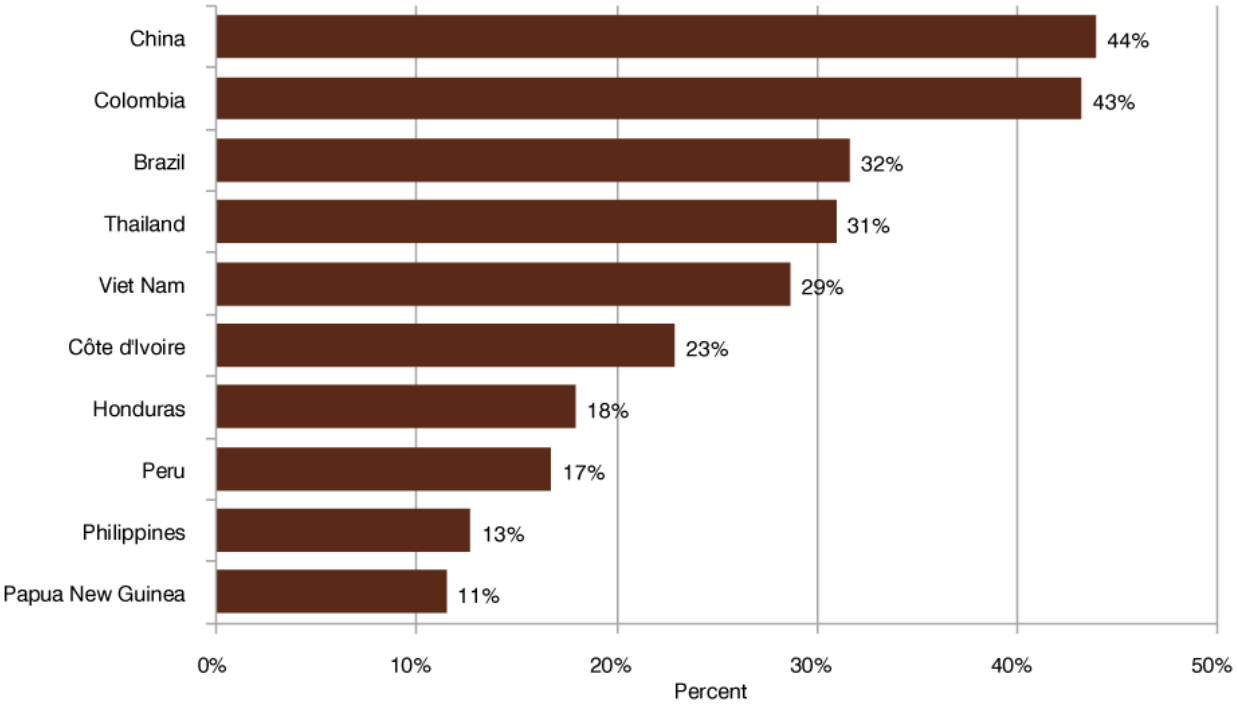
Source: 4C, 2016.

Figure 6: 4C: 2015 close-up – Top 10 countries by area



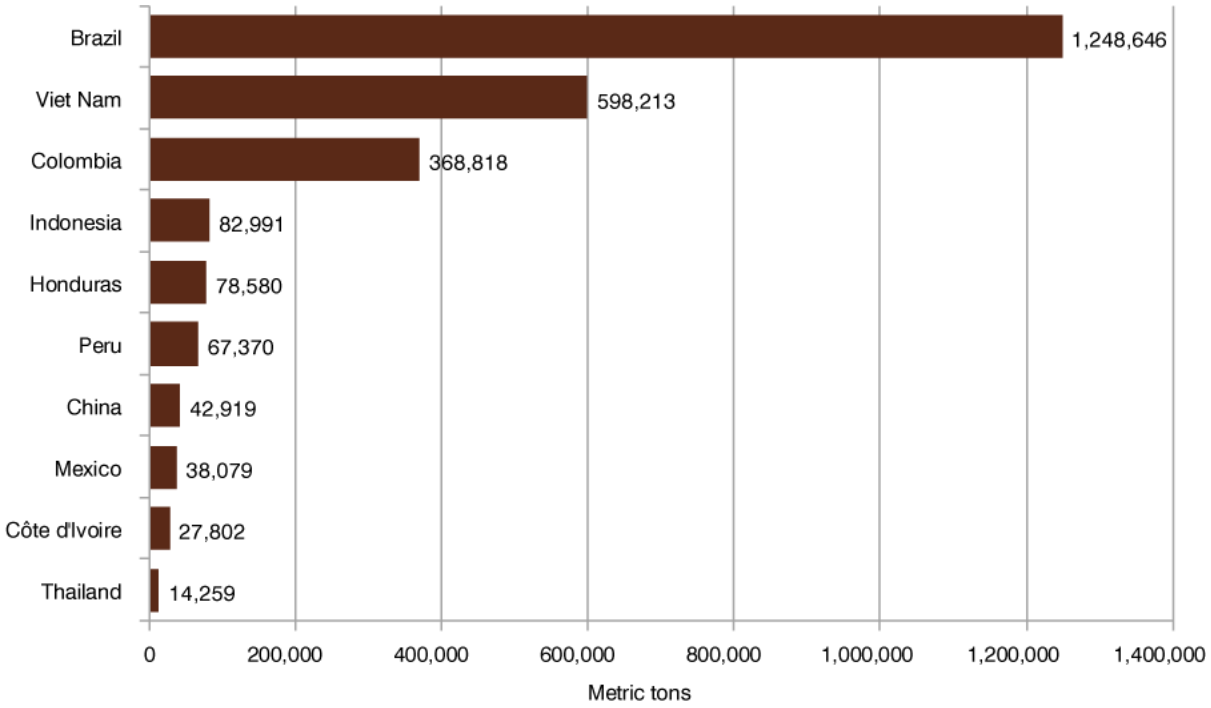
Source: 4C, 2016.

Figure 7: 4C: Top 10 countries (percentage of total coffee area), 2015



Source: 4C, 2016.

Figure 8: 4C: 2015 close-up – Production volume by country



Source: 4C, 2016.

Better Cotton Initiative

Founded in 2005, BCI is a member-based business-to-business initiative operating in the cotton sector across 20 countries (as of 2014) (BCI 2016). It manages a product and chain of custody standards and uses third-party verification to ensure compliance (Potts 2014). Since 2005, BCI has grown substantially, capturing almost 8% of global cotton lint production in 2015 (Laine 2015a).

The rapid growth of the BCI programme is largely due to its less stringent requirements, providing greater access to farmers (BCI 2016; Laine 2015a). BCI aims to capture 30% of the global cotton market by 2020 (BCI 2016).

BCI's approach has led to significant collaboration with other standards in the cotton sector, such as Fairtrade, CmiA, my Best Management Practices (myBMP) in Australia and Algodão Brasileira Responsável (ABR) in Brazil. This allows BCI to benchmark with these standards and to recognize them as delivering "Better Cotton" and increasing the global supply of BCI cotton. BCI is in the midst of a second public consultation to approve some changes and new additions to its norms, which were to have been finalized by May 2017 (BCI 2016).

BCI certified over 2.2 million hectares worldwide in 2015, representing 0.05% of the global agricultural area and almost 7% of the global cotton area. Over 800,000 producers participated in the BCI Programs, and 2 million metric tons of cotton lint were produced in 2015. India has the largest BCI area (638,000 hectares), with 5.5% of its cotton area BCI-certified. India is followed by Brazil, with 556,000 hectares (59% of the country's cotton area) and Pakistan, with 498,000 hectares (18% of the country's cotton area). Since 2011, the BCI-certified area has grown almost ninefold, and grew by 38% between 2014 and 2015. In 2015, Israel became the first country with 100% BCI cotton.

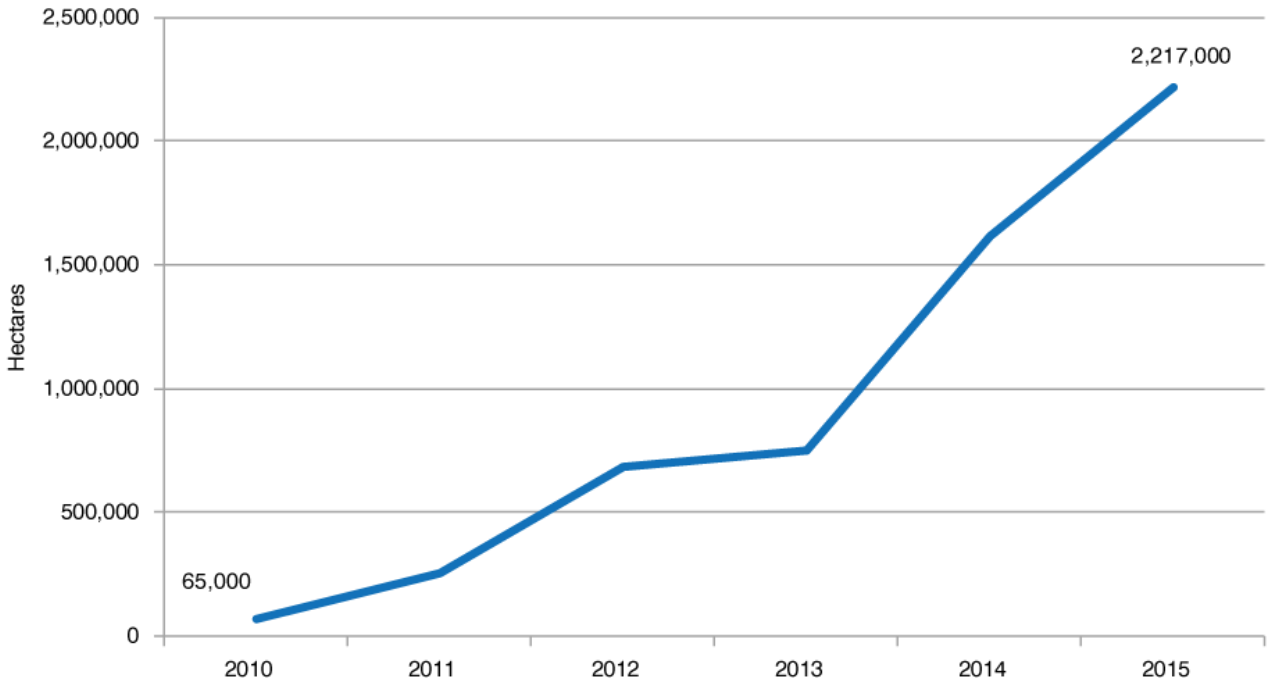
More information is available from www.bettercotton.org. For more information on BCI cotton, see Chapter 3.

Table 3: Better Cotton Initiative: Key indicators

Better Cotton Initiative (BCI) 2015	
Area [hectares]	2,217,000
Share of BCI area of global agricultural land [%]	0.05
Share of BCI cotton area of global cotton area [%]	6.89
Seed cotton: Production volume [metric tons]	5,366,000
Cotton lint: Production volume [metric tons]	2,086,000
Producers Participating in Better Cotton Projects [no.]	814,337

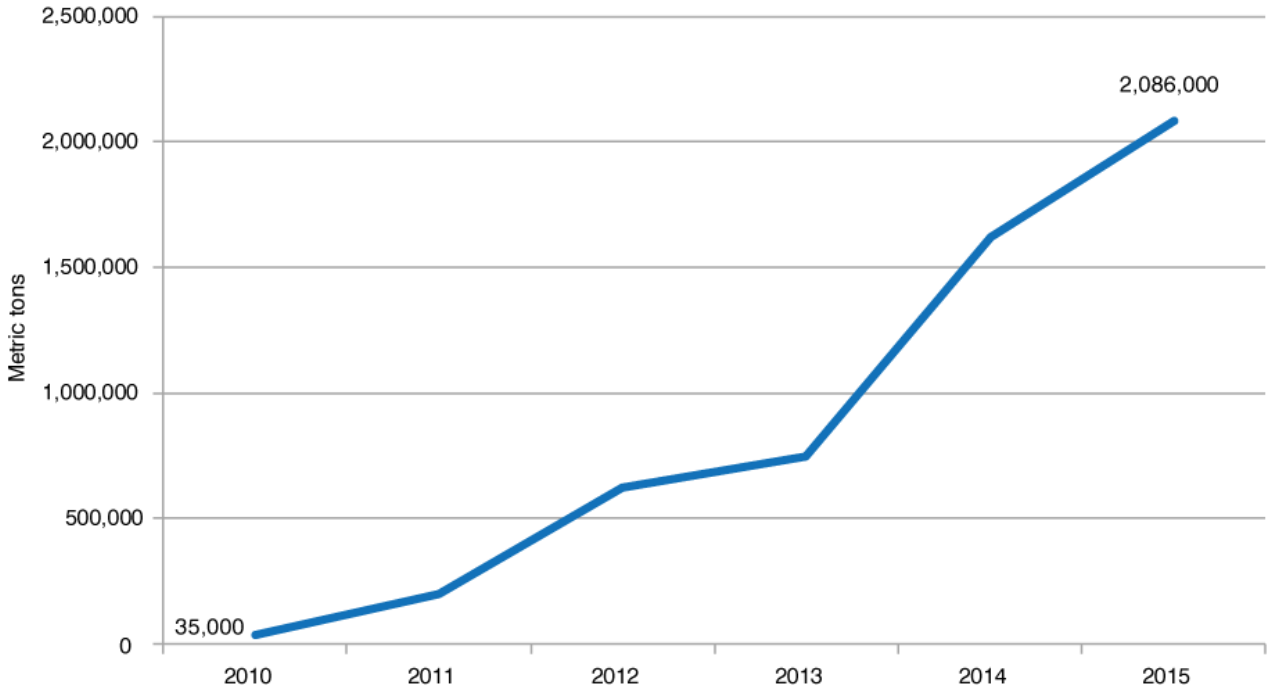
Source: Better Cotton Initiative (BCI), 2016.

Figure 9: Better Cotton Initiative: Certified area, 2010–2015



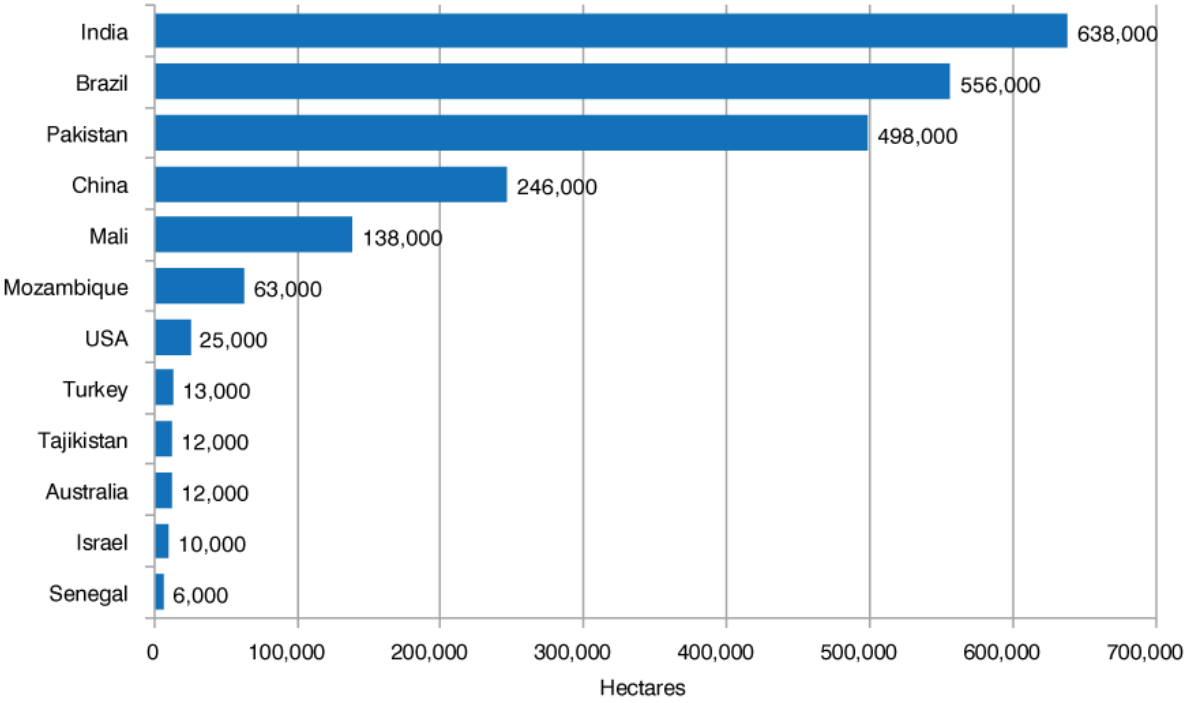
Source: Better Cotton Initiative (BCI), 2016.

Figure 10: Better Cotton Initiative: Cotton lint production volume, 2010–2015



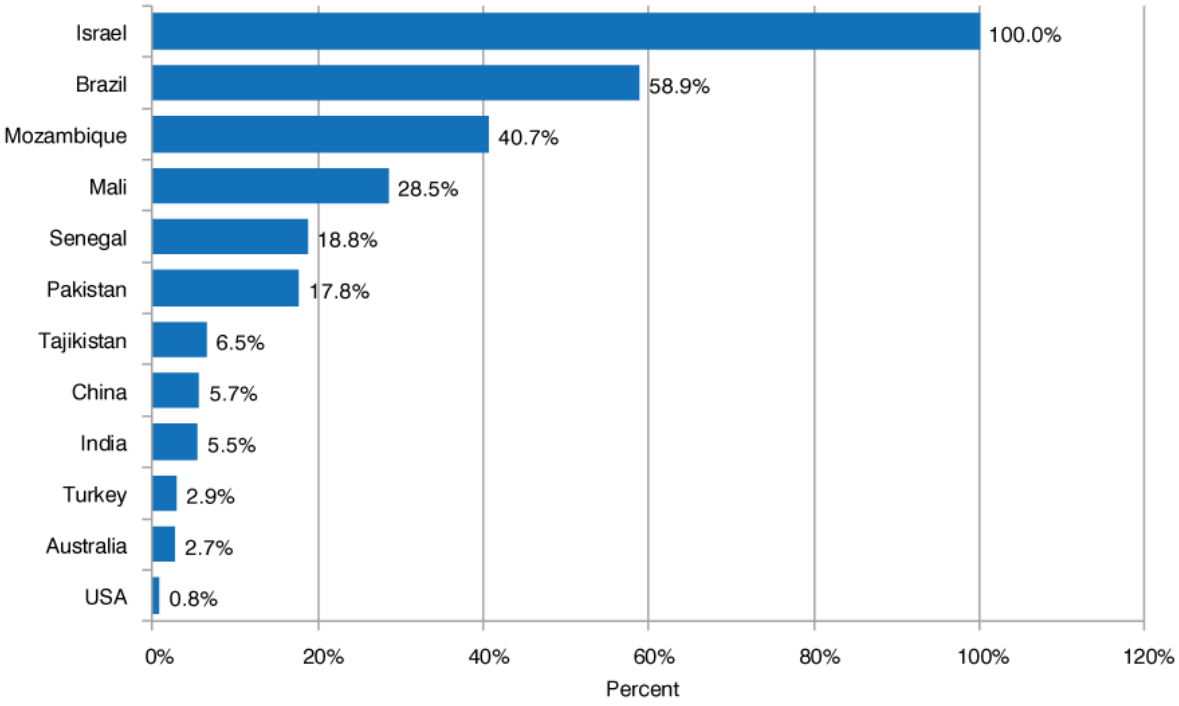
Source: Better Cotton Initiative (BCI), 2014 and 2016.

Figure 11: Better Cotton Initiative: 2015 close-up – Top countries by area



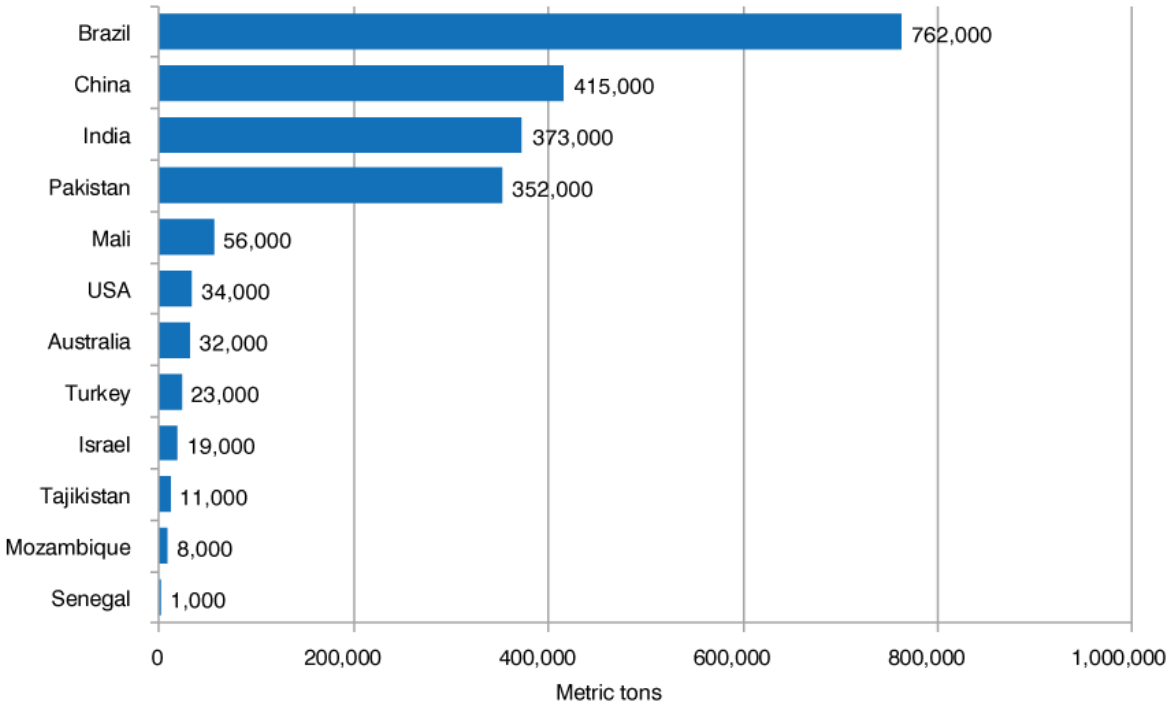
Source: Better Cotton Initiative (BCI), 2016.

Figure 12: Better Cotton Initiative: Top 10 countries (percentage of total cotton area), 2015



Source: Better Cotton Initiative (BCI), 2016.

Figure 13: Better Cotton Initiative: 2015 close-up – Cotton lint production volume by country, 2015



Source: Better Cotton Initiative (BCI), 2016.

BONSUCRO

Founded in 2007, Bonsucro is a multi-stakeholder initiative operating in the sugarcane sector with over 480 members in 44 countries (Bonsucro 2015). It boasts a broad range of stakeholders, from farmers with only a few hectares of land under production to large mill groups, global traders, refineries, multinational food and beverage brands, biomaterial companies, financial institutions and civil society organizations.

Bonsucro maintains a metric-based certification scheme. It aims to drive change through certification based on two standards: the Bonsucro Production Standard[13] and the Bonsucro Chain-of-Custody Standard[14] (CoC), which underwent major revisions in 2014 and 2016 respectively. Bonsucro offers two ways to trade certified products. One is through physical trades, with certification to the Bonsucro Production Standard and the CoC providing assurance that claims of compliance can be tracked along the supply chain. The other is through a unique credit-trading scheme that allows businesses to demonstrate their support for the sustainable production of sugarcane products.

The initiative operates primarily as a business-to-business organization but is increasingly business-to-consumer, with more companies choosing to put the Bonsucro certification mark on-product. It continues to maintain its standards and a certification label to ensure sustainable sugarcane production practices among its members. The current strategy is to aim for “beyond certification” and create lasting value by addressing sustainability issues at the core, diversifying its membership and achieving 20% market penetration by 2017 (Bonsucro 2014).

Bonsucro certified over 900,000 hectares in 2015, representing 0.02% of the total agricultural area and 3.4% of the global sugarcane area. In 2015, Bonsucro-certified sugarcane was grown by 48 producers producing 51 million metric tons of sugarcane. Brazil had the largest number of producers – 41 – followed by Australia, with five producers. Since 2011, Bonsucro’s certified area has increased by over 27%; between 2014 and 2015, the area dropped by 1.5%.

More information is available at www.bonsucro.com. For more information on Bonsucro sugarcane, see Chapter 3.

Table 4: Bonsucro: Key indicators

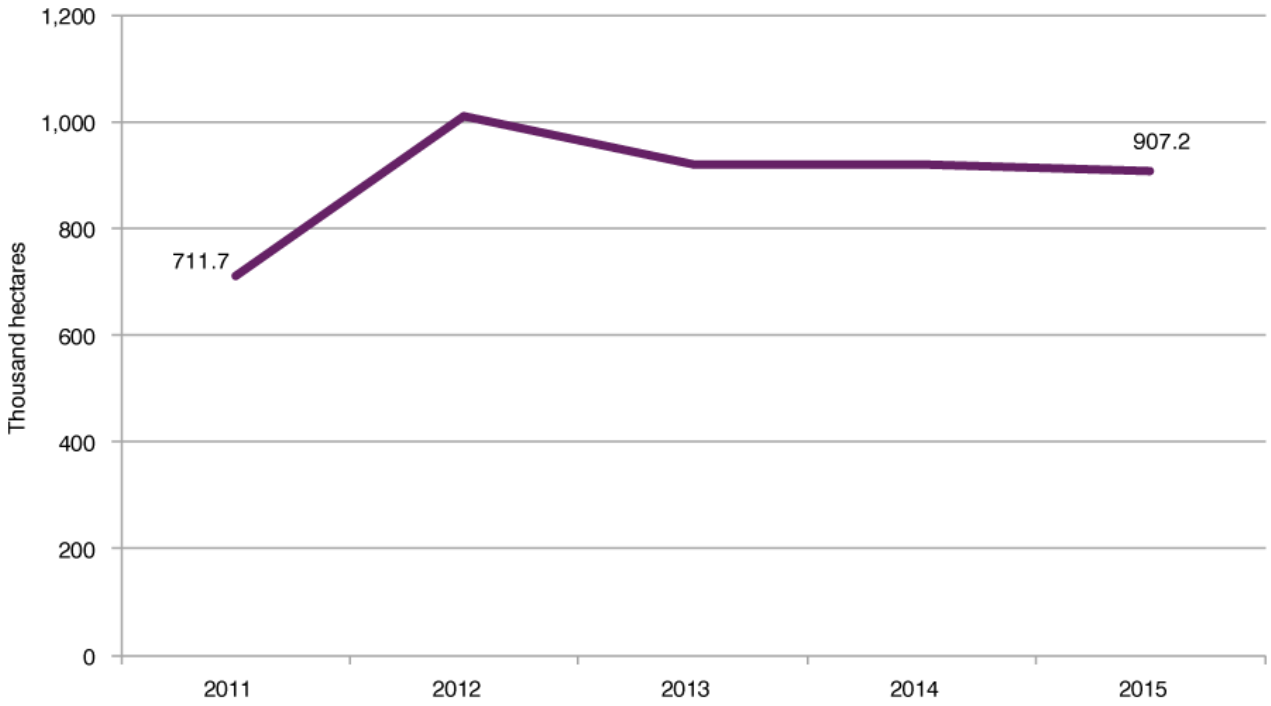
	Bonsucro 2015
Area [hectares]	907,207
Share of Bonsucro area of global agricultural land [%]	0.02
Share of Bonsucro sugarcane area of global sugarcane area [%]	3.4
Sugarcane: Production volume [metric tons]	51,090,000
Cane sugar: Production volume [metric tons]	3,320,000
Certificate holders [no.]	48

Source: Bonsucro, 2016.

[13] For more information, see www.bonsucro.com/en/production-standard/.

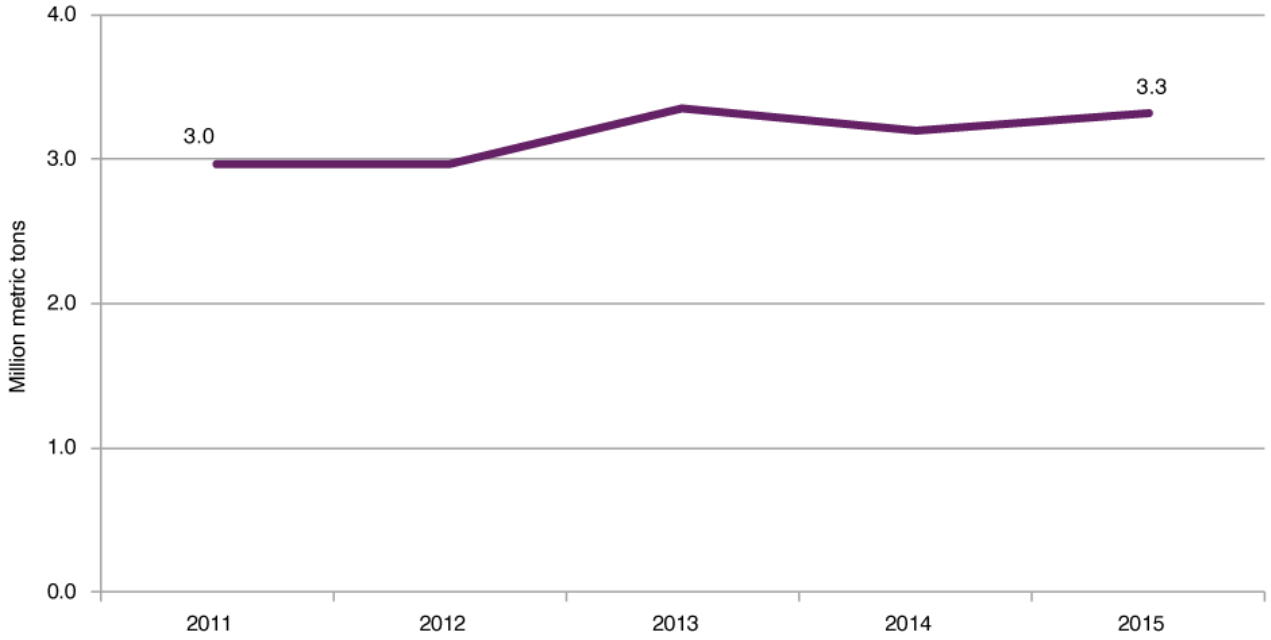
[14] For more information, see www.bonsucro.com/en/chain-custody-standard/.

Figure 14: Bonsucro: Certified area, 2011–2015



***Source*:** Bonsucro, 2014, 2015 and 2016.

Figure 15: Bonsucro: Cane sugar production volume, 2011–2015



***Source*:** Bonsucro, 2014, 2015 and 2016.

Figure 16: Bonsucro: close-up – Production area by country, 2011–2015

Source: Bonsucro, 2014, 2015 and 2016.

Cotton made in Africa

Founded in 2005, Cotton made in Africa (CmiA) is an initiative of the Aid by Trade Foundation. Besides investing in sustainable, ethical and modern cotton cultivation and processing – from farm to spinning level – across 11 sub-Saharan African countries, CmiA drives both market and supply-chain uptake through the demand and integration of sustainably produced cotton worldwide via its Supply Chain Advisory Service, which helps retailers and brands integrate CmiA into their existing textile chains.

There are two CmiA standards: CmiA and CmiA-Organic. Both of them contain exclusion criteria that determine whether smallholder farmers and cotton companies may participate in the programme or not. A range of sustainability criteria need to be met over time, and progress towards sustainable production needs to be demonstrated along the way. This progress is indicated by a traffic light system of red, yellow or green ratings, with green representing sustainable management (CmiA, 2016).

More than 975,000 hectares were CmiA-verified in 2015, representing 0.02% of the global agricultural area and 0.09% of the African agricultural area. Looking solely at the cotton area, the shares are considerably higher; the CmiA area represents 3.03% of the global cotton area and 21.7% of the total cotton area in Africa. Côte d'Ivoire had the largest fully certified area (367.231 hectares), followed by Zambia (225,052 hectares) and Cameroon (209,930 hectares). Since 2008, the CmiA-certified area has increased more than sevenfold. Between 2014 and 2015, almost 67% growth was reported, following a drop of more than 15% in 2014.

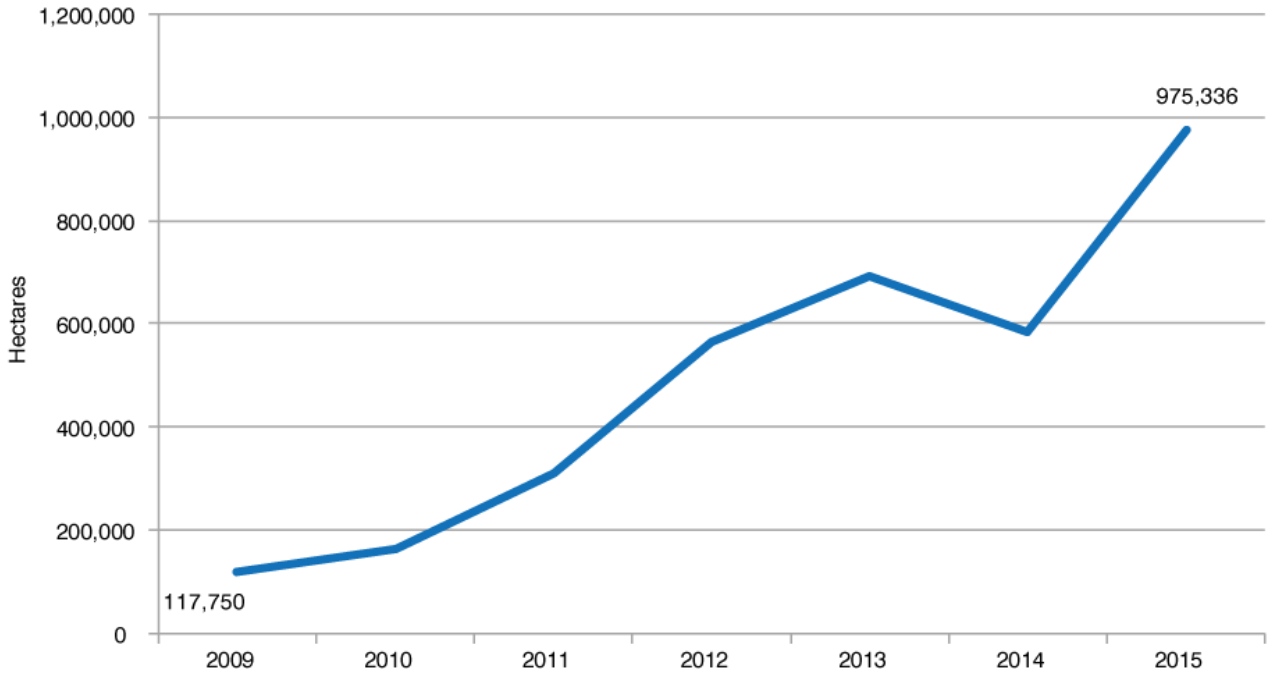
More information is available from www.cottonmadeinafrica.org/en/. For more information on CmiA cotton, see Chapter 3.

Table 5: Cotton made in Africa: Key indicators

Cotton made in Africa (CmiA) 2015	
Area harvested [hectares]	975,336
Share of CmiA area of global agricultural land [%]	0.02
Share of CmiA cotton area of global cotton area [%]	3.03
Share of CmiA cotton area of African cotton area [%]	21.68
Cotton lint: Production volume [metric tons]	341,536
Certificate holders [no.]	17
Producers [no.]	670,594

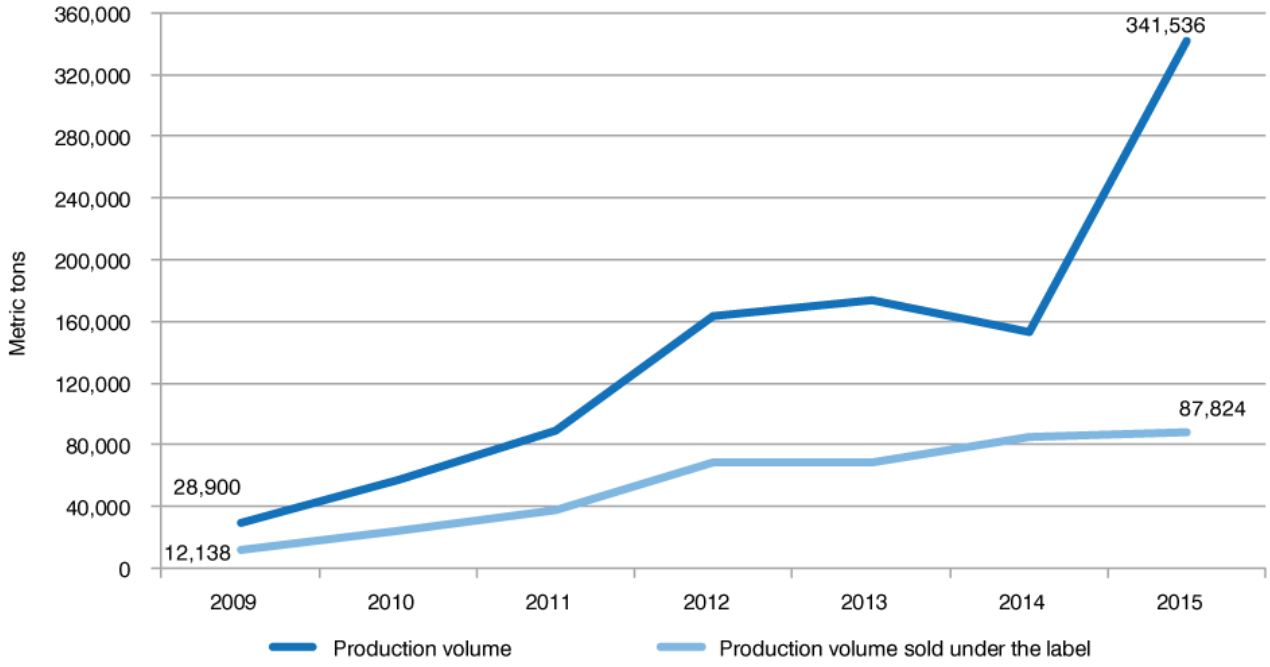
***Source*:** Cotton made in Africa (CmiA), 2016.

Figure 17: Cotton made in Africa: Certified area, 2009–2015



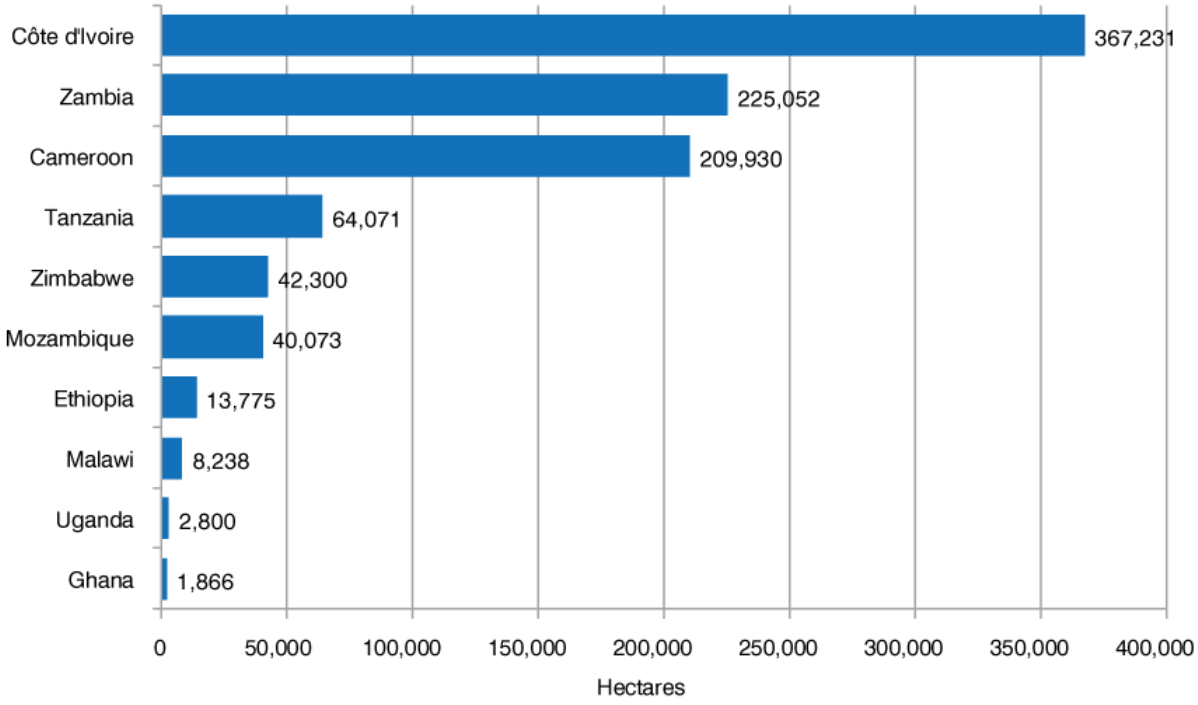
Note: For 2013–2014, the certified area declined due to the suspension of one partner (for changes to its market framework conditions and consequent non-compliance with the CmiA standard).
Source: Cotton made in Africa (CmiA), 2014, 2015 and 2016.

Figure 18: Cotton made in Africa: Production volume and production volume sold under CmiA label, 2009–2015



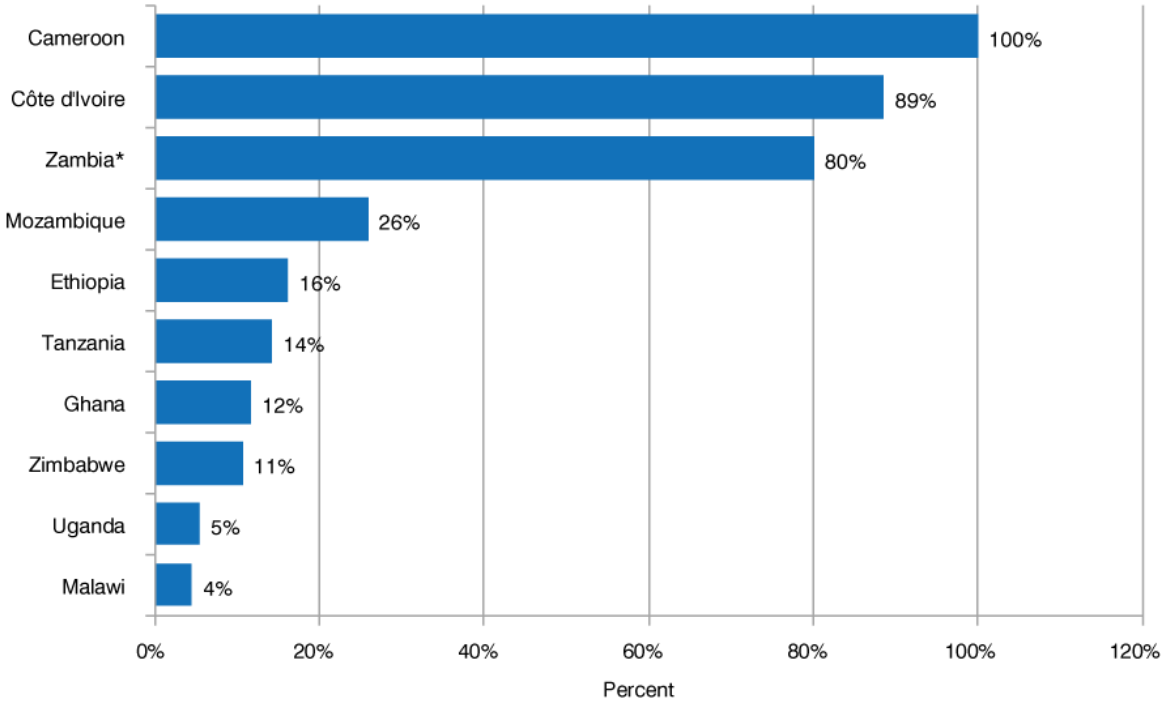
Note: For 2013–2014, the certified production declined due to the suspension of one partner (for changes to its market framework condition and consequent non-compliance with the CmiA standard).
Source: Cotton made in Africa (CmiA), 2014, 2015 and 2016.

Figure 19: Cotton made in Africa: 2015 close-up – Top countries by area



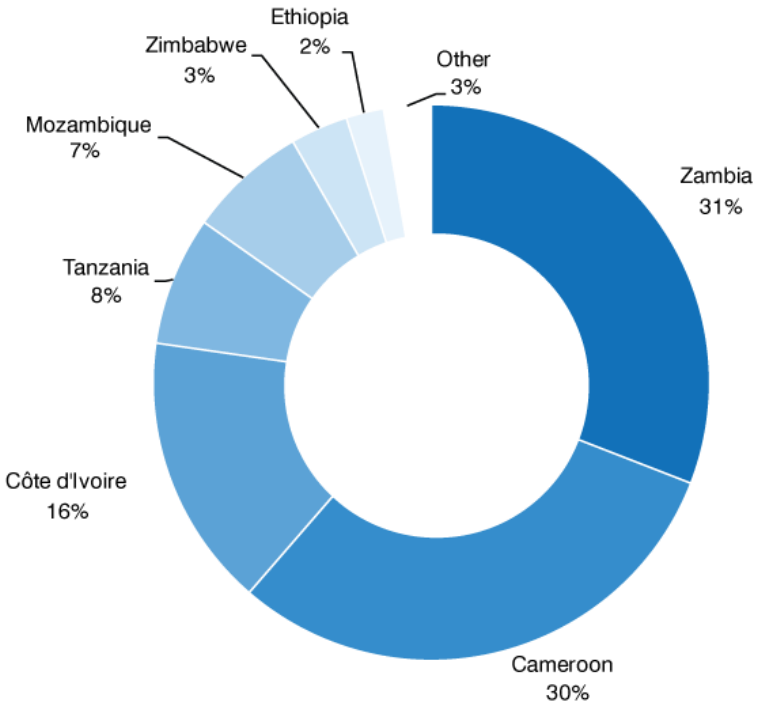
Source: Cotton made in Africa (CmiA), 2016.

Figure 20: Cotton made in Africa: Top 10 countries (percentage of total seed cotton area), 2015



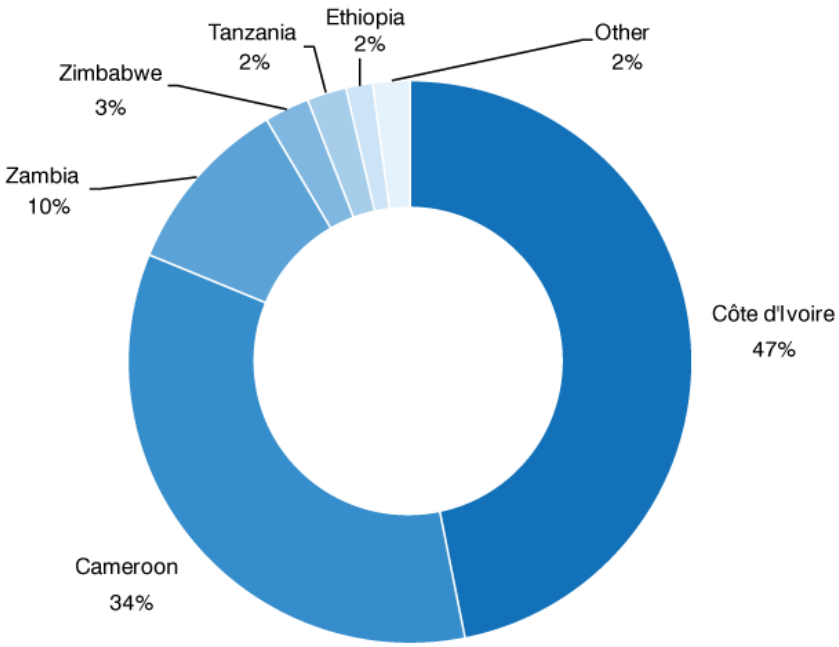
Note: The CmiA seed cotton share for Zambia was estimated based on the cotton lint production volume share, as the total seed cotton area data for the country are incomplete.
Source: Cotton made in Africa (CmiA), 2016.

Figure 21: Cotton made in Africa: Producers by country, 2015



Source: Cotton made in Africa (CmiA), 2016.

Figure 22: Cotton made in Africa: Production volume by country, 2015



Source: Cotton made in Africa (CmiA), 2016.

Fairtrade International

Founded in 1997, Fairtrade International is a member-based initiative operating in the food and agriculture sector across 75 countries. The initiative coordinates Fairtrade labelling at the international level and sets minimum pricing and premium levels as part of its commitment to poverty reduction for developing-country producers.

Fairtrade has developed a standard for smallholders and a standard for hired labour working primarily in plantations. The Fairtrade Minimum Price identifies the minimum price that needs to be paid to producers, while the Fairtrade Premium is paid on top of the Minimum Price or market price, whichever is higher. These revenues are usually used to improve the social, economic and environmental conditions of producers. In 2016 the initiative put forward its five-year plan, entitled "Changing trade, changing lives 2016-2020", emphasizing the role of smallholders in achieving inclusive growth and the role of government policies in creating and supporting fair markets (Fairtrade, 2016).

In order to assure consistent and reliable data, Fairtrade conducted several data quality checks and revised the process of data collection during 2015 and 2016. This process of improving data quality also signifies that the data and figures presented in this report might not always match with previous impact reports.

Almost 2.5 million hectares were Fairtrade-certified in 2015, representing 0.05% of the global agricultural area. Fairtrade International certifies a wide range of commodities, from tropical fruit to cereals, gold and textiles. Coffee accounted for over half of the total Fairtrade International area, with almost 1.3 million hectares, representing almost 12% of the global coffee area. After coffee, cocoa was the second-most important product, with more than 570,000 hectares, representing almost 6% of the global cocoa area. Fairtrade International certified 1,239 producer organizations, mainly in Latin America (54%), followed by Africa (29%) and Asia (16%). Since 2011–2015, the Fairtrade-certified area has grown by over 80%, and by 19% between 2014 and 2015 alone.

In 2015, Fairtrade International retail sales were $8.1 billion, and the largest markets were in the United Kingdom ($2.4 billion), Germany (almost $1.2 billion), and the United States of America (more than $1 billion).

More information is available at www.fairtrade.net. For more information on Fairtrade commodities, see Chapter 3.

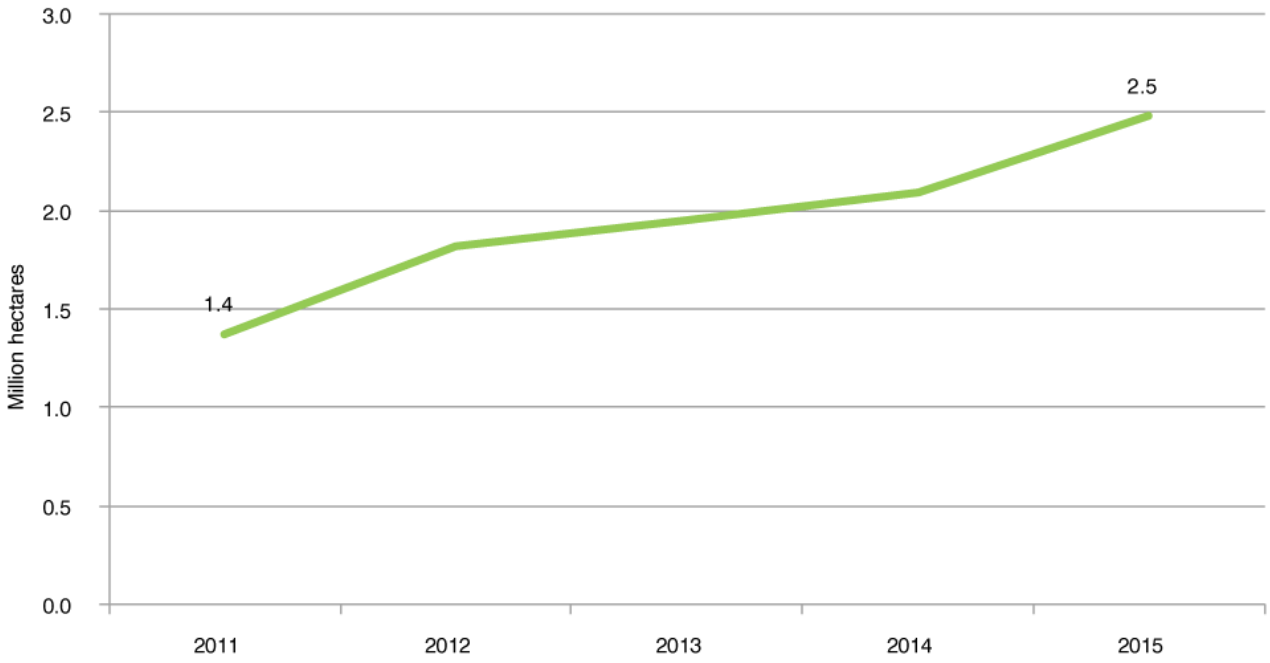
Table 6: Fairtrade International: Key indicators

Fairtrade International 2015	
Area harvested [hectares]	2,479,339
Share of Fairtrade International area of global agricultural land [%]	0.05
Production value [million $][15]	1,205
Production volume [metric tons]	3,085,692
Production volume sold under the label [metric tons]	1,030,786
Producer organizations [no.]	1,239
Global retail sales [million $]	8,099
Global retail sales: Growth rate 2014–2015 [%]	16

Source: Fairtrade International, 2017.

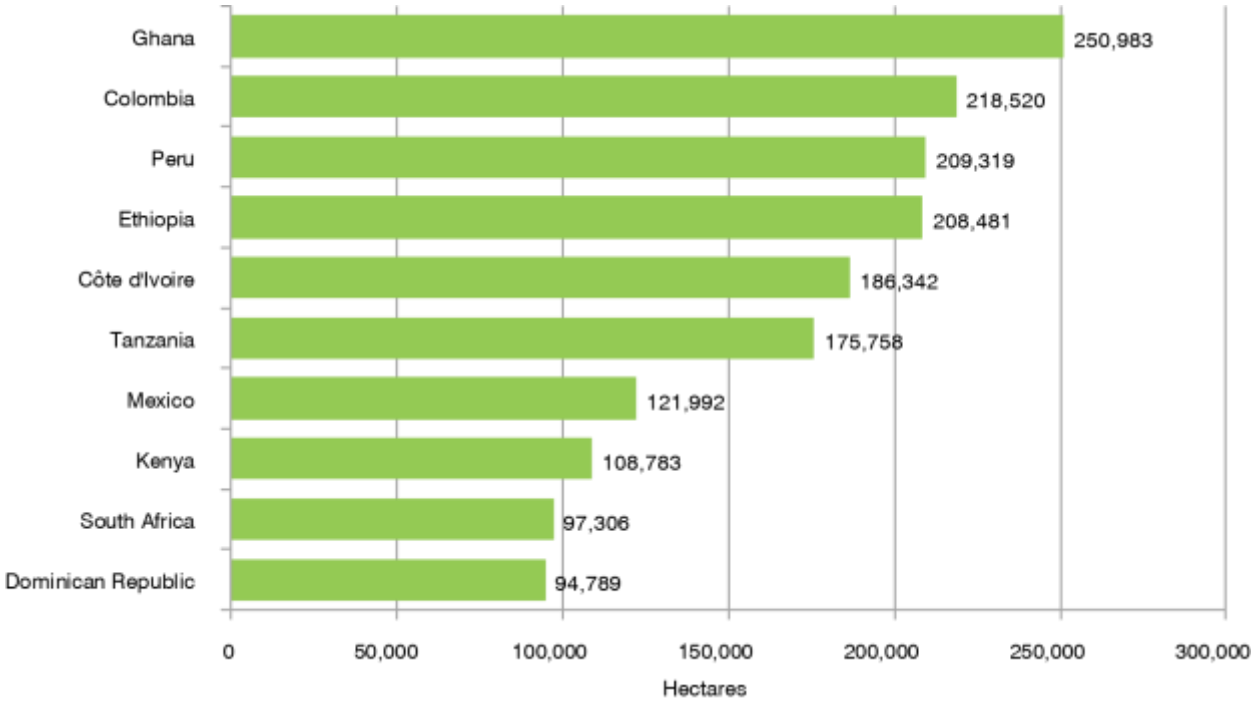
[15] This refers to the total Fairtrade production volume and value with the exception of flowers, gold, nuts, honey, and sport balls. It might differ from the data reported in the Fairtrade monitoring reports.

Figure 23: Fairtrade International: Certified area, 2011–2015



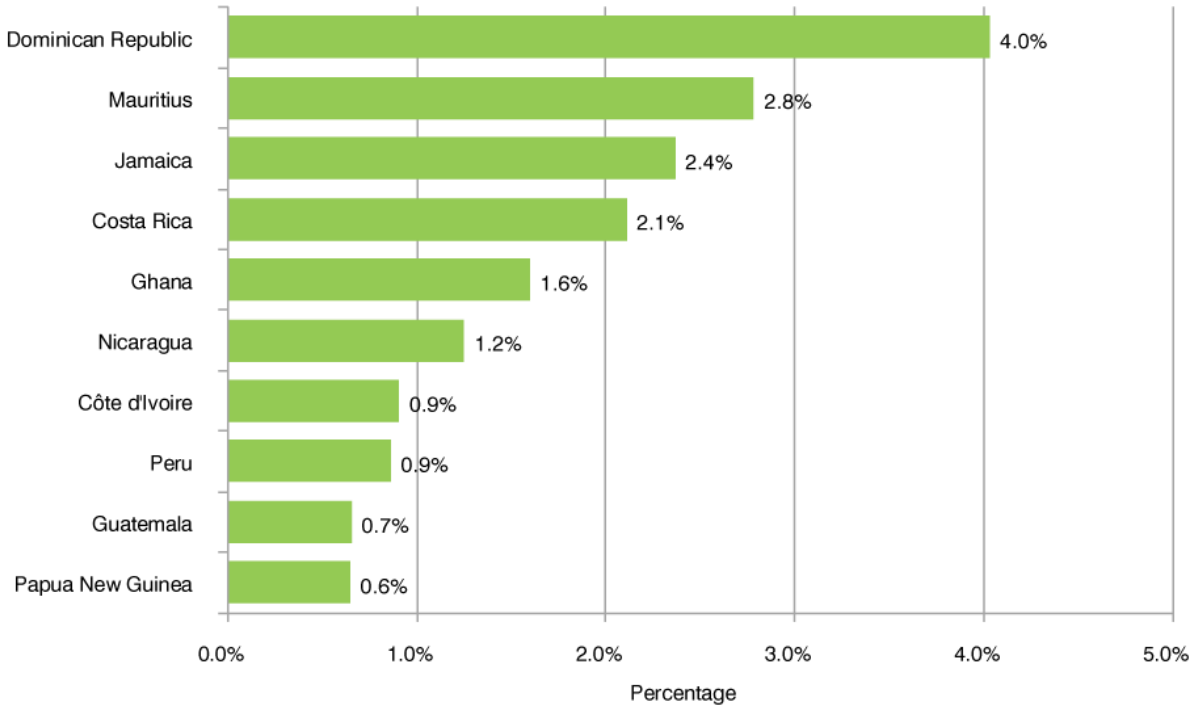
***Source**:* Fairtrade International, 2017.

Figure 24: Fairtrade International: 2015 close-up – Top 10 countries by area



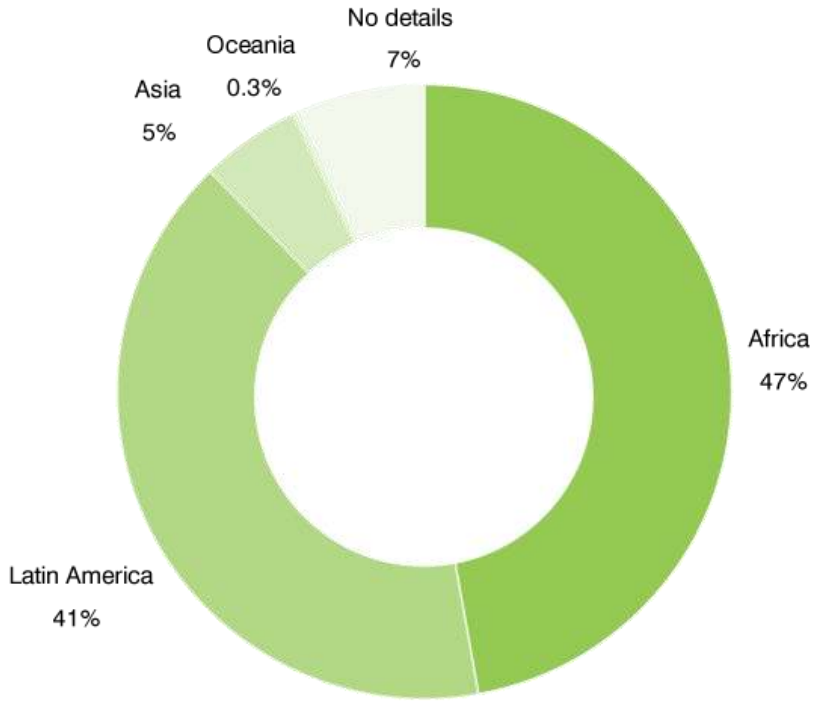
***Source**:* Fairtrade International, 2017.

Figure 25: Fairtrade International: Top 10 countries (percentage of total agricultural area), 2015



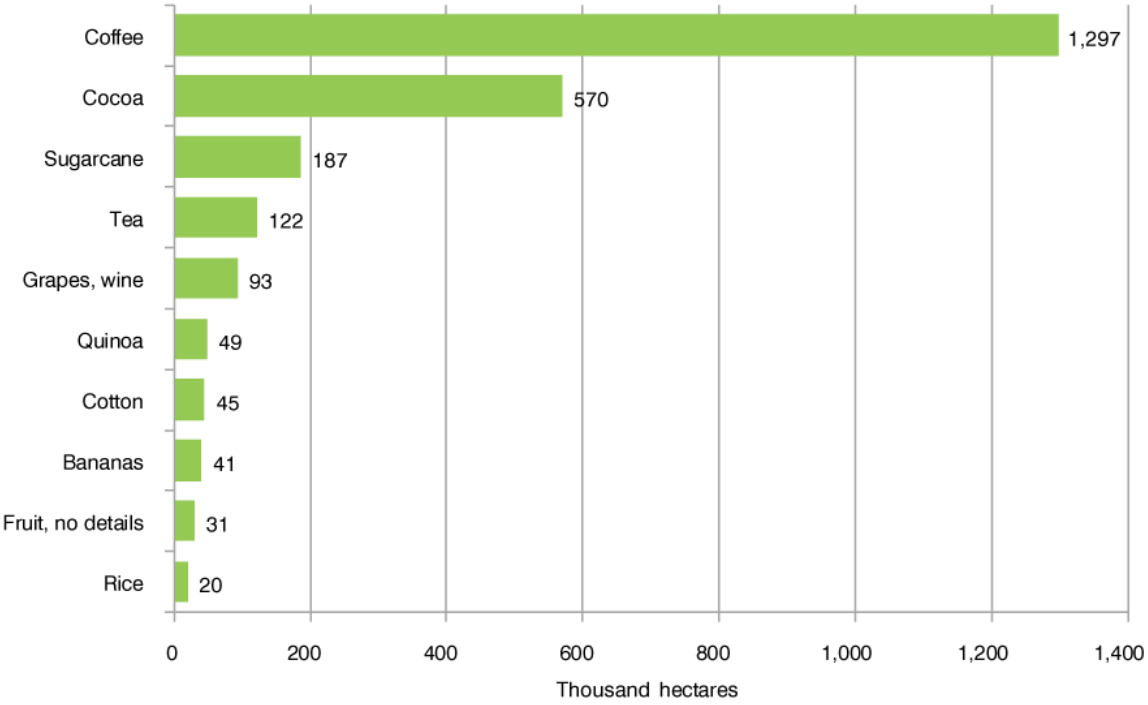
***Source**:* Fairtrade International, 2017.

Figure 26: Fairtrade International: Area by region, 2015



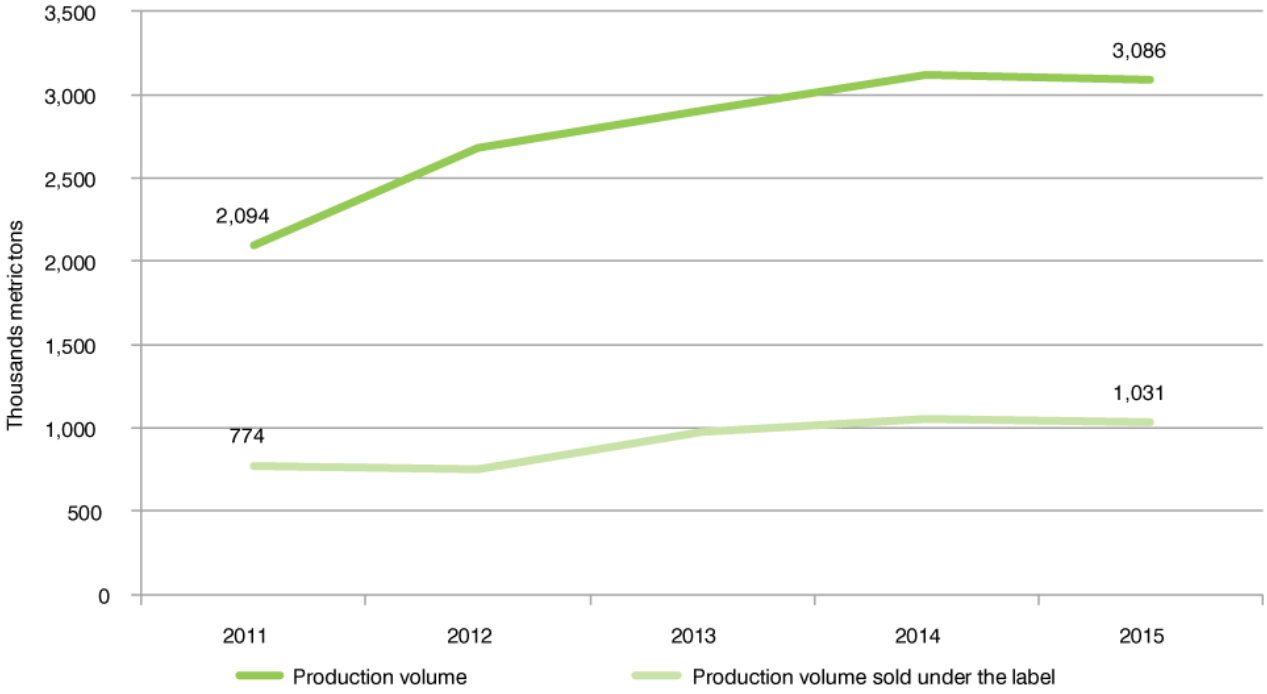
Source: Fairtrade International, 2017.

Figure 27: Fairtrade International: Top 10 products by area, 2015



***Source**:* Fairtrade International, 2017.

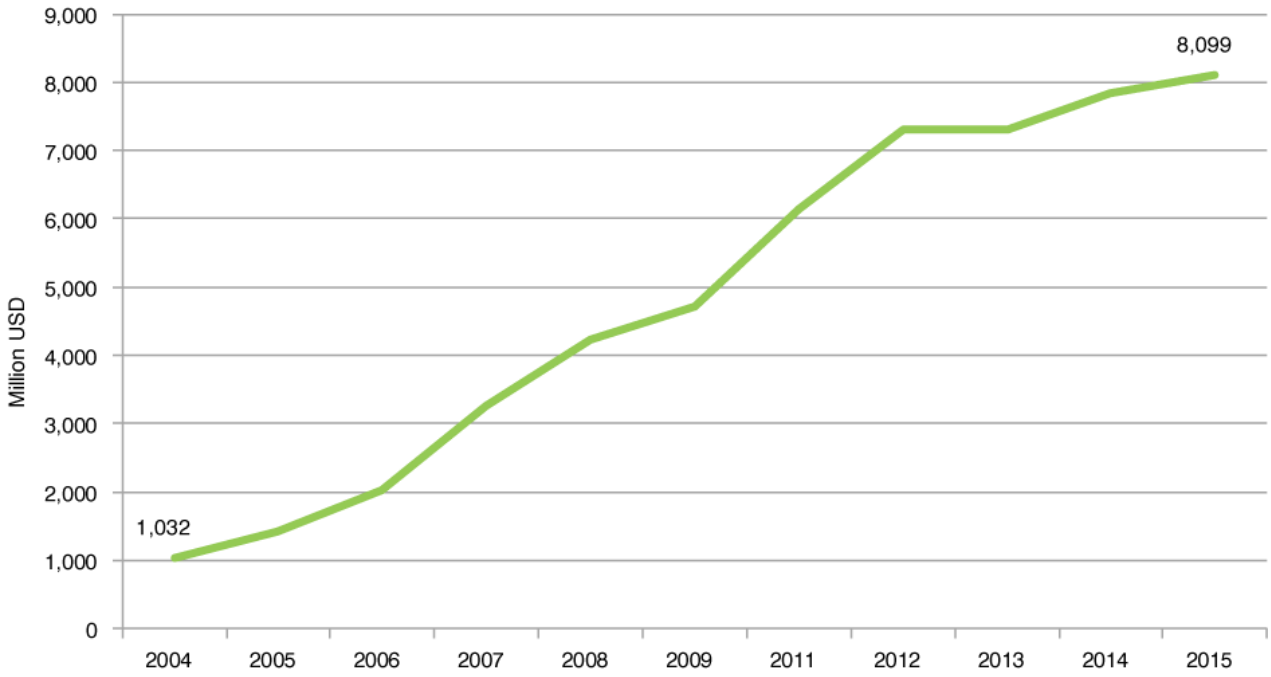
Figure 28: Fairtrade International: Production volume and production volume sold under Fairtrade label, 2011–2015



Note: This refers to the total Fairtrade production volume and value with the exception of flowers, gold, nuts, honey, and sport balls. It might differ from the data reported in the Fairtrade monitoring reports.

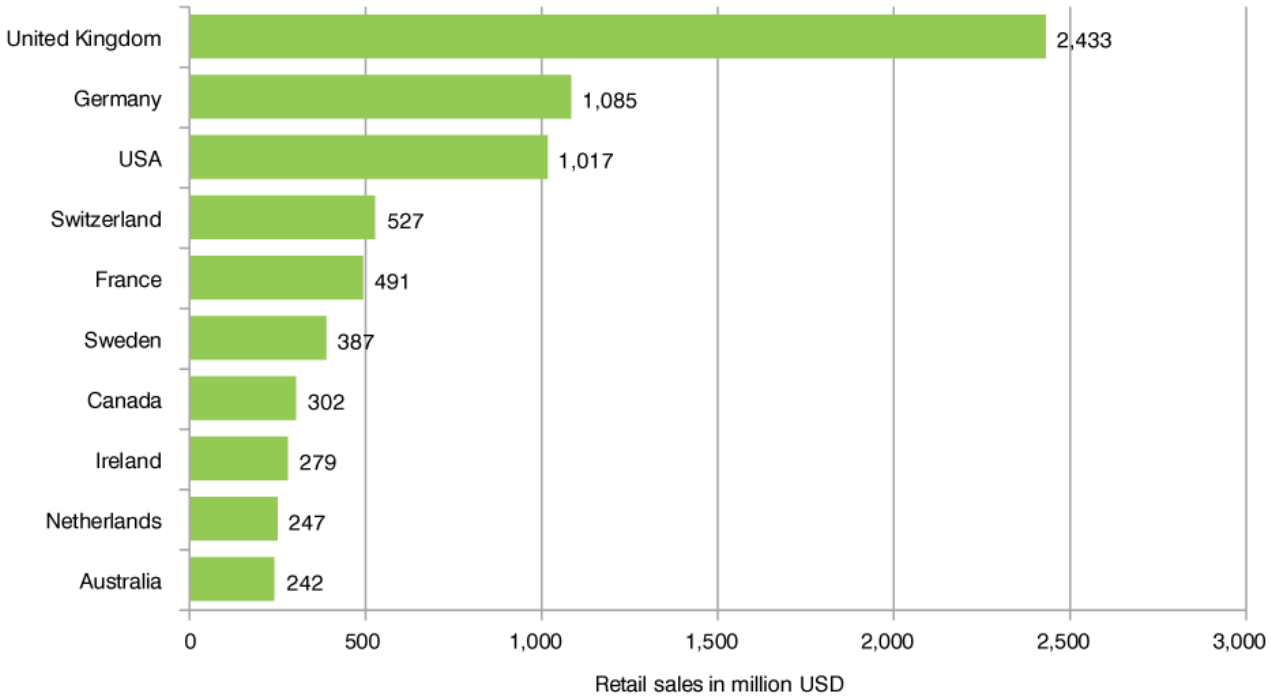
***Source**:* Fairtrade International, 2017.

Figure 29: Fairtrade International: Retail sales, 2004–2015



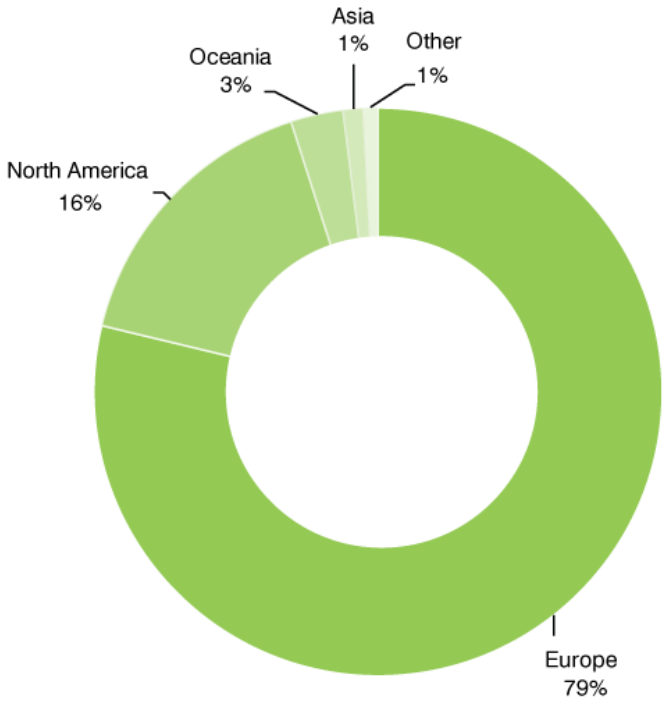
***Source**:* Fairtrade International 2005–2016 (data missing for 2010). Original data in euros; the 2015 annual average exchange rate from the Statistical Data Warehouse of the European Central Bank was used.

Figure 30: Fairtrade International: Top 10 countries by retail sales, 2015



***Source**:* Fairtrade International 2016. Original data in euros; the 2015 annual average exchange rate from the Statistical Data Warehouse of the European Central Bank was used.

Figure 31: Fairtrade International: Retail sales by region, 2015



***Source**:* Fairtrade International, 2016. Original data in euros; the 2015 annual average exchange rate from the Statistical Data Warehouse of the European Central Bank was used.

Forest Stewardship Council

Founded in 1993, the Forest Stewardship Council (FSC) is a member-based initiative operating across 117 countries. The FSC Principles and Criteria (P&C) present the requirements for forest management certification. More than 40 national standards development groups adapt the FSC P&C to local contexts by adopting, adapting, adding or dropping indicators, to reflect country-specific conditions. Those national standards are to be endorsed by FSC.

The FSC issues three different types of certificates: Forest Management, Chain of Custody and Controlled Wood, which correspond to the different origins of forest products, stages of production and subsequent progress of forest products through the value chain (FSC, 2016a). The FSC Global Strategic Plan 2015-2020 aims to boost the share of global forest-based trade to 20% by 2020. It puts a priority on increasing FSC certification in tropical countries and working more with indigenous peoples, workers, women and smallholders (FSC, 2016b).

More than 186 million hectares of forest were FSC-certified in 2015 (data per December 2015), representing 4.7% of the global forest area. Canada had the largest area, with more than 52 million hectares, followed by the Russian Federation (almost 41 million hectares) and the United States of America (almost 14 million hectares). In 2015, there were 1,365 forest management certificate holders and almost 30,000 chain-of-custody certificate holders.

More information is available at www.ic.fsc.org/en. For more information on forestry, see Chapter 3.

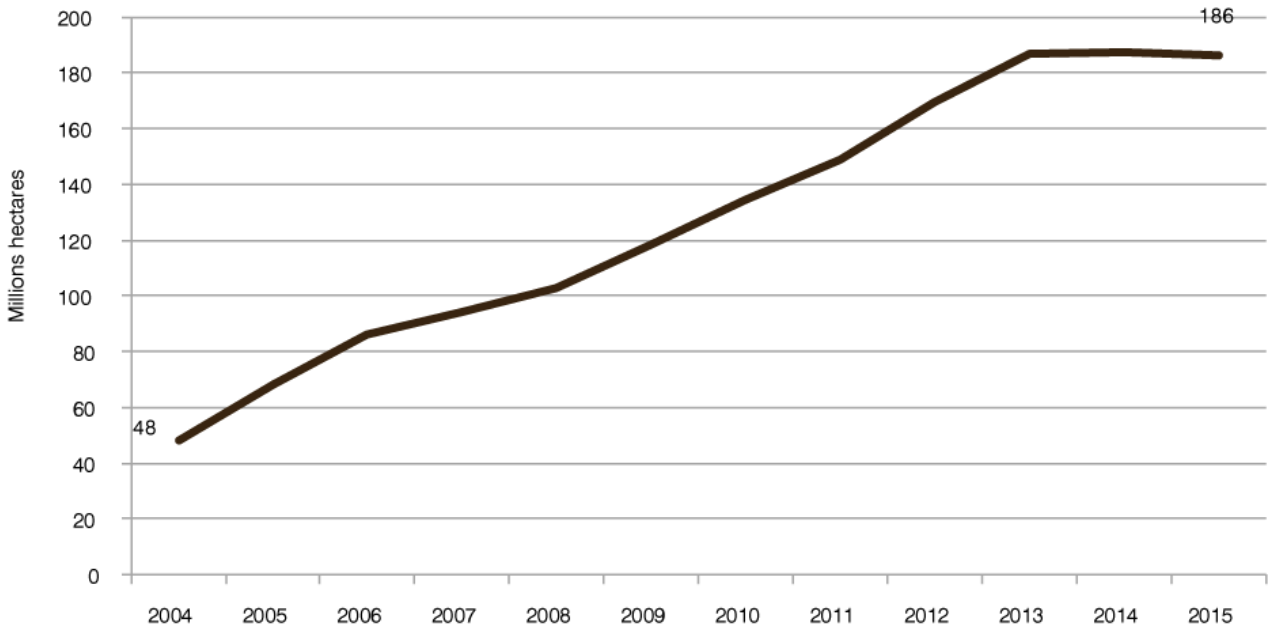
Table 7: Forest Stewardship Council: Key indicators

Forest Stewardship Council (FSC) 2015[16]	
Area certified as managed in compliance with the FSC standards [hectares]	186,410,374
Share of total forest area [%]	4.66
Forest management certificate holders [no.]	1,365
Chain-of-custody certificate holders [no.]	29,801

Source: Forest Stewardship Council (FSC), 2016.

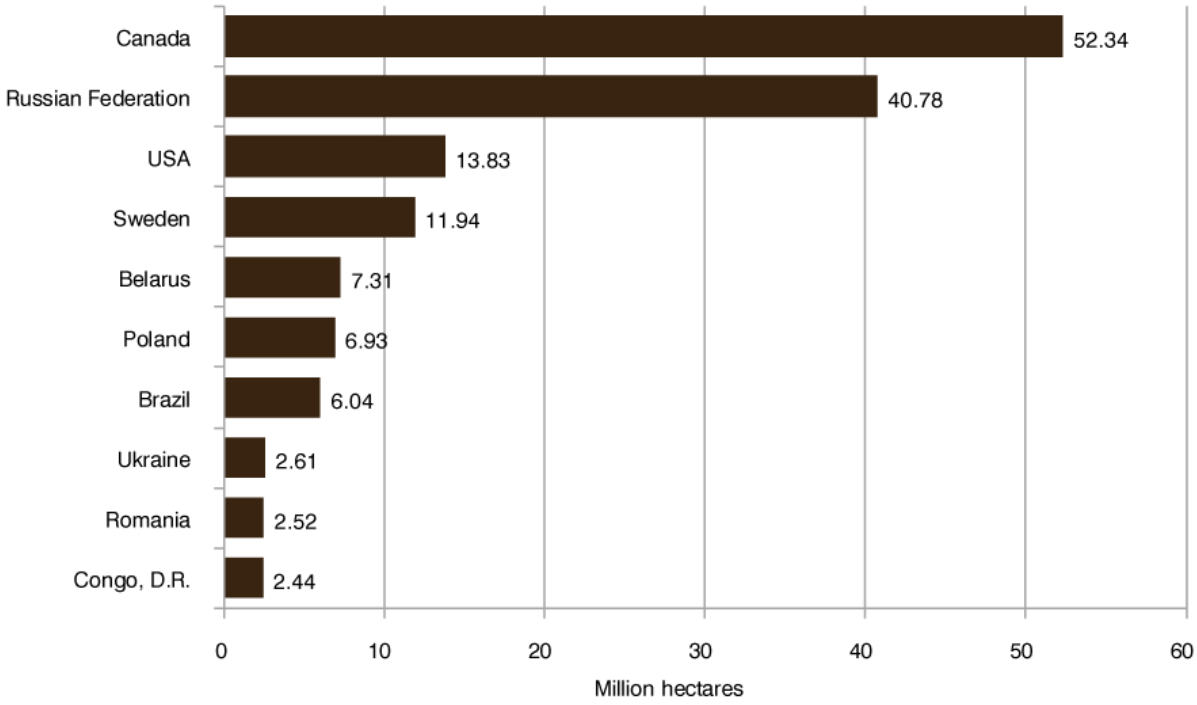
[16] Data reported in December 2015.

Figure 32: Forest Stewardship Council: Certified area, 2004–2015



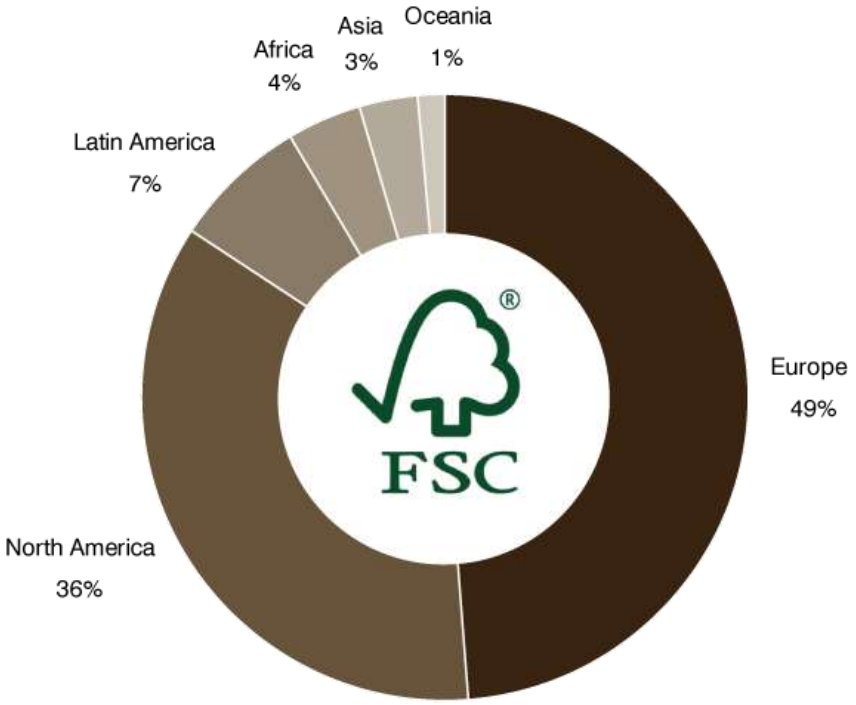
***Source**:* Forest Stewardship Council (FSC), 2005–2016.

Figure 33: Forest Stewardship Council: 2015 close-up – Top 10 countries by area



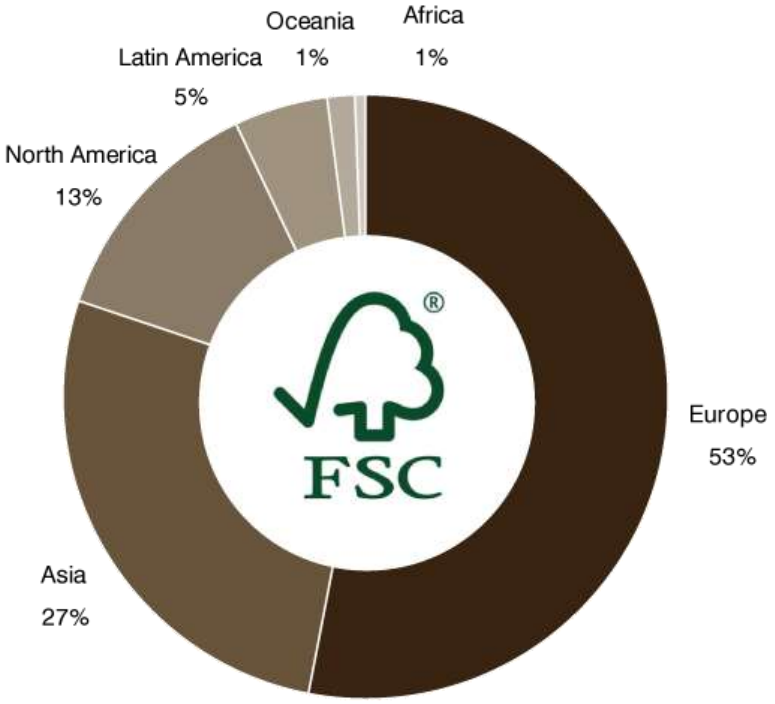
***Source**:* Forest Stewardship Council (FSC), 2016.

Figure 34: Forest Stewardship Council: Area by region, 2015



***Source**:* Forest Stewardship Council (FSC), 2016.

Figure 35: Forest Stewardship Council: Forest Management by region, 2015



***Source**:* Forest Stewardship Council (FSC), 2016.

GLOBALG.A.P.

Founded in 1997, the Global Partnership for Good Agricultural Practice (GLOBALG.A.P.) is a private initiative operating in the food and agriculture sector across 122 countries. GLOBALG.A.P. runs a modular standard adaptable to all agriculture, aquaculture, livestock and horticulture production. It also implements a Chain of Custody Standard to ensure product segregation of the certified products.

GLOBALG.A.P. standards act as a benchmark for local producers to become integrated into their system via LOCALG.A.P., a step-by-step improvement plan that provides a subset of less-stringent GLOBALG.A.P. control points. This approach enables new growers to meet minimum requirements for food safety and hygiene at its"Foundation" level before advancing to other food-safety criteria.

In 2015, more than 3.1 million hectares were certified against the GLOBALG.A.P. standard,[17] managed by more than 160,000 horticulture producers.[18] The product with the largest area was potatoes, with almost 329,000 hectares, followed by bananas (over 248,000 hectares) and apples (nearly 241,000 hectares). Most of GLOBALG.A.P.'s certified area is in Europe (45%), followed by Latin America (25%), Africa (12%) and North America (10.5%). Spain had the largest certified area (380,000 hectares), followed by the United States of America (325,000 hectares) and South Africa (almost 190,000 hectares). The GLOBALG.A.P. certified area has increased by 40% since 2010.

GLOBALG.A.P. certifies a wide variety of fruits and vegetables worldwide, more than 230 products of fruit and vegetables are certified within the Integrated Farm Assurance (IFA) standard worldwide.

More information is available from www.globalgap.org/uk_en. For more information on GLOBALG.A.P. bananas, see Chapter 3.

Table 8: GLOBALG.A.P.: Key indicators

GLOBALG.A.P. IFA Standard 2015[19]	
Total area [hectares]	3,112,057
Area non-covered [hectares]	3,009,815
Area covered [hectares] (greenhouses and plastic tunnels)	102,242
Certificate holders [no.]	46,100
Producers [no.]	160,452

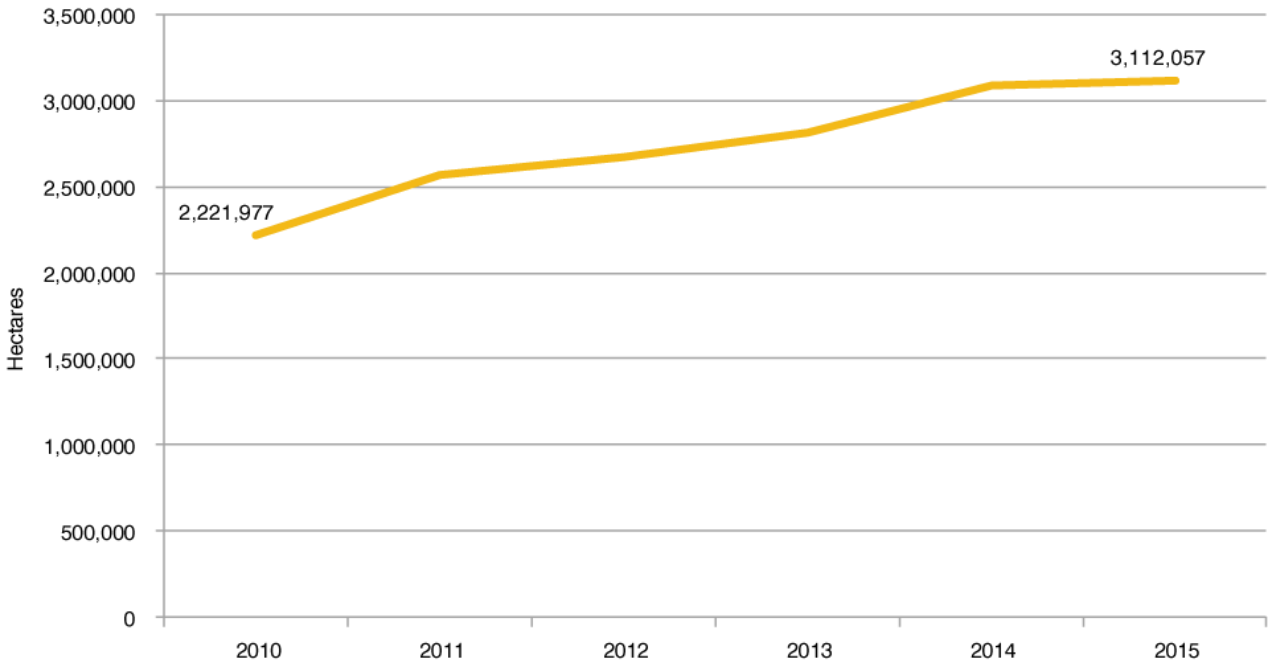
Source: GLOBALG.A.P., 2016.

[17] This includes many hectares covered by greenhouses and plastic tunnels for intensive production.

[18] The number of producers includes crop producers only, and excludes livestock and aquaculture operators.

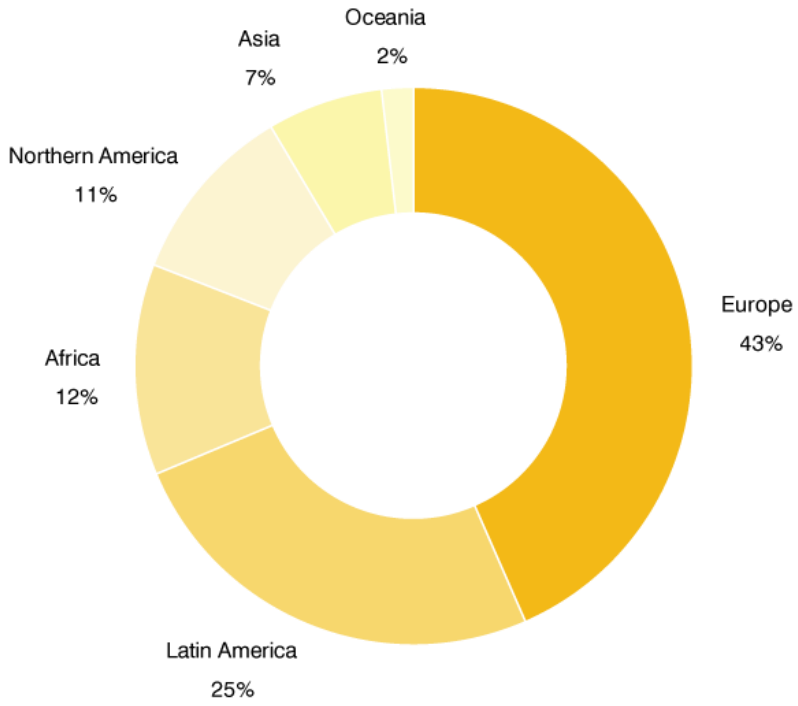
[19] The number of producers and the number of certificate holders include the total number of producers/certificate holders under certification within the Integrated Farm Assurance (IFA) Standard. For more information on the IFA Standard, see www.globalgap.org/uk_en/what-we-do/globalg.a.p.-certification/globalg.a.p./.

Figure 36: GLOBALG.A.P: Certified area, 2010–2015



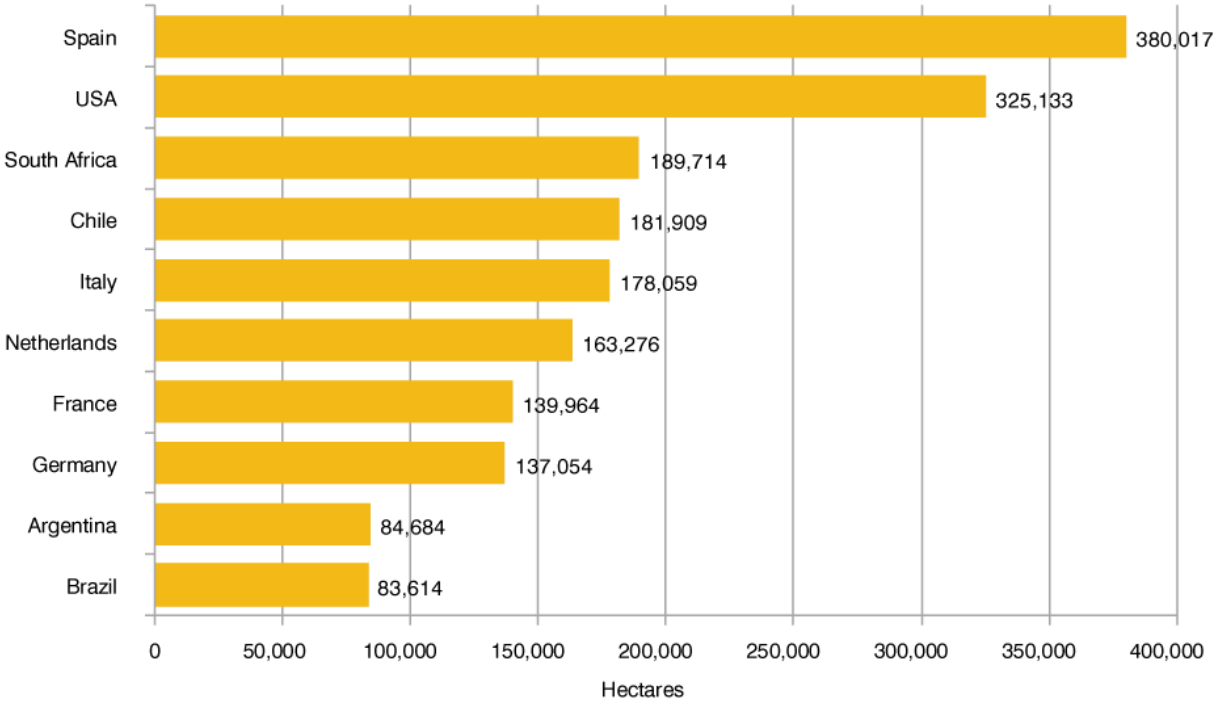
***Source**:* GLOBALG.A.P., 2016.

Figure 37: GLOBALG.A.P: Area by region, 2015



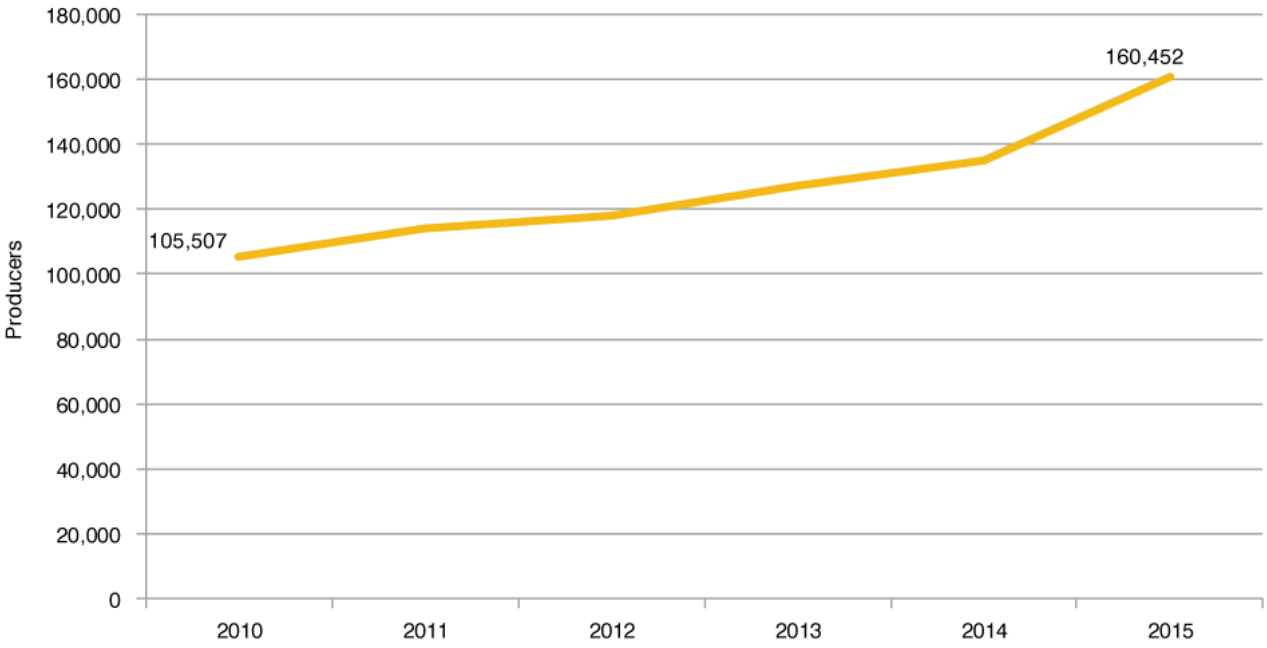
***Source**:* GLOBALG.A.P., 2016.

Figure 38: GLOBALG.A.P: 2015 close-up – Top 10 countries by area



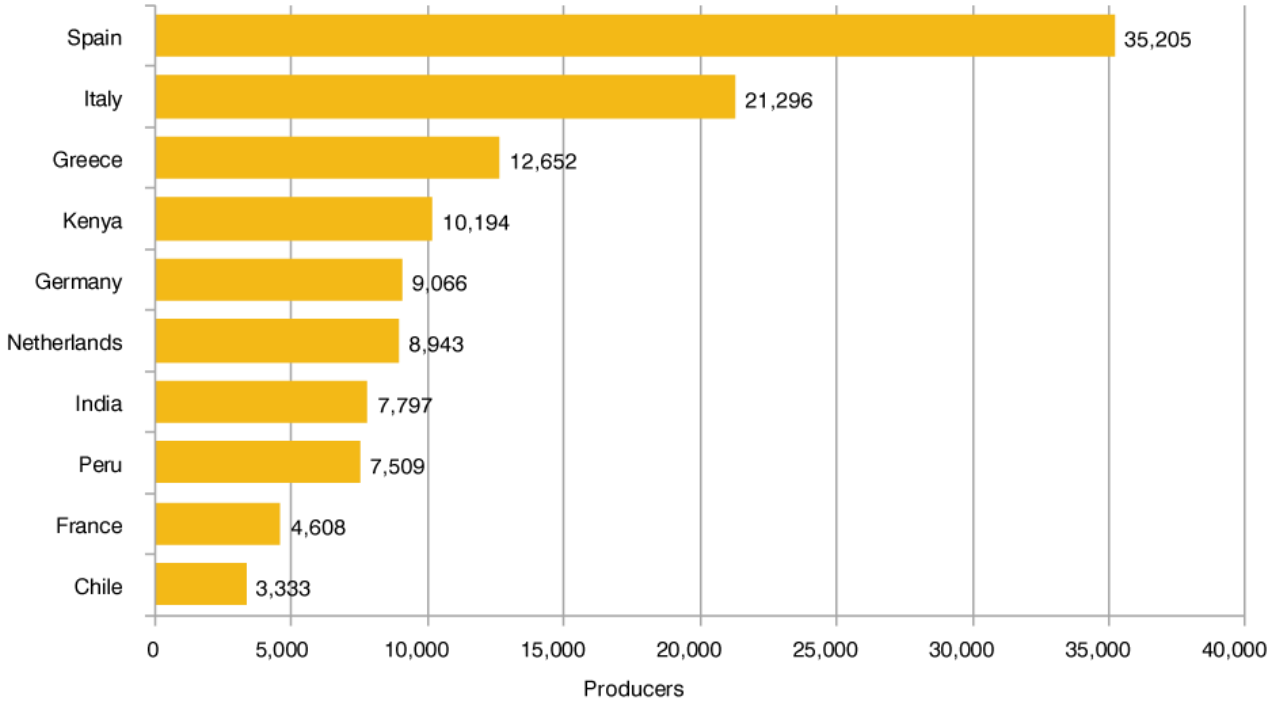
***Source**:* GLOBALG.A.P., 2016.

Figure 39: GLOBALG.A.P: Producers, 2010–2015



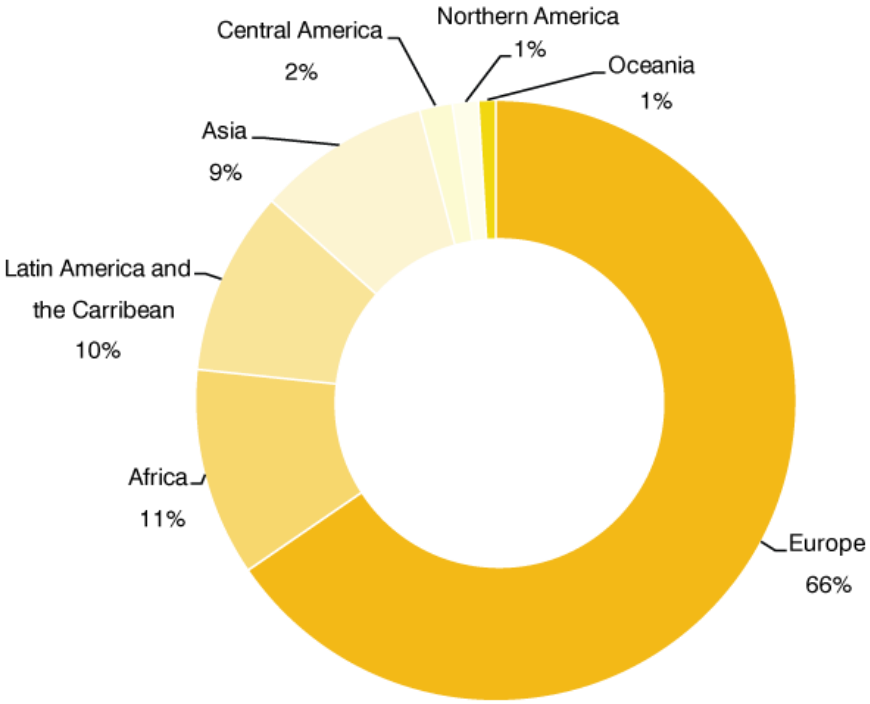
***Source**:* GLOBALG.A.P., 2016.

Figure 40: GLOBALG.A.P: Top 10 countries by certified producers, 2015



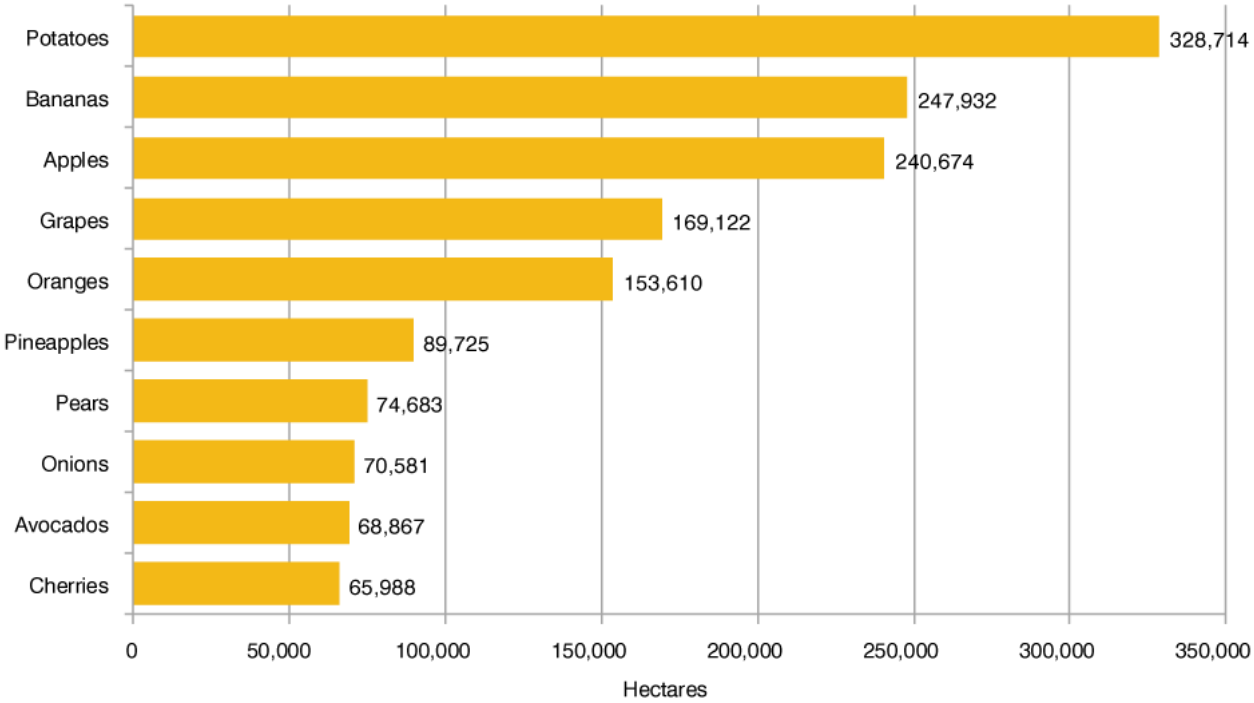
***Source**:* GLOBALG.A.P., 2016.

Figure 41: GLOBALG.A.P: Producer by region, 2015



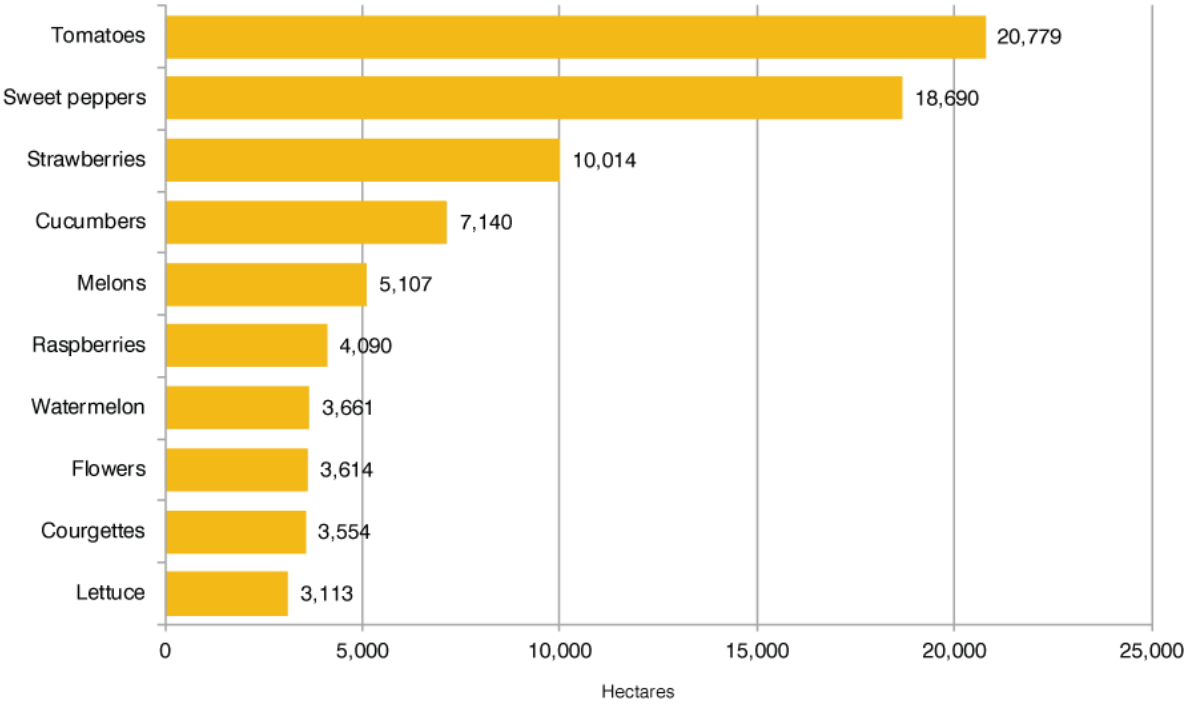
***Source**:* GLOBALG.A.P., 2016.

Figure 42: GLOBALG.A.P.: Top 10 non-covered crops by area,[20] 2015



***Source**:* GLOBALG.A.P., 2016.

Figure 43: GLOBALG.A.P: Top 10 covered crops by area,[21] 2015



***Source**:* GLOBALG.A.P., 2016.

[20] Non-covered crops include crops that are not grown under greenhouses or plastic tunnels for intensive production.

[21] Covered crops include crops covered by greenhouses and plastic tunnels for intensive production.

IFOAM – Organics International

Founded in 1972, IFOAM – Organics International[22] is a membership-based umbrella organization representing the organic movement across the entire value chain, with affiliates in more than 121 countries.[23] One of its work areas is to set standards and quality assurance systems for organic standards and to promote the adoption of organic agriculture worldwide.

Organic certification is typically determined by standards set at the national or regional level. Many different organic standards may operate within a single country, and they may or may not follow the IFOAM standard or comply with the standards included in the IFOAM Family of Standards. Some 87 countries have local organic standards, and 17 countries are in the process of drafting legislation (Huber and Schmid, 2017).

IFOAM – Organics International plays a special role in the organic sector by uniting organic stakeholders, advocating long-term social and ecological change, facilitating production and trade, assisting organic development and building the capacity of future organic leaders. Unlike most other standard-setting organizations, IFOAM – Organics International is not involved in the certification and control process; all its efforts focus on the development of the organic sector.

In 2015, 50.9 million hectares were certified organic worldwide, representing 1.1% of the global agricultural land. There were at least 2.4 million producers in 179 countries practising organic farming. Australia has the largest organic area, with 22.7 million hectares, followed by Argentina (3.1 million hectares) and the United States of America (2 million hectares). Almost all agricultural products can be certified according to organic standards and regulations; indeed, Organic has the largest range of commodities compared with the other standards presented in this report. A subsection of agricultural commodities, organic certifies wild collection products, aquaculture and forestry. In 2015, these areas covered almost 40 million hectares.

The organic market surpassed the $80 billion mark in 2015, and the leading countries were the United States of America (47% of the global organic market), Germany (11%) and France (7%). Data collection on organic agriculture is carried out annually by the Research Institute of Organic Agriculture (FiBL), and the data are published in the joint FiBL-IFOAM – Organics International publication, *The World of Organic Agriculture* (Willer and Lernoud, 2017). The data on organic cotton shown in this report were provided by Textile Exchange.

As production volume data are not available for most countries, FiBL has estimated the area harvested and the production volume for the products covered by this report: bananas, cocoa, coffee, cotton, oil palm, soybeans, sugarcane and tea. For the harvested area, it was assumed that 90% of the fully converted area was harvested. The production volume was arrived at using estimated yields based on country yields as provided by the Food and Agriculture Organization Corporate Statistical Database (FAOSTAT), assuming that organic has a lower yield in most cases.

More information is available at www.ifoam.bio. For information on organic commodities, see Chapter 3.

Table 9: Organic: Key indicators

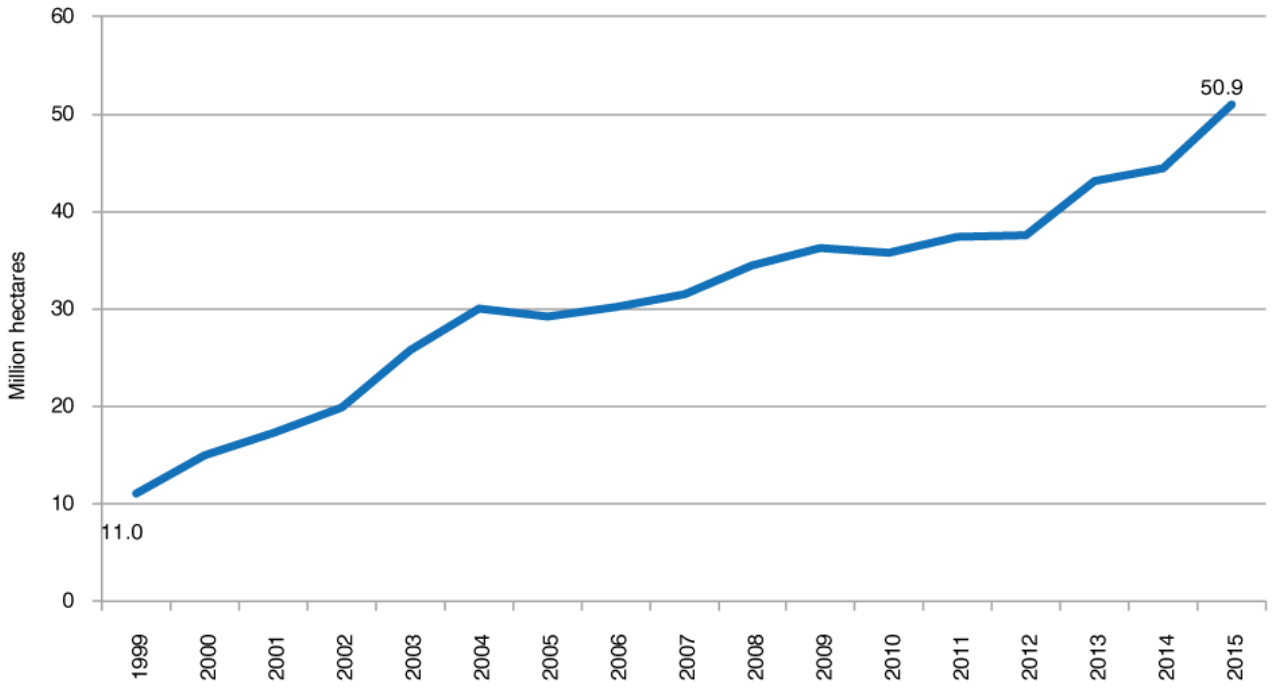
	Organic 2015
Agricultural area [hectares] (including in-conversion areas)	50,919,005
Other organic areas [hectares] (Wild collection, aquaculture, etc.)	39,681,105
Share of organic area of global agricultural land [%]	1.1
Producers [no.]	2,417,414
Global retail sales [million $]	84,260

Source: FiBL survey, 2017 (Willer and Lernoud 2017).

[22] Until 2015, the organization was known as the International Federation of Organic Agriculture Movements.

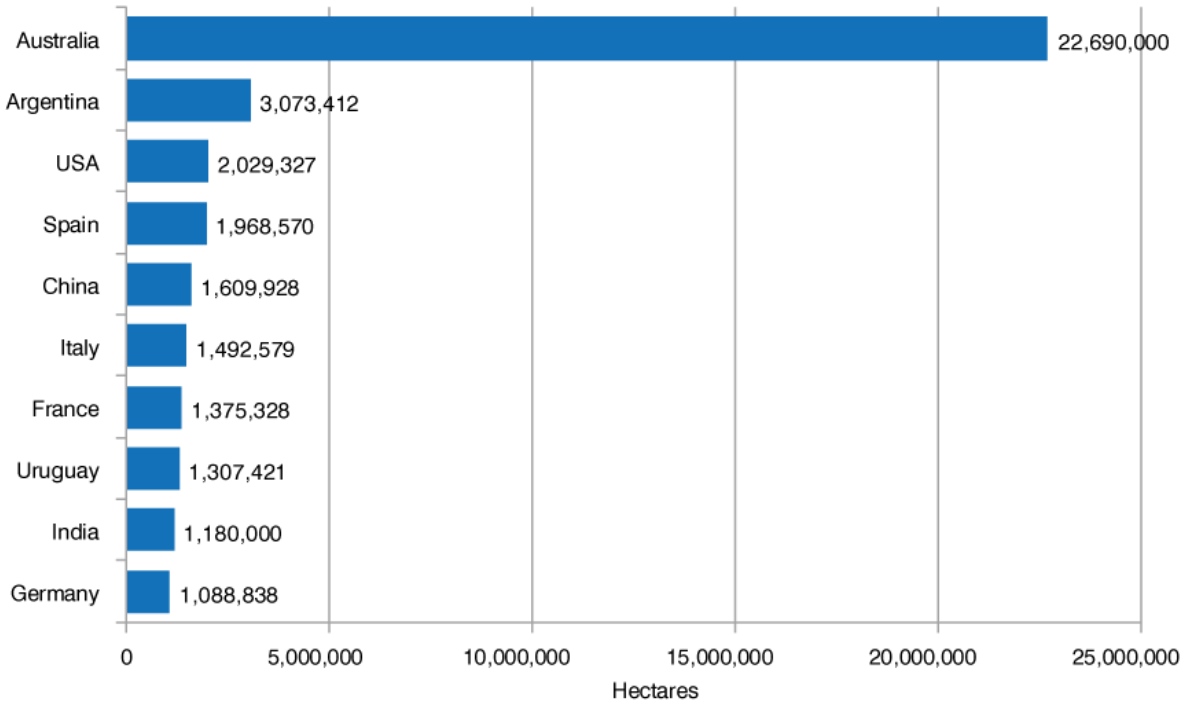
[23] Not all organic production complies with IFOAM standards. This survey covers all certified organic regardless of the production complying with IFOAM criteria. IFOAM – Organics International is the leading global reference for defining organic standards.

Figure 44: Organic: Certified area, 1999–2015



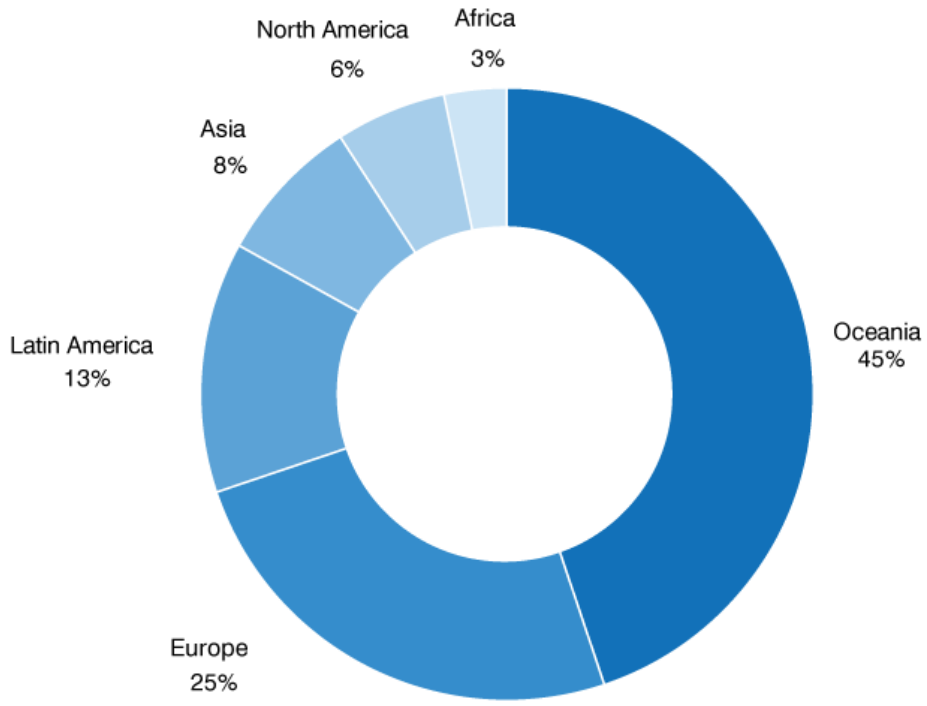
***Source**:* FiBL, 2017 (Willer and Lernoud 2017).

Figure 45: Organic: 2015 close-up – Top 10 countries by area



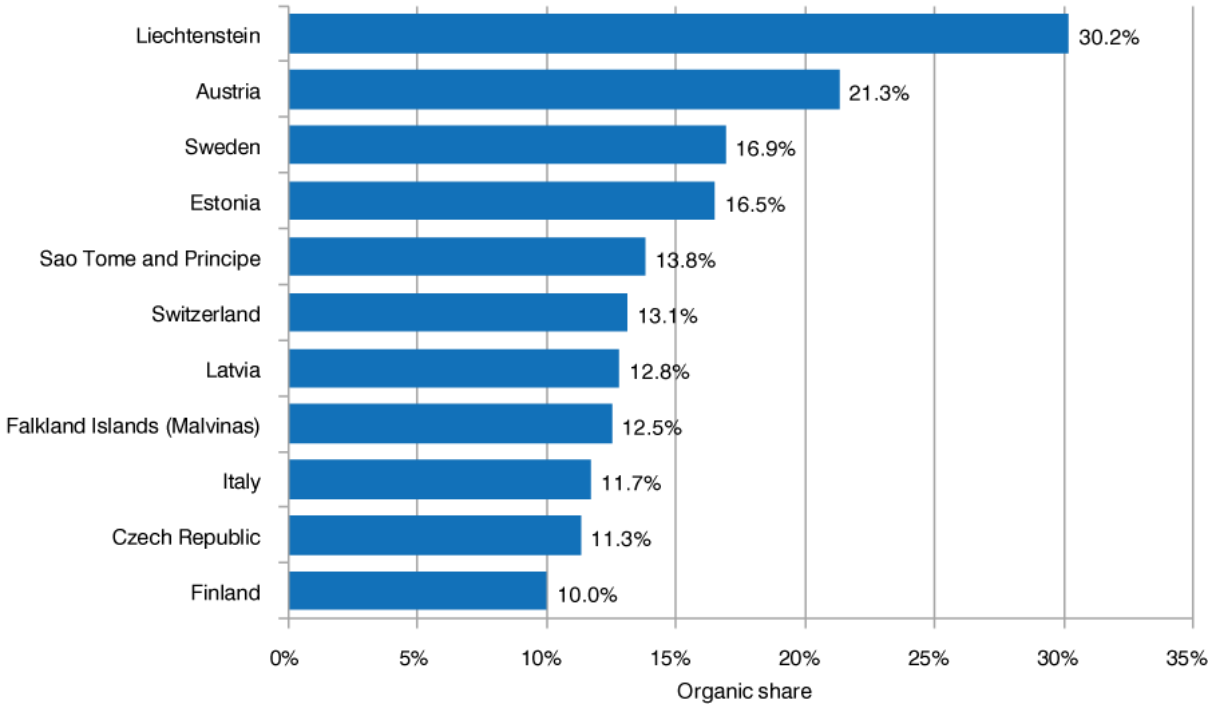
***Source**:* FiBL survey, 2017 (Willer and Lernoud 2017). Based on national data sources and data from certifiers.

Figure 46: Organic: Area by region, 2015



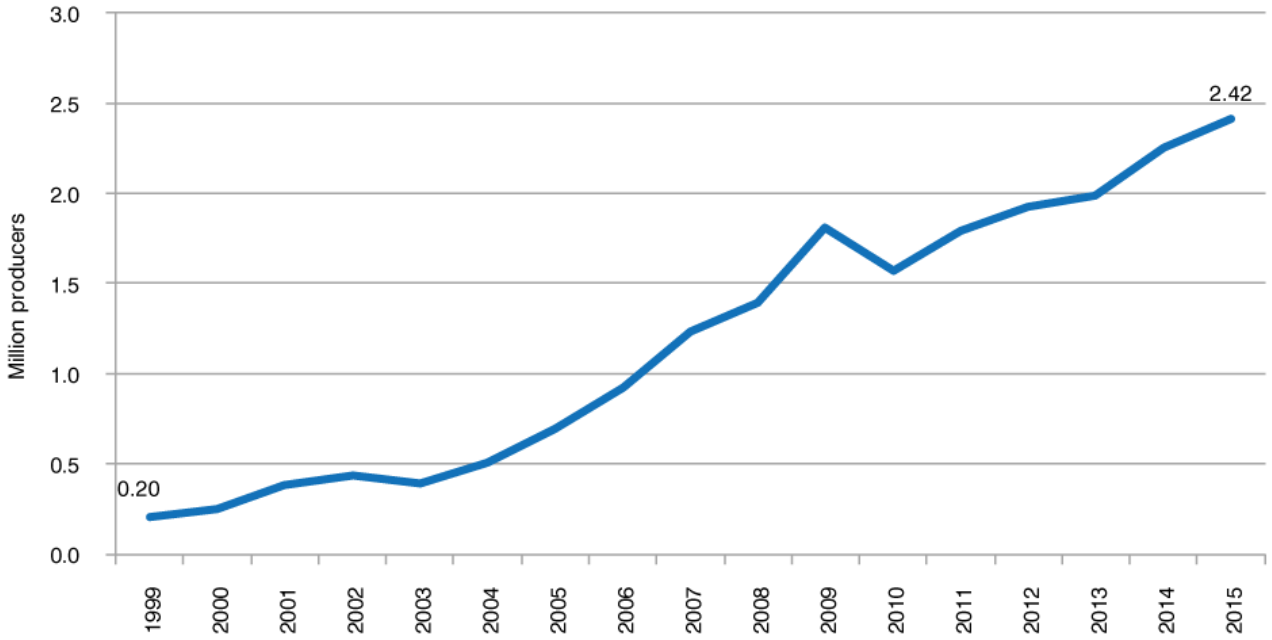
***Source**:* FiBL, 2017 (Willer and Lernoud 2017). Based on national data sources and data from certifiers.

Figure 47: Organic: Top countries (percetage of total agricultural area), 2015



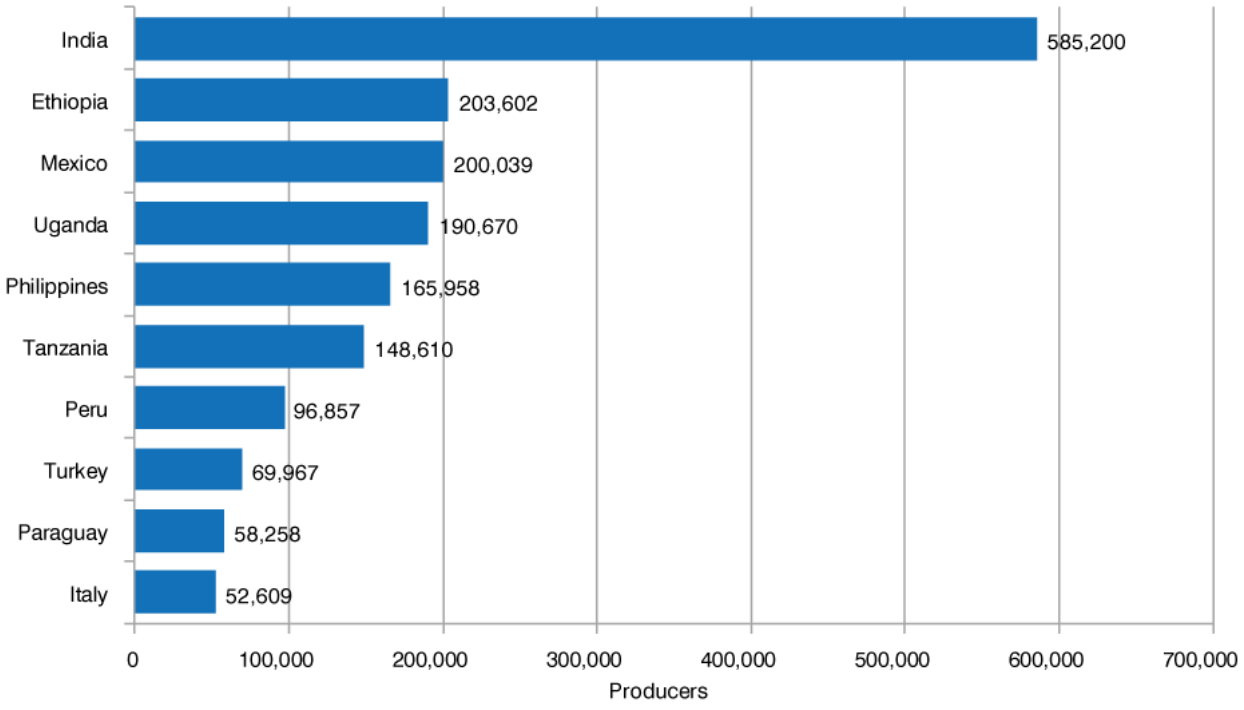
***Source**:* FiBL survey, 2017 (Willer and Lernoud 2017). Based on national data sources and data from certifiers.

Figure 48: Organic: Producers, 1999–2005



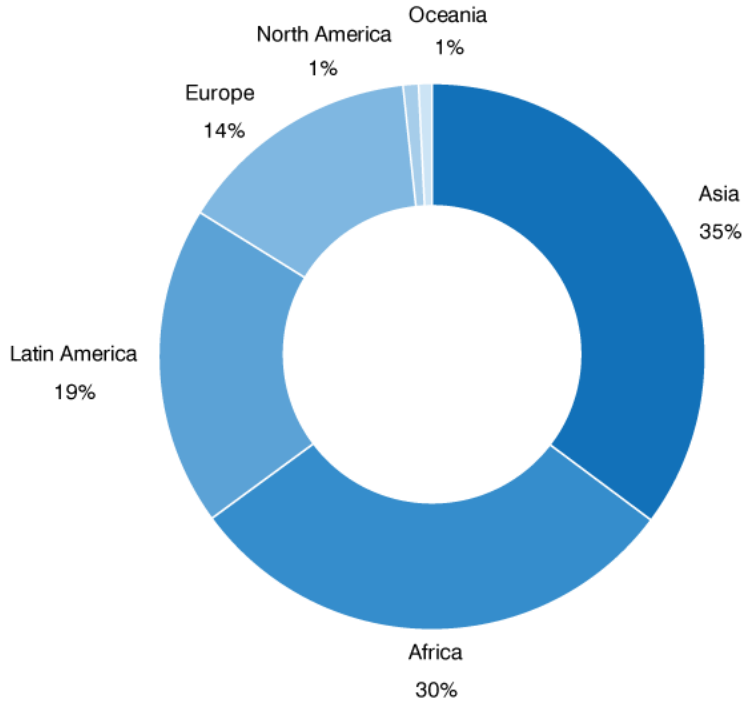
***Source**:* FiBL, 2017 (Willer and Lernoud 2017).

Figure 49: Organic: Top 10 countries by certified producers, 2015



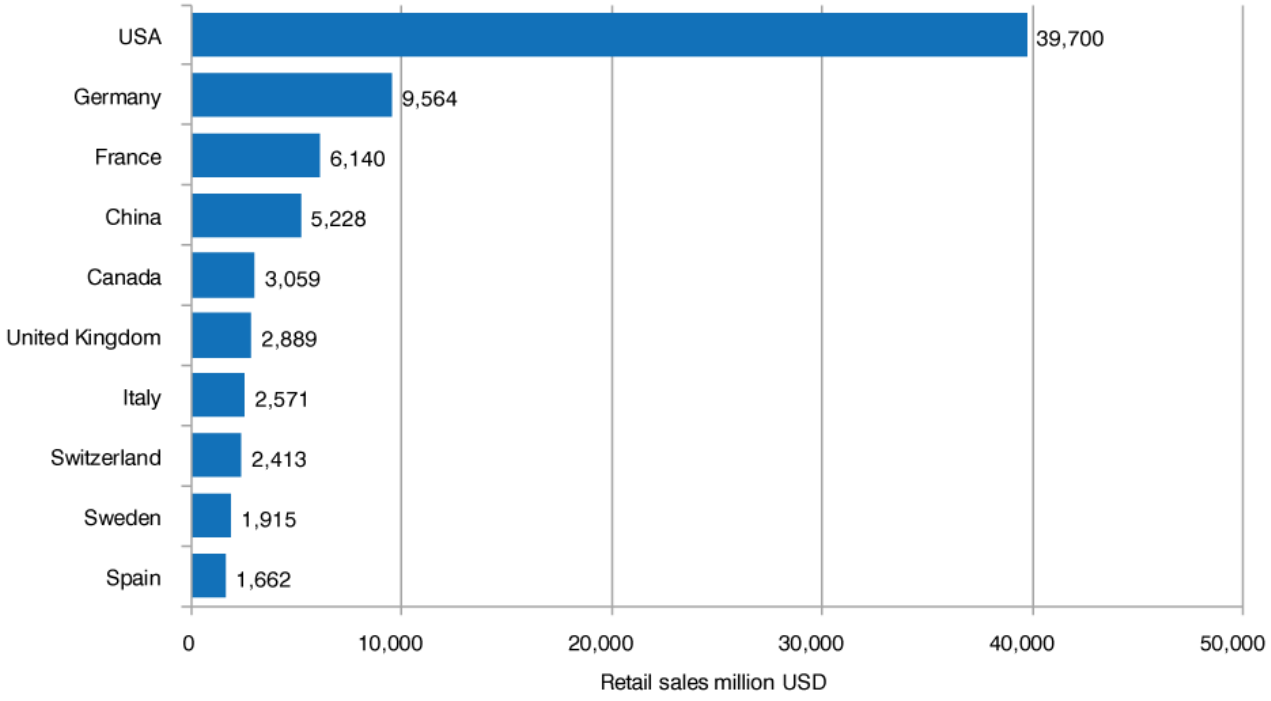
***Source**:* FiBL survey, 2017 (Willer and Lernoud 2017). Based on national data sources and data from certifiers.

Figure 50: Organic: Producer by region, 2015



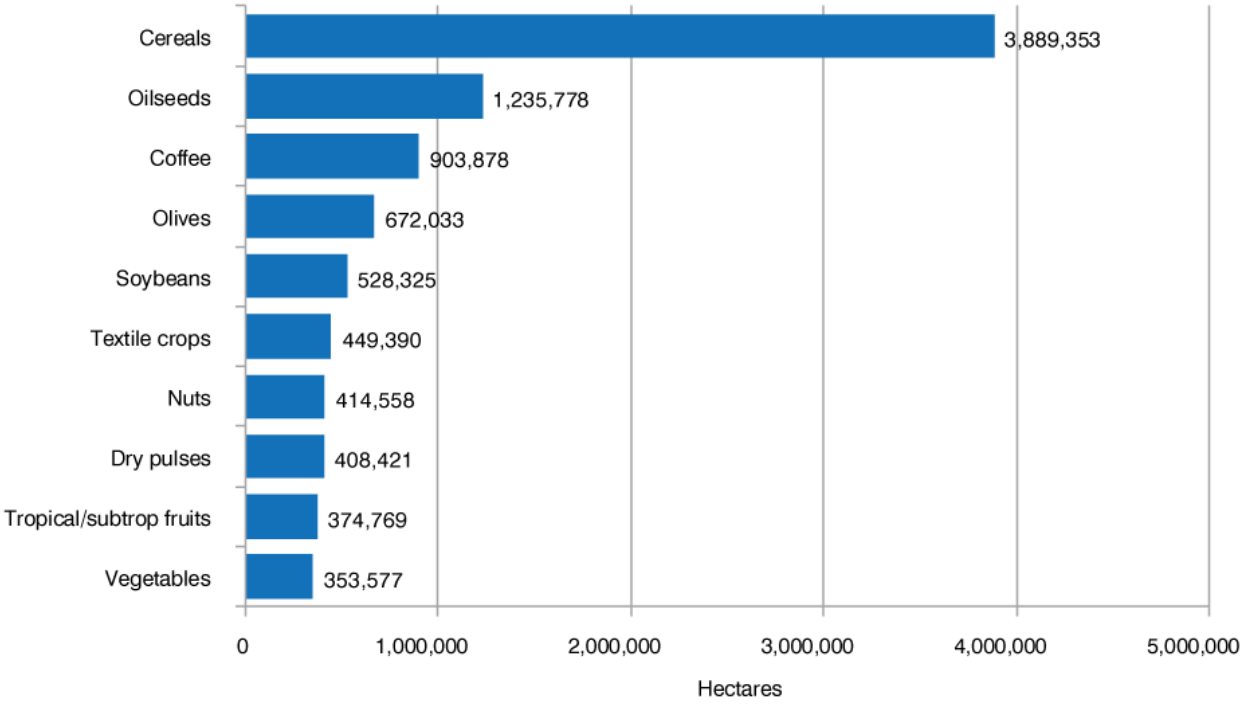
***Source**:* FiBL, 2017 (Willer and Lernoud 2017). Based on national data sources and data from certifiers.

Figure 51: Organic: Top 10 countries by retail sales, 2015



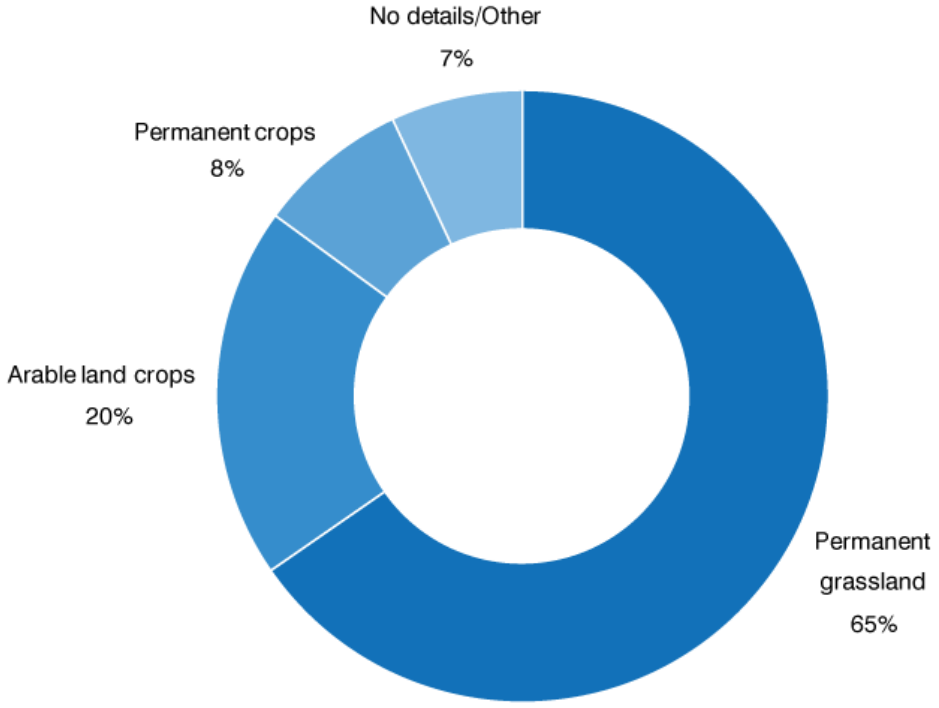
***Source**:* FiBL survey, 2017 (Willer and Lernoud 2017). Based on national data sources.

Figure 52: Organic: Top 10 crops/crop groups



***Source**:* FiBL, 2017 (Willer and Lernoud 2017). Based on national data sources and data from certifiers,

Figure 53: Organic: Land by main use type, 2015



***Source**:* FiBL, 2017 (Willer and Lernoud 2017). Based on national data sources and data from certifiers,

Programme for the Endorsement of Forest Certification

Founded in 1999, the Programme for the Endorsement of Forest Certification (PEFC) is a global alliance of independent national standard-setting bodies and international stakeholder members. The initiative manages the PEFC Sustainability Benchmarks, which set baseline requirements for national standards initiatives to be endorsed by PEFC. PEFC is an international umbrella organization that develops forest management and Chain of Custody standards and provides independent assessment and endorsement of national forest certification systems.

The initiative operates on a business-to-consumer basis, developing standards and marketing the PEFC label to ensure sustainable forestry practices.

PEFC certified more than 272 million hectares of forest worldwide in 2015, representing 6.1% of the global forest area. Canada had the largest PEFC-certified forest area, with almost 129 million hectares, followed by the United States of America and Finland. In 2015, there were 750,000 forest owners and 10,744 chain-of-custody certificate holders.

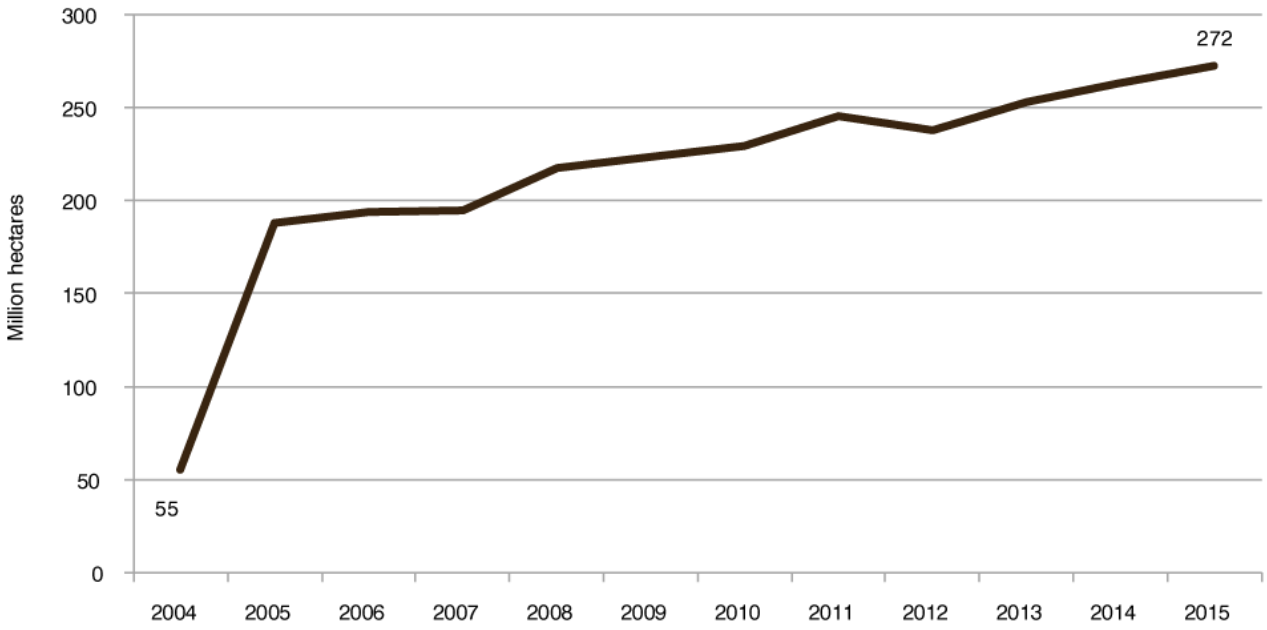
More information is available at www.pefc.org. For more information on forestry, see Chapter 3.

Table 10: Programme for the Endorsement of Forest Certification Schemes: Key indicators

Programme for the Endorsement of Forest Certification (PEFC) 2015	
Forest area [hectares]	272,062,933
Share of total forest area [%]	6.12
Chain-of-custody certificate holders [no.]	10,744
Forest owners [no.]	750,000

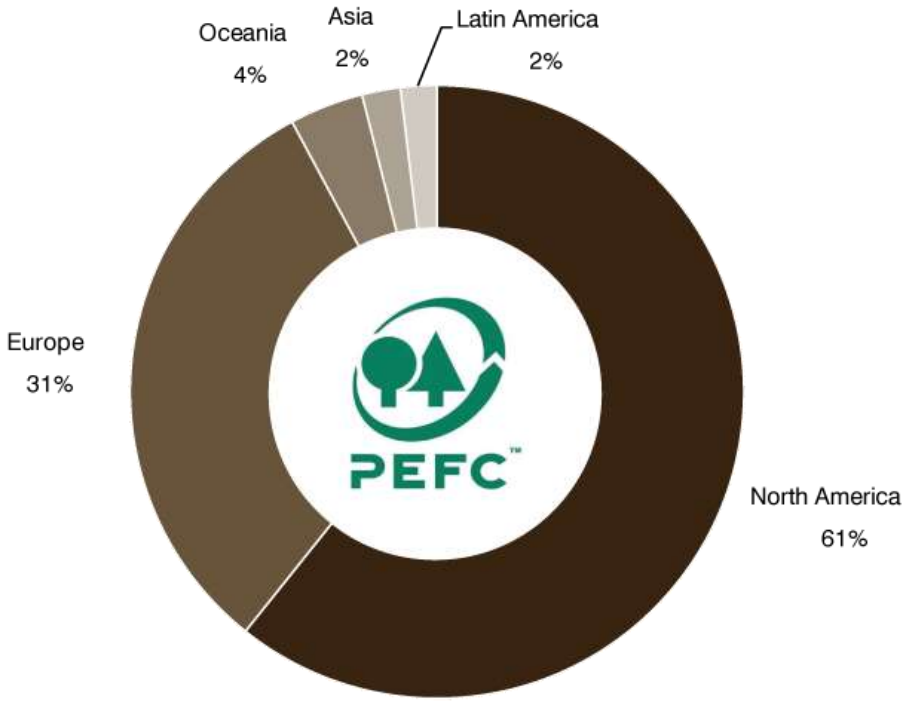
Source: Programme for the Endorsement of Forest Certification (PEFC), 2016.

Figure 54: Programme for the Endorsement of Forest Certification: Certified area, 2004–2015



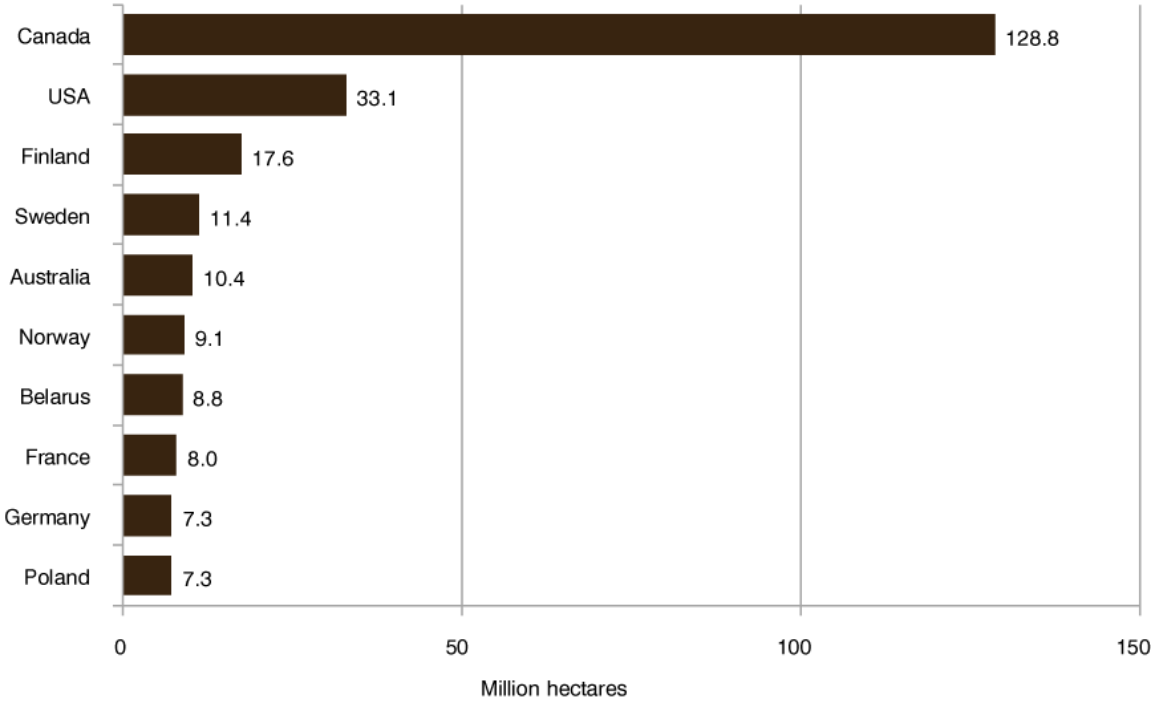
***Source**:* Programme for the Endorsement of Forest Certification (PEFC), 2005–2016.

Figure 55: Programme for the Endorsement of Forest Certification: Area by region, 2015



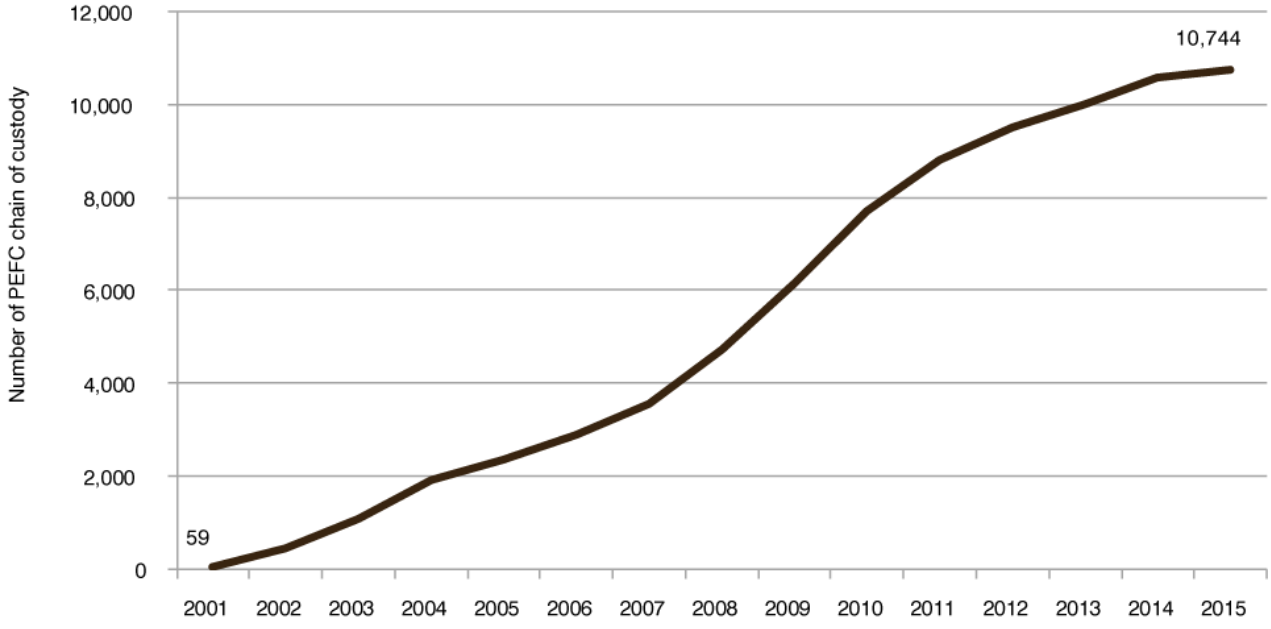
***Source**:* Programme for the Endorsement of Forest Certification (PEFC), 2016.

Figure 56: Programme for the Endorsement of Forest Certification: 2015 close-up – Top 10 countries by area



Source: Programme for the Endorsement of Forest Certification (PEFC), 2016.

Figure 57: Programme for the Endorsement of Forest Certification: Chain-of-custody certificate holders, 2001–2015



Source*:* Programme for the Endorsement of Forest Certification (PEFC), 2002–2016.

ProTerra Foundation

Founded in 2012, the ProTerra Foundation is a member-based, not-for-profit foundation. The ProTerra standard is based on the Basel Criteria for Sustainable Soy Production, and while it is currently used primarily for soy production and soy-derived consumer products, the standard was designed to be applicable to all agricultural sectors. The year 2015 marked the first year for ProTerra-certified sugarcane, although verifications against the standard have been occurring since 2006.

All certified products arrive on the European market as “Identity Preserved”, meaning there is full traceability and the raw material comes from certified farms. ProTerra is the first certification programme in the food and feed commodities sector to respond to the demand for both non-genetically modified organism (GMO) soy and improved production practices. The latest version of the standard, established in 2014, emphasizes smallholder engagement, pesticide use and non-GMO value chains (ProTerra 2016).

In 2015, 1.8 million hectares were ProTerra-certified, representing 0.04% of the global agricultural area and 1.6% of the global soybean area. There were 3.9 million metric tons of ProTerra-certified soybeans. Five countries produced ProTerra-certified soy; the largest area was in Brazil, with almost 1.8 million hectares, representing 98% of the global ProTerra Foundation area. Since 2008, the ProTerra-certified area has grown by almost 46%. Between 2014 and 2015, a growth of almost 49% was noted, following a drop of over 17% in 2014.

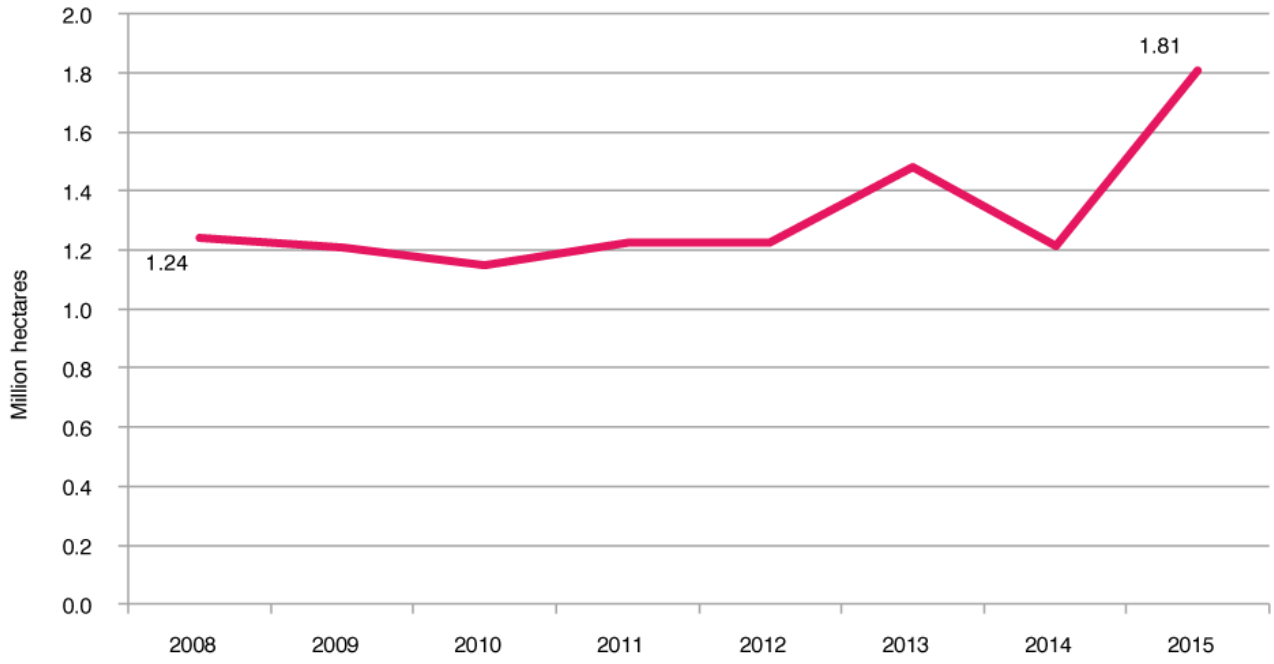
More information is available from www.proterrafoundation.org. For more information on ProTerra soybeans, see Chapter 3.

Table 11: ProTerra Foundation: Key indicators

ProTerra Foundation 2015	
Area [hectares]	1,810,000
Share of ProTerra area of global agricultural land [%]	0.04
Share of ProTerra soybean area of global soybean area [%]	1.6
Soybeans: Production volume [metric tons]	3,885,000
Soybeans: Production value [million $]	1,132

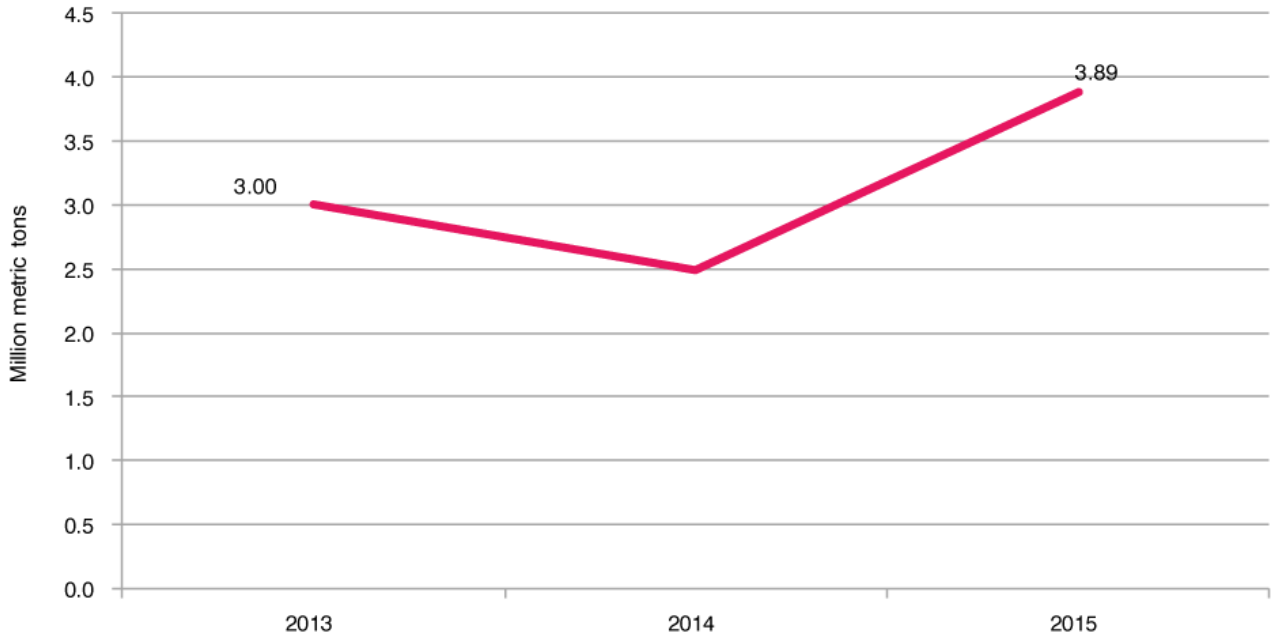
Source: ProTerra Foundation, 2016.

Figure 58: ProTerra: Certified area, 2008–2015



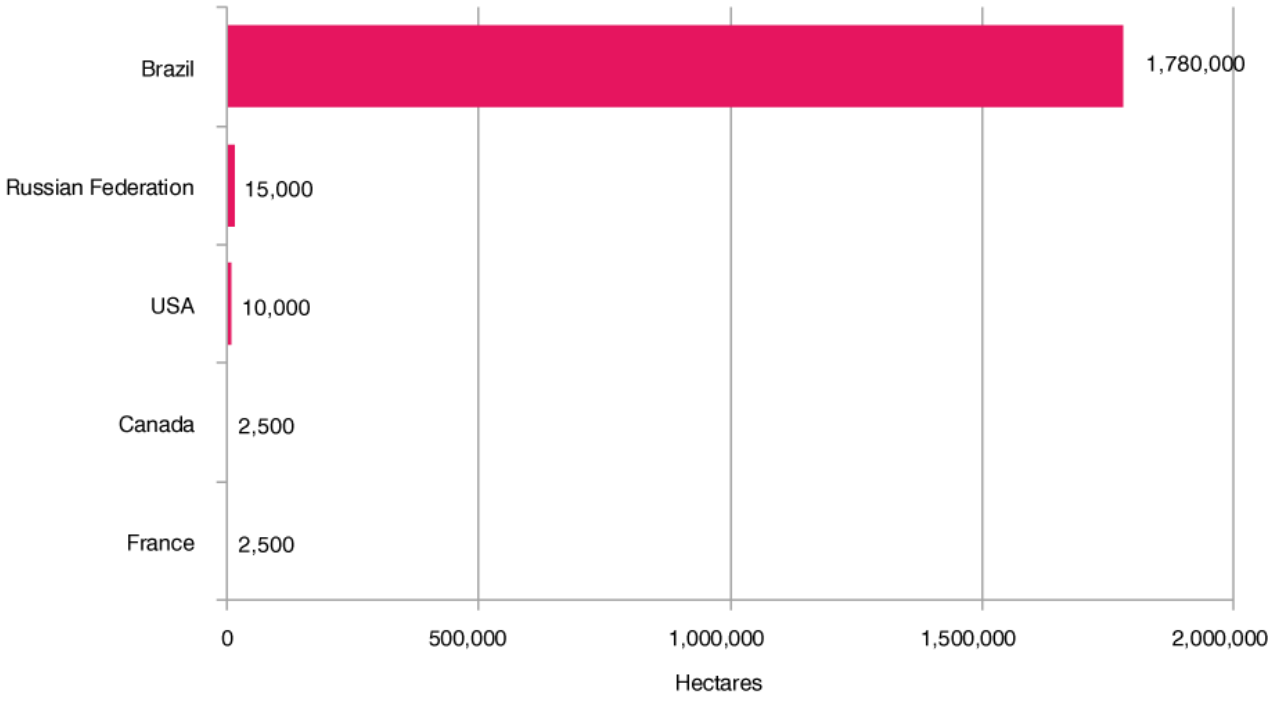
***Source**:* ProTerra Foundation, 2016.

Figure 59: ProTerra Foundation: Production volume, 2013–2015



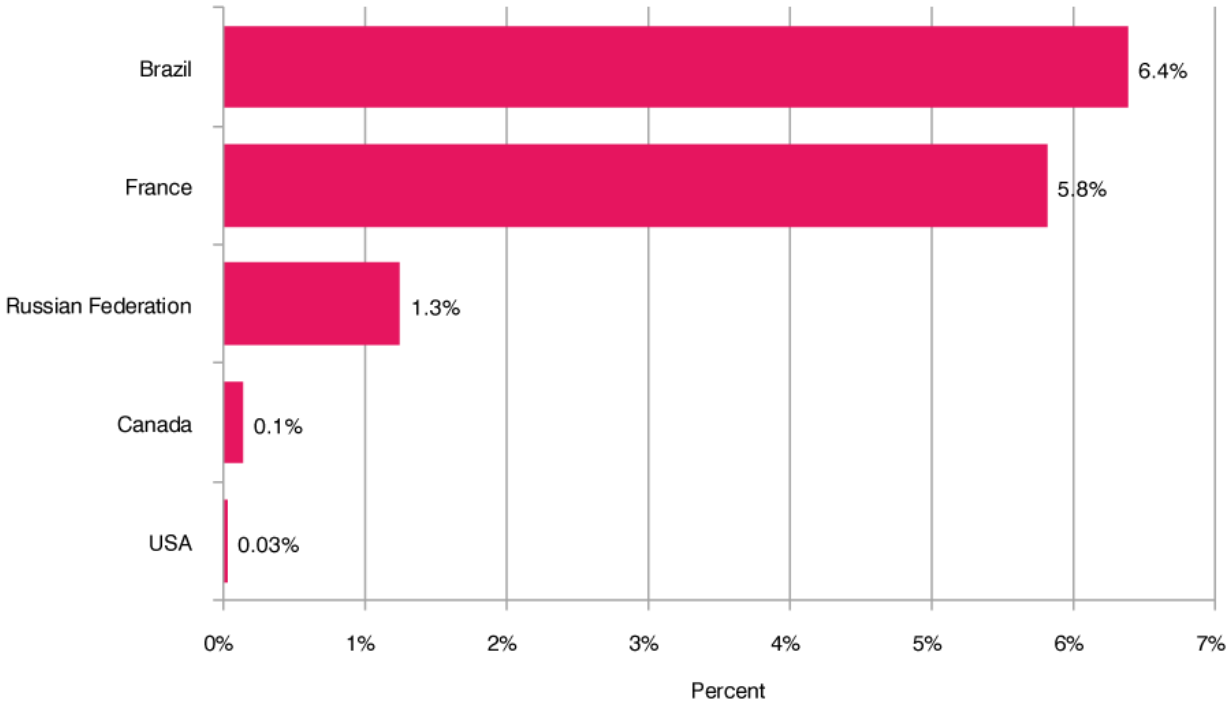
***Source**:* ProTerra Foundation, 2016.

Figure 60: ProTerra: 2015 close-up – Top countries by area



***Source**:* ProTerra Foundation, 2016.

Figure 61: ProTerra: Top 10 countries (percentage of total soybean area), 2015



***Source**:* ProTerra Foundation, 2016.

Rainforest Alliance/Sustainable Agriculture Network

Founded in 1987, the Rainforest Alliance/Sustainable Agriculture Network (RA/SAN) is a member-based initiative operating in the food and agriculture sector across 43 countries. The Rainforest Alliance and SAN jointly own an agriculture certification and chain-of-custody system that provides an approach for developing standards, undertaking conformity assessment and traceability, and marketing their products.

SAN is a coalition of independent conservation groups in the Americas, Africa, Asia and Europe that promote the social and environmental sustainability of agricultural activities by developing standards and supporting technical assistance. SAN is the sole standard-setting body for Rainforest Alliance Certified™ agricultural products.

The Rainforest Alliance manages labelling and marketing support of SAN-compliant products. It owns the trademark and manages the traceability, labelling and marketing of SAN/Rainforest Alliance Certified products. Farms meeting the requirements of the SAN standard can sell their products as Rainforest Alliance Certified and use the Rainforest Alliance trademarks.

The newly adopted 2017 SAN Standard includes a "Continuous Improvement Framework" which recognizes sustainability as a path and a process over time. The new standard strengthens the entry requirements for certification with 14 new critical criteria, for a set of 37 Critical Criteria in all – 30% of all criteria for crop farms. The levels are defined as Good (C), Better (B) and Best (A) performance. The continuous improvement framework requires farms to reach level B within three years and Level A within six years (SAN 2016).

In 2015, RA/SAN certified almost 3 million hectares of a wide variety of commodities, managed by almost 1.3 million producers. The product with the largest area was cocoa, with 738,000 hectares, followed by tea (472,000 hectares) and coffee (405,000 hectares). Most of the RA/SAN-certified area was in Africa (57%), followed by Latin America (24%), Asia (17%) and Europe (2%). Côte d'Ivoire had the largest area (456,000 hectares), followed by Kenya (201,000 hectares) and India (153,000 hectares). Since 2010, the RA/SAN certified area has increased threefold.

In June 2017, the Rainforest Alliance and UTZ announced their intention to merge. The new organisation, to be named the Rainforest Alliance, will tackle environmental and social issues around the world. They aim to publish a new unified standard in early 2019. Until then, both programs will continue to provide the same services they currently offer (www.rainforest-alliance.org/article/rainforest-alliance-utz-merger).

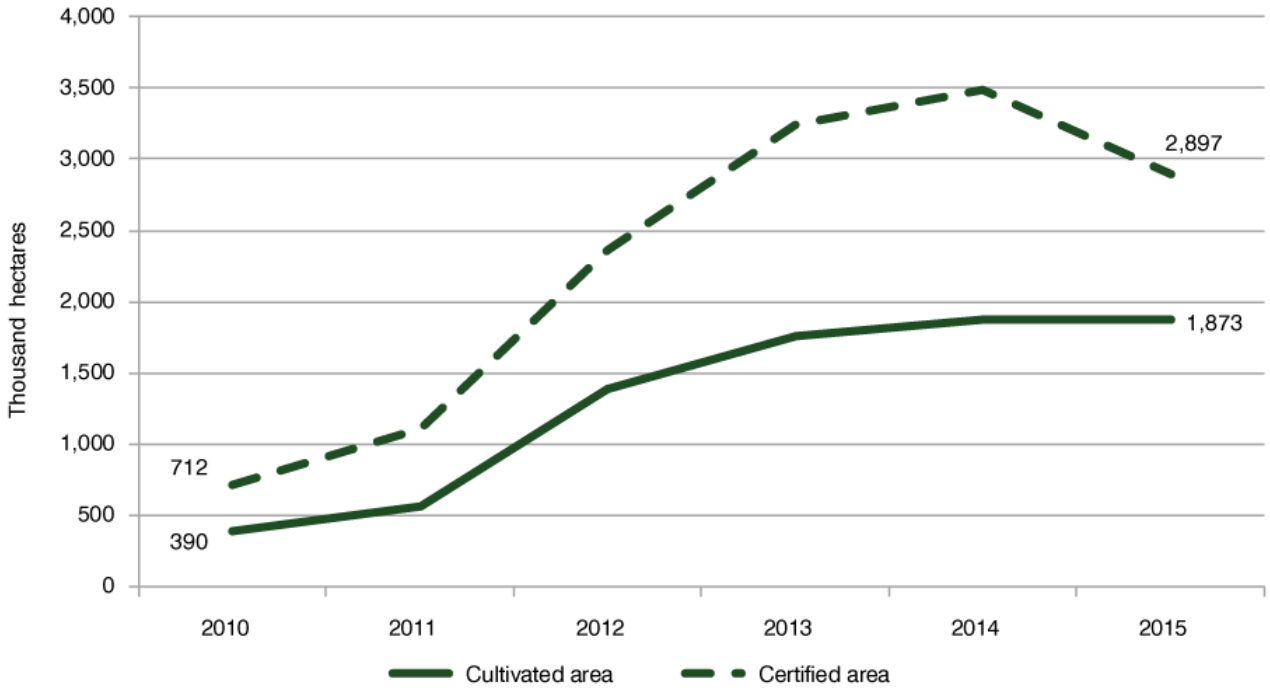
More information is available at www.rainforest-alliance.org. For more information on RA/SAN commodities, see Chapter 3.

Table 12: Rainforest Alliance/Sustainable Agriculture Network: Key indicators

Rainforest Alliance/Sustainable Agriculture Network 2015	
Certified area [hectares]	2,896,978
Cultivated area [hectares]	1,872,867
Certificate holders [no.]	1,777
Producers [no.]	1,225,795

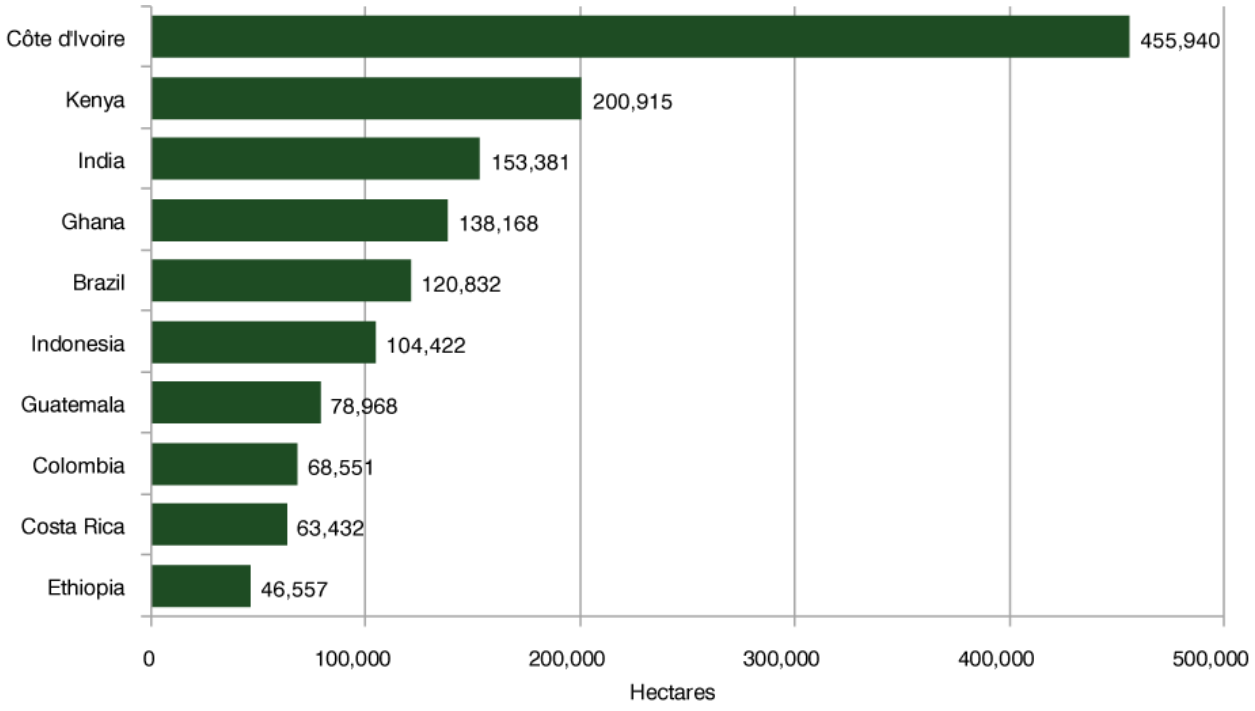
Note: The data presented in this table cover all RA/SAN commodities. "Certified Area" refers to the entire farm, including infrastructure, set-aside, and any other non crop-bearing land, while "Cultivated Area" refers only to the land on which crops are grown.
Source: Rainforest Alliance/Sustainable Agriculture Network (RA/SAN), 2016.

Figure 62: Rainforest Alliance/Sustainable Agriculture Network: Certified area, 2008–2015



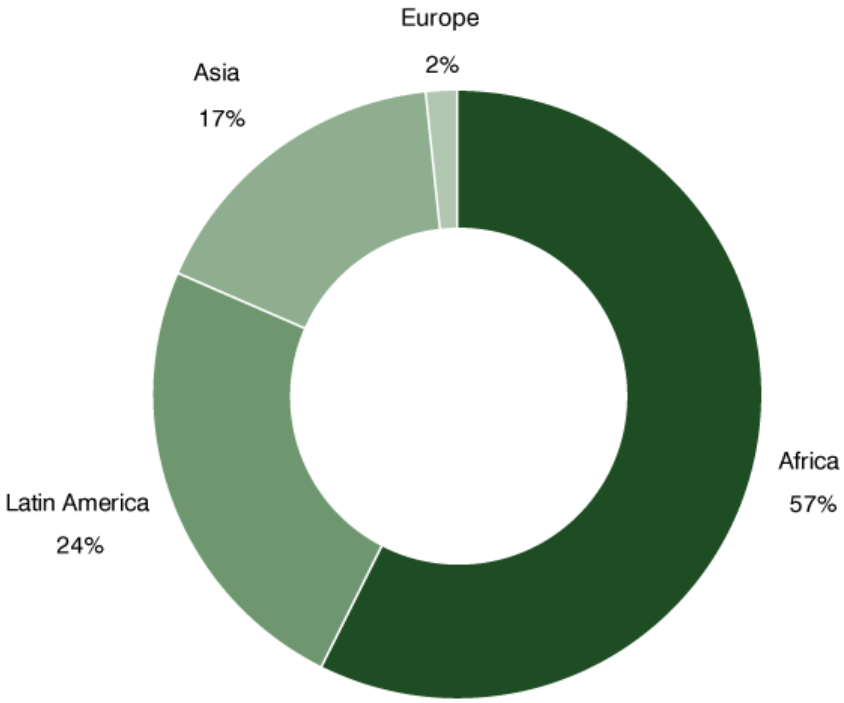
Note: "Certified Area" refers to the entire farm, including infrastructure, set-aside, and any other non crop-bearing land, while "Cultivated Area" refers only to the land on which crops are grown.
Source*:* Rainforest Alliance/SAN, 2014, 2015 and 2016.

Figure 63: Rainforest Alliance/Sustainable Agriculture Network: 2015 close-up – Top 10 countries by area



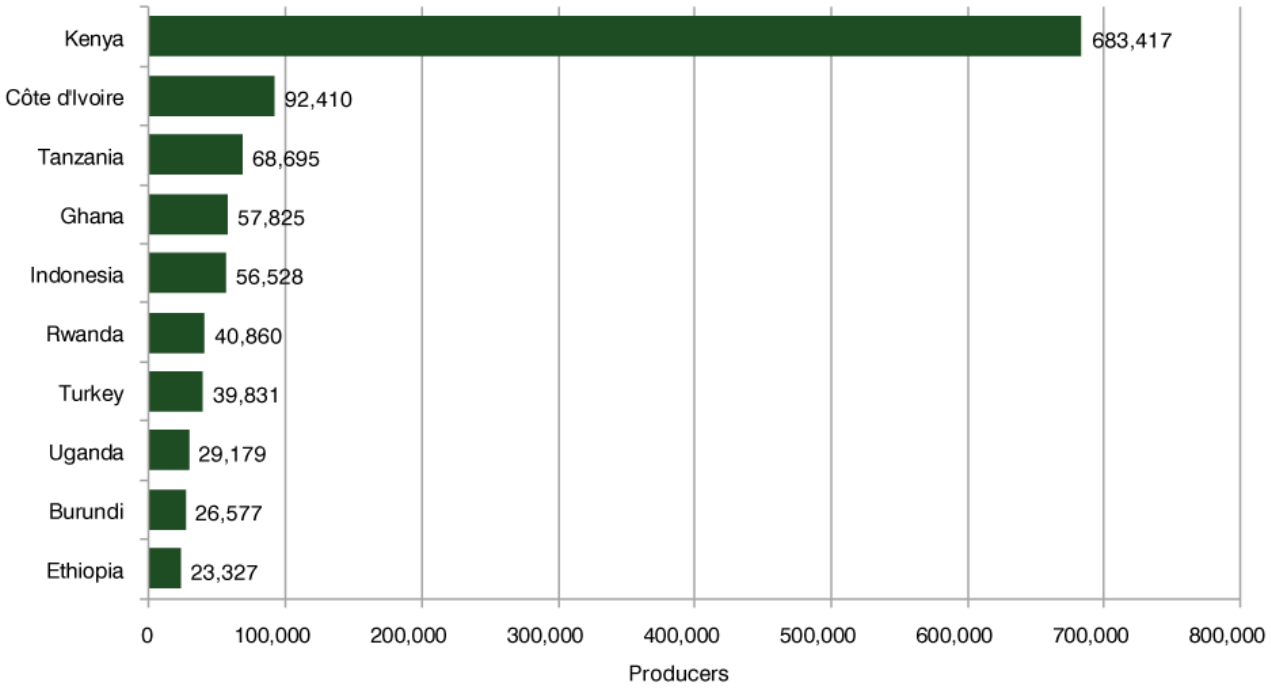
Source*:* Rainforest Alliance/SAN, 2016.

Figure 64: Rainforest Alliance/Sustainable Agriculture Network: Area by region, 2015



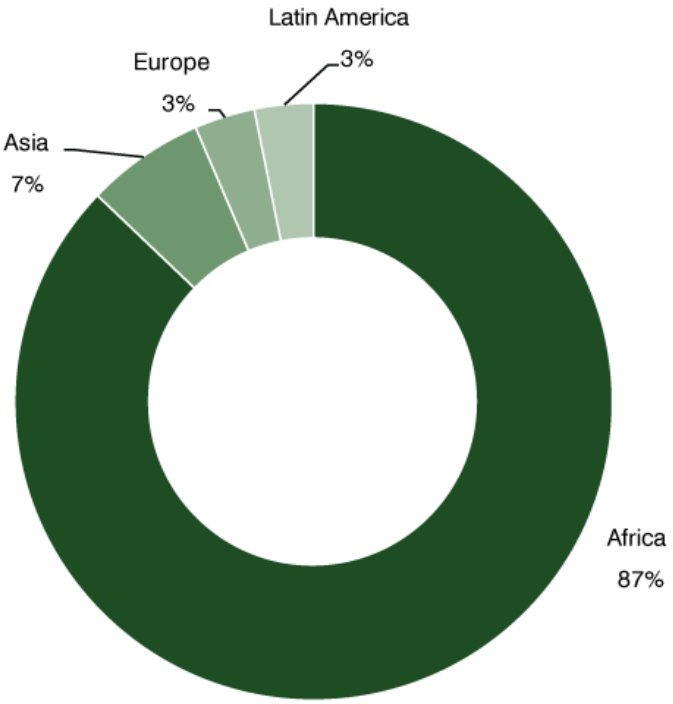
***Source**:* Rainforest Alliance/SAN, 2016.

Figure 65: Rainforest Alliance/Sustainable Agriculture Network: Top 10 countries by certified producers, 2015



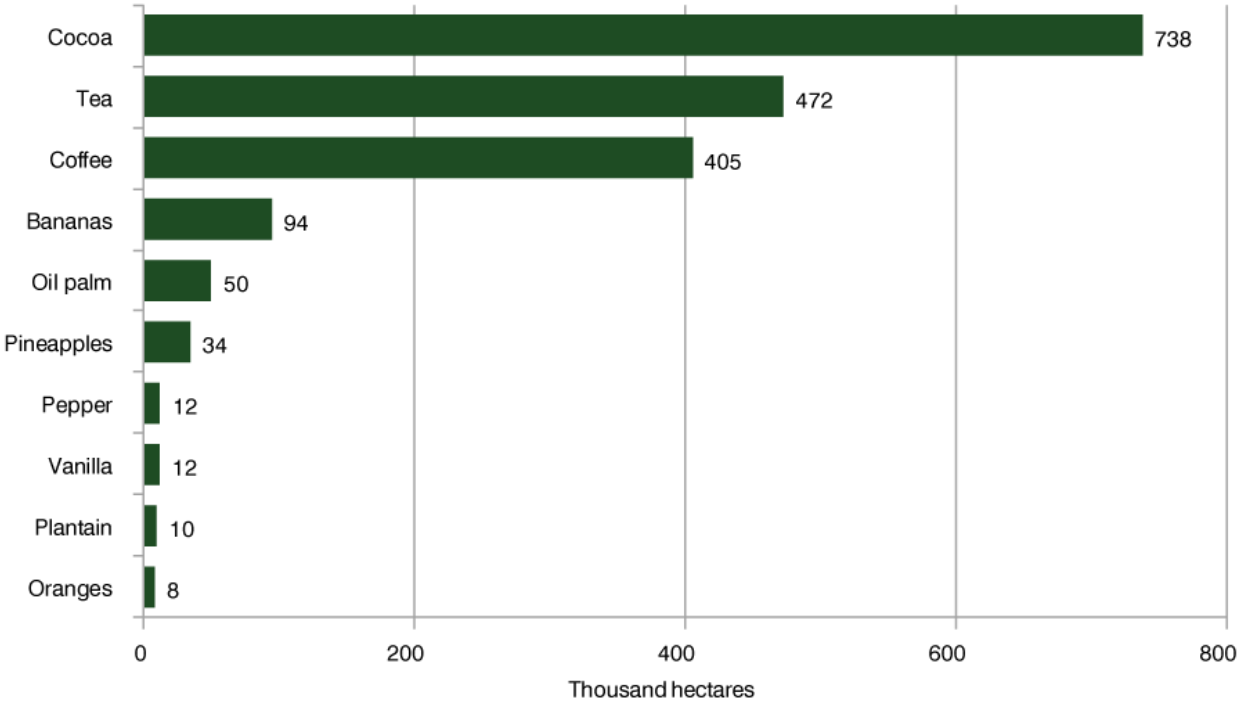
***Source**:* Rainforest Alliance/SAN, 2016.

Figure 66: Rainforest Alliance/Sustainable Agriculture Network: Producers by region, 2015



***Source**:* Rainforest Alliance/SAN, 2016.

Figure 67: Rainforest Alliance/Sustainable Agriculture Network: Top 10 products by area, 2015



***Source**:* Rainforest Alliance/SAN, 2016.

Roundtable on Sustainable Palm Oil

Founded in 2004, the Roundtable on Sustainable Palm Oil (RSPO) is a member-based initiative operating in the palm oil sector across 43 countries, with 15 countries producing RSPO-certified oil palm. The initiative aims to achieve mainstream market uptake of palm oil production and processing.

To this end, the Task Force on Smallholders was initiated to promote smallholder participation in RSPO. In addition to the Task Force, RSPO has established the RSPO smallholders fund to provide the resources required for smallholders to adhere to their standard.

Palm oil producers are certified by accredited certifying bodies through verification of the production process in keeping with the RSPO principles and criteria. Certification can be withdrawn at any time in case of infringement of the rules and standards. Elements of the RSPO certification scheme include the standard itself, accreditation, and the process requirements. RSPO principles and criteria are developed and revised every five years (RSPO, 2016).

In 2015, almost 3.5 million hectares of oil palm were RSPO-certified, representing 0.07% of the global agricultural land and 18.5% of the global oil palm area. Almost 13 million metric tons of palm oil were produced under the RSPO standards. The largest areas were in Indonesia (almost 1.3 million hectares), Malaysia (almost 1.2 million hectares), and Papua New Guinea (143,000 hectares). Asia has 86% of the RSPO area, followed by Latin America (7%) and Oceania (5.5%). Since 2008, the RSPO-certified area increased more than 38 times, and a 32% growth rate was reported between 2014 and 2015.

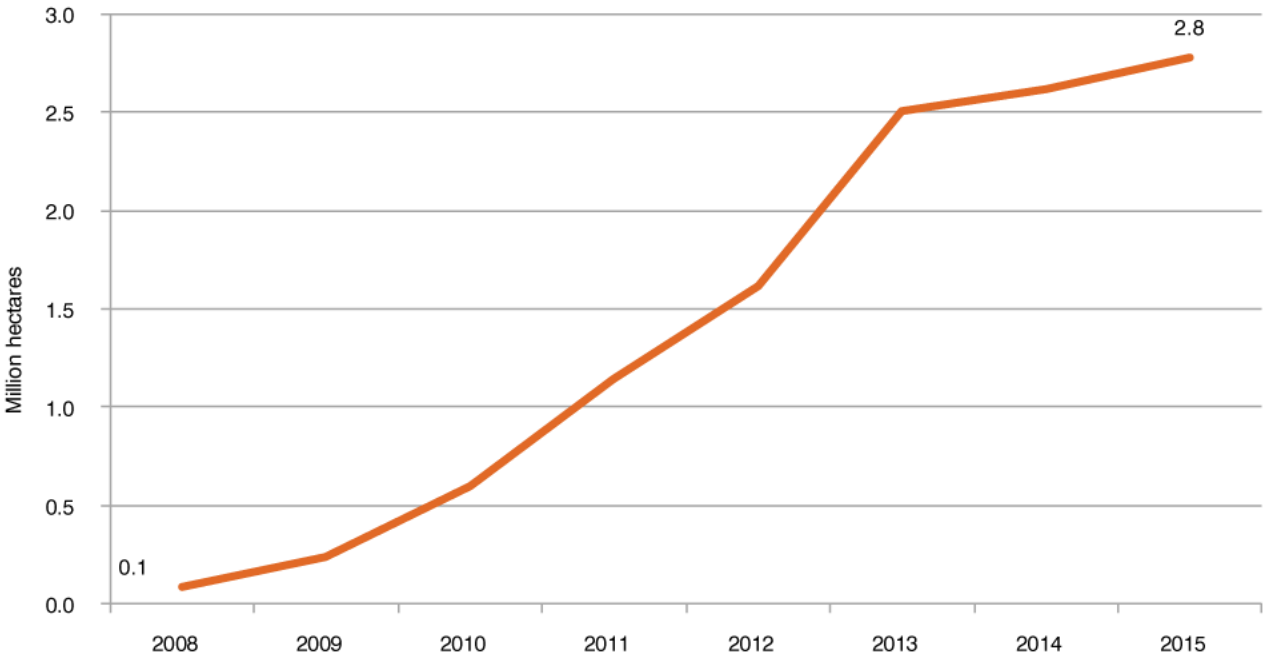
More information is available at www.rspo.org. For more information on RSPO oil palm, see Chapter 3.

Table 13: Roundtable on Sustainable Palm Oil: Key indicators

Roundtable on Sustainable Palm Oil (RSPO) 2015	
Certified area [hectares]	3,463,598
Cultivated area [hectares]	2,773,999
Share of RSPO area of global agricultural land [%]	0.07
Share of RSPO oil palm area of global oil palm area [%]	18.5
Palm oil: Production volume [metric tons]	12,886,070
Palm kernel: Production volume [metric tons]	2,996,574
Certificate holders [no.]	2,588

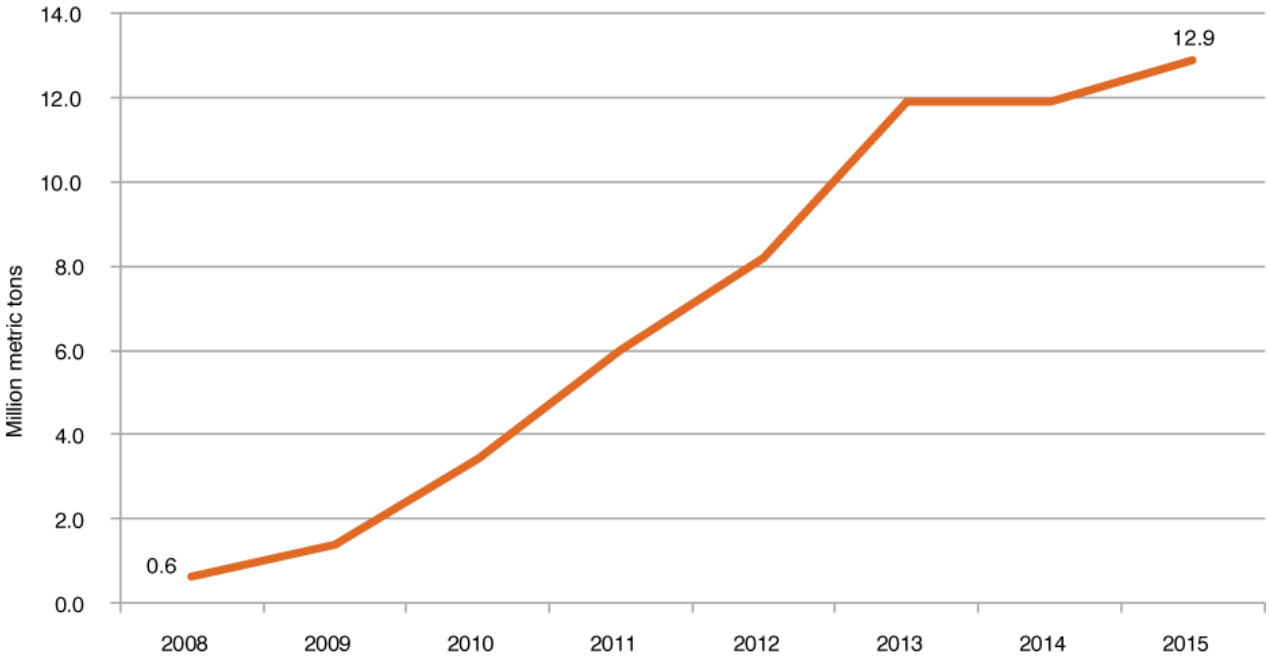
***Source**:* Roundtable on Sustainable Palm Oil (RSPO), 2016.

Figure 68: Roundtable on Sustainable Palm Oil: Cultivated area, 2008–2015



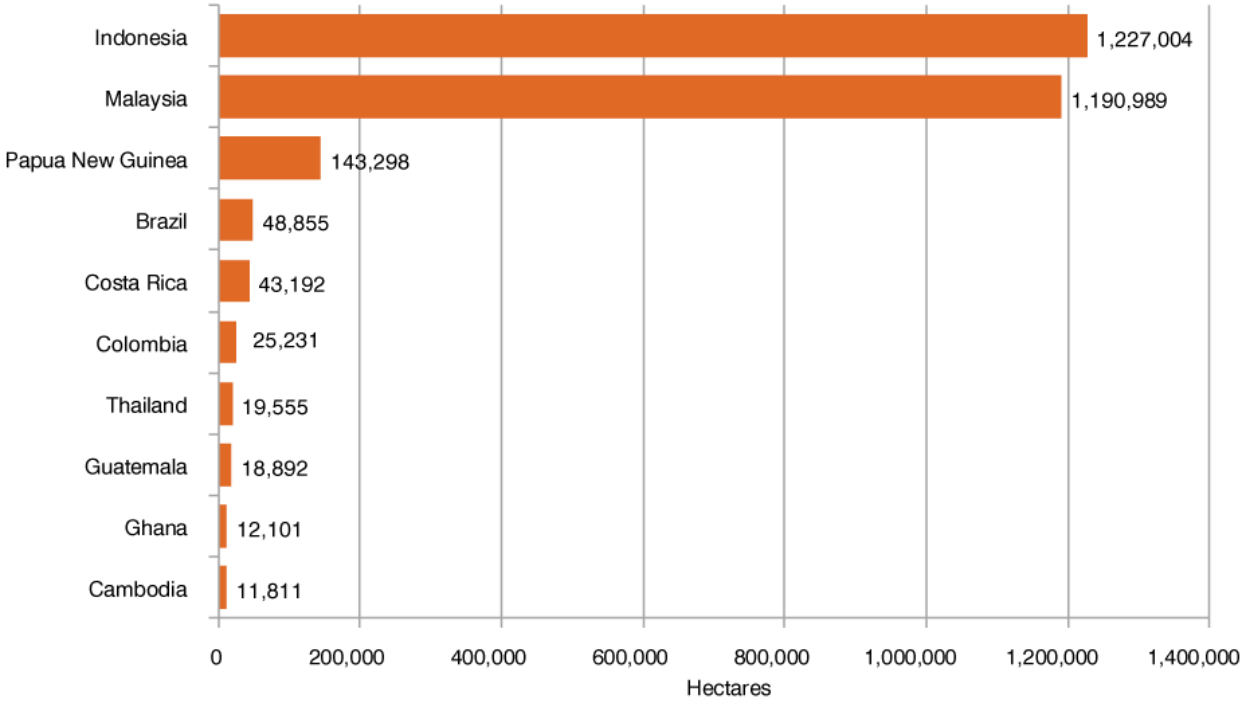
***Source**:* Roundtable on Sustainable Palm Oil (RSPO) 2014, 2015 and 2016.

Figure 69: Roundtable on Sustainable Palm Oil: Palm oil production volume, 2008–2015



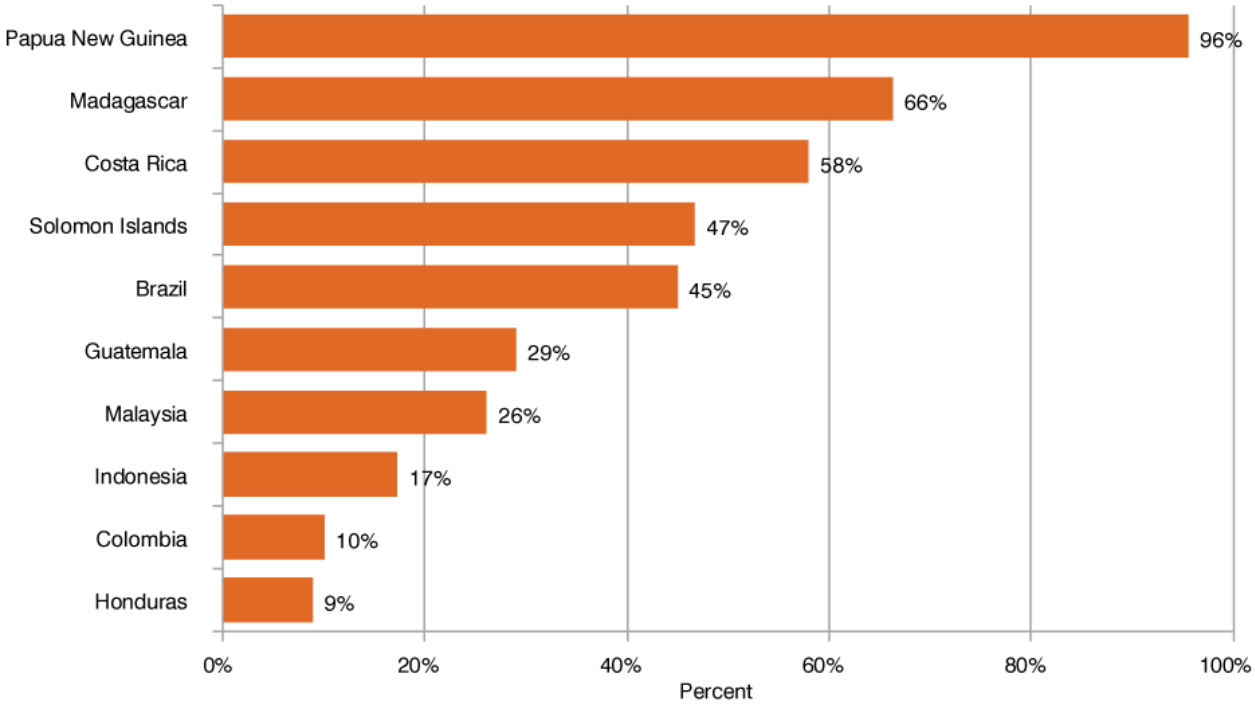
***Source**:* Roundtable on Sustainable Palm Oil (RSPO) 2014, 2015 and 2016.

Figure 70: Roundtable on Sustainable Palm Oil: 2015 close-up – Top countries by area



***Source**:* Roundtable on Sustainable Palm Oil (RSPO), 2016.

Figure 71: Roundtable on Sustainable Palm Oil: Top 10 countries (percentage of total oil palm area), 2015



***Source**:* Roundtable on Sustainable Palm Oil (RSPO), 2016.

Round Table on Responsible Soy

Founded in 2006, the Round Table on Responsible Soy (RTRS) is a member-based initiative functioning as a multi-stakeholder platform that works to achieve responsible soy value chains. The initiative develops and manages product and chain-of-custody standards for responsible soy production and operates across 25 countries. RTRS offers a generic set of principles and criteria explicitly designed to apply to genetically modified, conventional and organic production systems.

In 2016, RTRS approved Version 3.0 of the RTRS Soy Production Standard. Its provisions allow certification of zero deforestation, as from June 2016 no conversion of areas designated for natural conservation is permitted. Under the new standard, areas under protection since 2009 remain protected as well.

RTRS certified almost 734,977 hectares in 2015, representing 0.02% of the global agricultural area and 0.6% of the global soybean area. Almost 10,800 producers harvested almost 2.3 million metric tons of soybeans worldwide.

Brazil had the largest RTRS area (431,238 hectares), followed by Argentina (211,600 hectares). Since 2011, the RTRS-certified area increased almost fivefold, and between 2014 and 2015, a growth rate of almost 52% was noted.

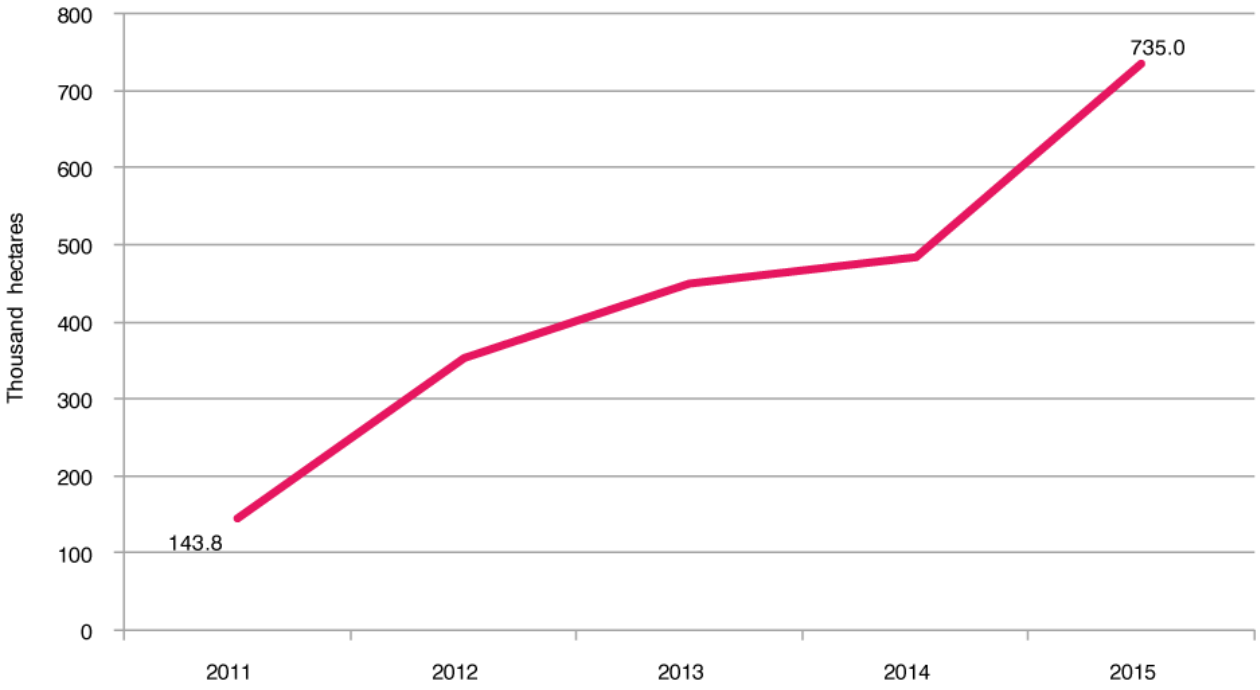
More information is available from www.responsiblesoy.org. For more information on RTRS soybeans, see Chapter 3.

Table 14: Round Table on Responsible Soy: Key indicators

Round Table on Responsible Soy (RTRS) 2015	
Area [hectares]	734,977
Share of RTRS area of global agricultural land [%]	0.02
Share of RTRS soybean area of global soybean area [%]	0.6
Production volume [metric tons]	2,341,609
Production volume sold under the label [metric tons]	2,359,310
Producers [no.]	10,788

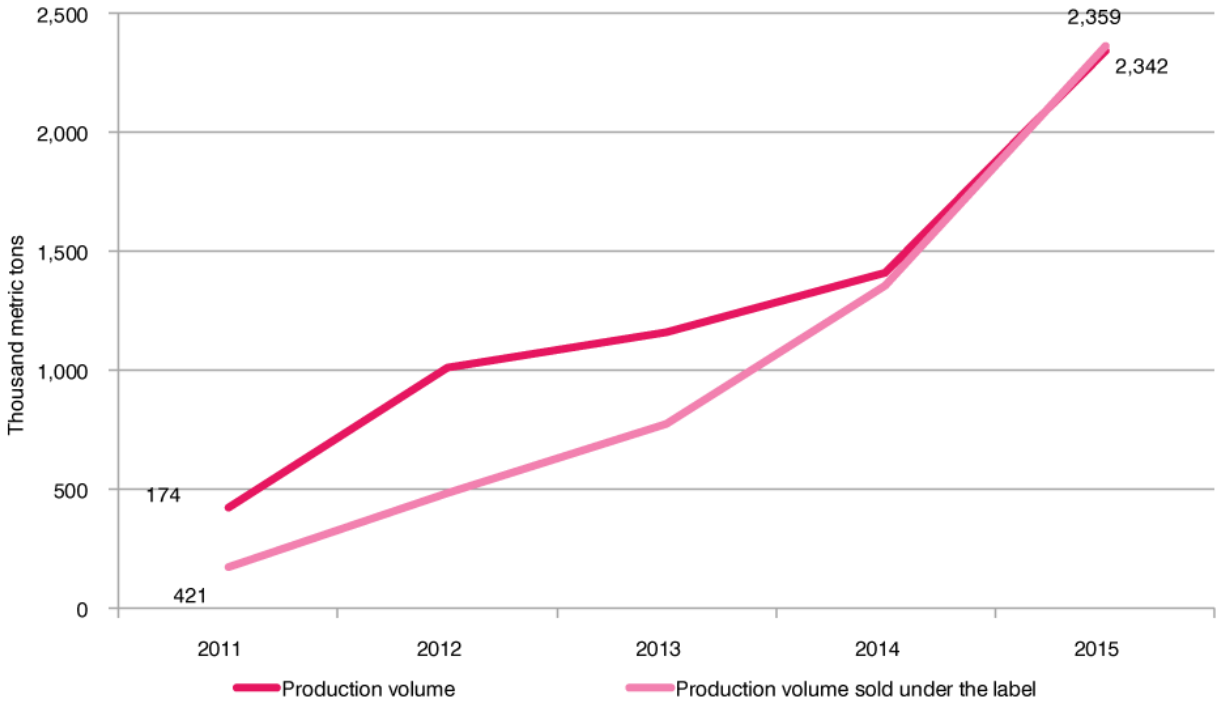
Source: Round Table on Responsible Soy (RTRS), 2016.

Figure 72: Round Table on Responsible Soy: Certified area, 2011–2015



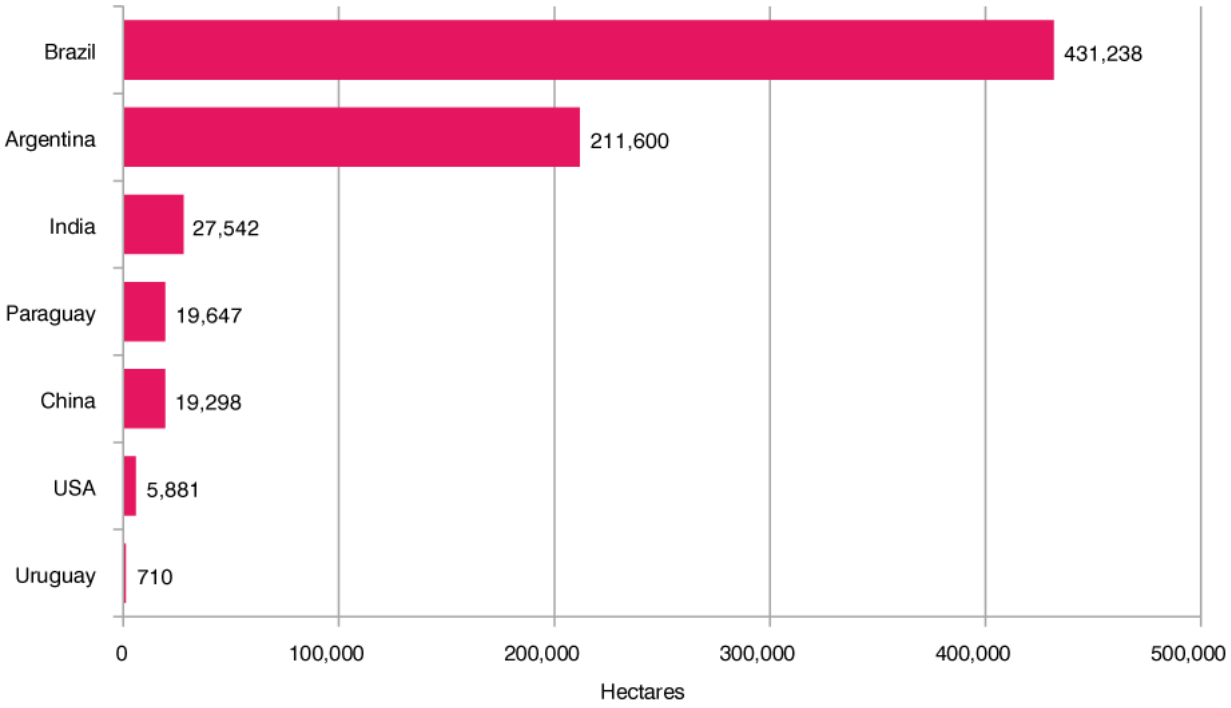
***Source**:* Round Table on Responsible Soy (RTRS), 2016.

Figure 73: Round Table on Responsible Soy: Production volume and production volume sold under RTRS label, 2011–2015



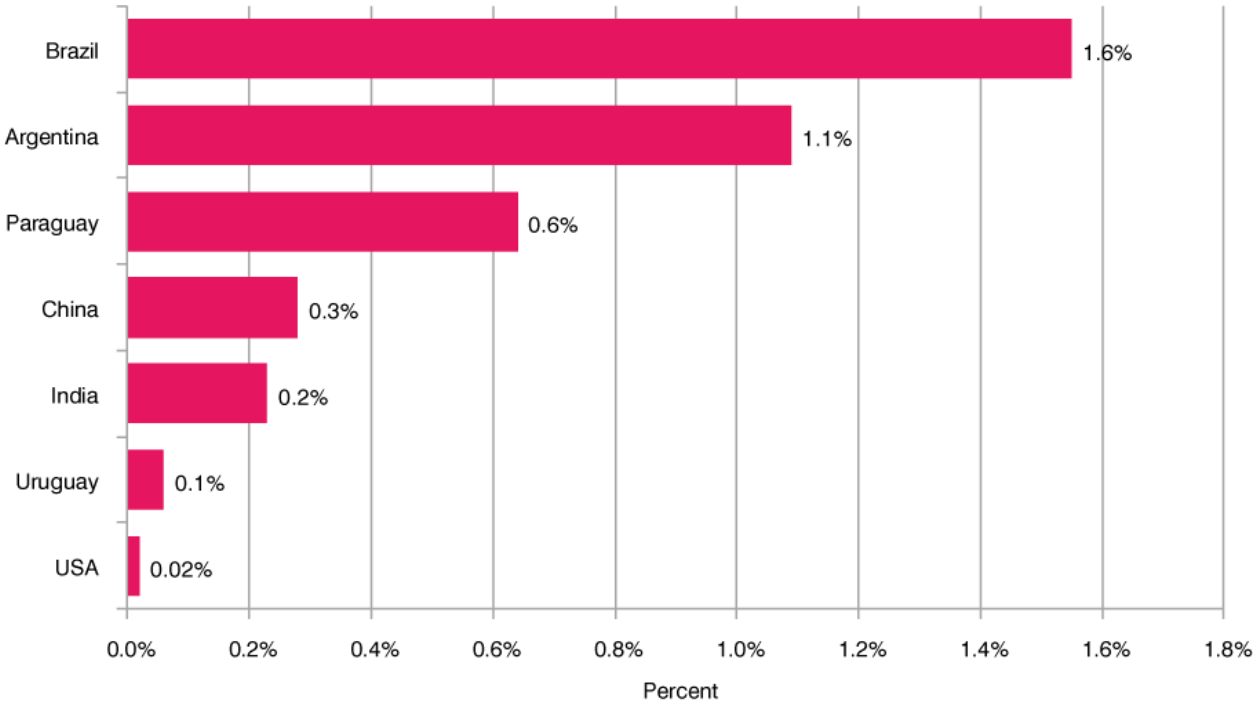
Note: Stocked production from previous years might be sold in the following year; hence, for some years the volume sold under the label might be higher than the year's production.
***Source**:* Round Table on Responsible Soy (RTRS), 2016.

Figure 74: Round Table on Responsible Soy: 2015 close-up – Top countries by area



***Source**:* Round Table on Responsible Soy (RTRS), 2015.

Figure 75: Round Table on Responsible Soy: Top 10 countries (percentage of total soybean area)



***Source**:* Round Table on Responsible Soy (RTRS), 2016.

UTZ

Founded in 2002, UTZ is a multi-stakeholder initiative operating in the food and agriculture sector across 41 countries. Born from the vision of a Guatemalan coffee grower and a Dutch coffee roaster, UTZ has grown into an independent, non-governmental, not-for-profit organization. UTZ certifies cocoa, coffee, tea and hazelnut production in various parts of the world.

To become certified, all UTZ suppliers have to follow a Code of Conduct, which offers expert guidance on better farming methods, working conditions and care for nature. UTZ invests in evaluation and measuring impact (UTZ 2016). It has developed rigorous measurement and traceability systems which have been adopted by other standards.

RSPO, for example, uses an e-trace system developed and managed by UTZ for enhanced traceability in its palm oil supply chains. Similarly, the Sustainable Rice Platform has benefited from UTZ's guidance and expertise in the development of its own standard.

In 2015, cocoa, coffee and tea covered 2.1 million hectares worldwide, representing 0.05% of the global agricultural area. Cocoa was the largest UTZ-certified product, with 1.5 million hectares, representing almost 15% of the global cocoa are, and 72% of the total UTZ-certified area. UTZ coffee was grown on over 549,000 hectares, or 5.2% of the global coffee area (26% of UTZ's certified area). UTZ tea was grown on almost 48,000 hectares, 1.3% of the global tea area.

In 2015, there were over 667,000 producers operating under UTZ standards. Côte d'Ivoire has the largest UTZ area (827,473 hectares), followed by Ghana (almost 298,000 hectares) and Brazil (over 139,024 hectares). Since 2011, the UTZ-certified area has more than doubled, and between 2014 and 2014, it registered 5% growth.

In June 2017, the Rainforest Alliance and UTZ announced their intention to merge. The new organisation, to be named the Rainforest Alliance, will tackle environmental and social issues around the world. They aim to publish a new unified standard in early 2019. Until then, both programs will continue to provide the same services they currently offer (www.utz.org/merger).

More information is available at www.utzcertified.org. For more information on UTZ commodities, see Chapter 3.

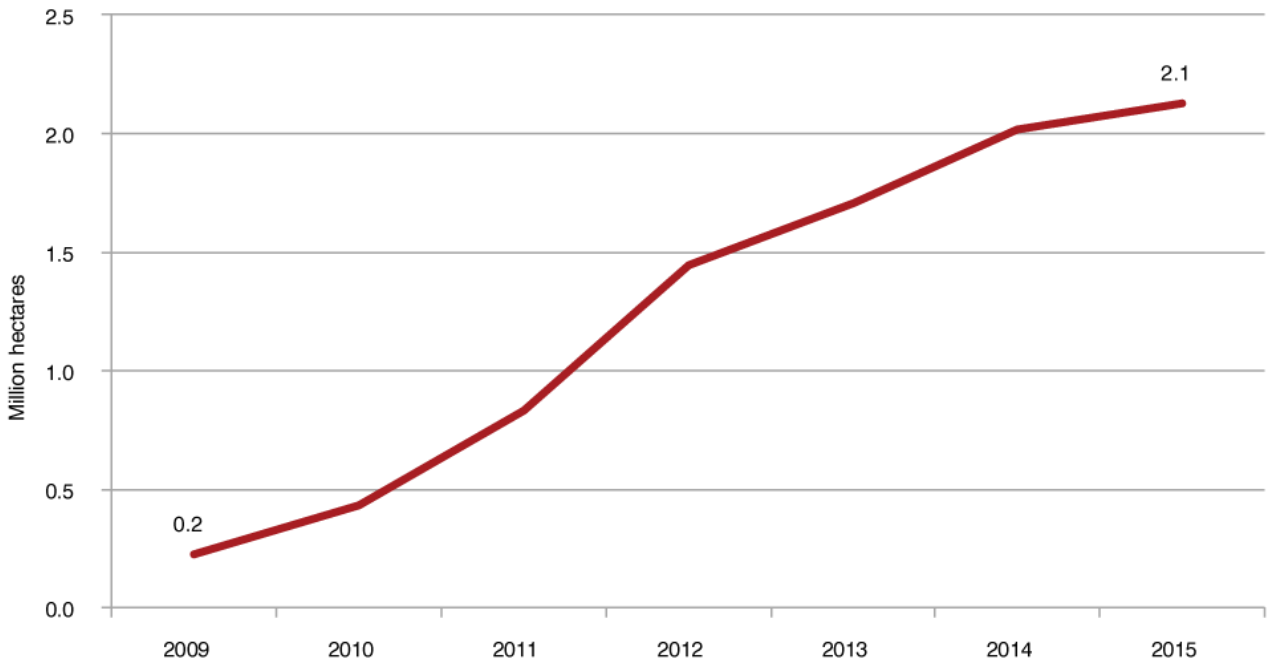
Table 15: UTZ: Key indicators

UTZ (Cocoa, coffee and tea) 2015	
Area [hectares]	2,126,995
Share of UTZ area of global agricultural land [%]	0.05
Share of UTZ cocoa, coffee, and tea area of total cocoa, coffee, and tea area [%]	10.09%
Estimated production volume [metric tons][24]	1,825,296
Production volume sold under the label [metric tons]	825,864
Certificate holders [no.]	1,151
Producers [no.]	667,033

Source: UTZ, 2016.

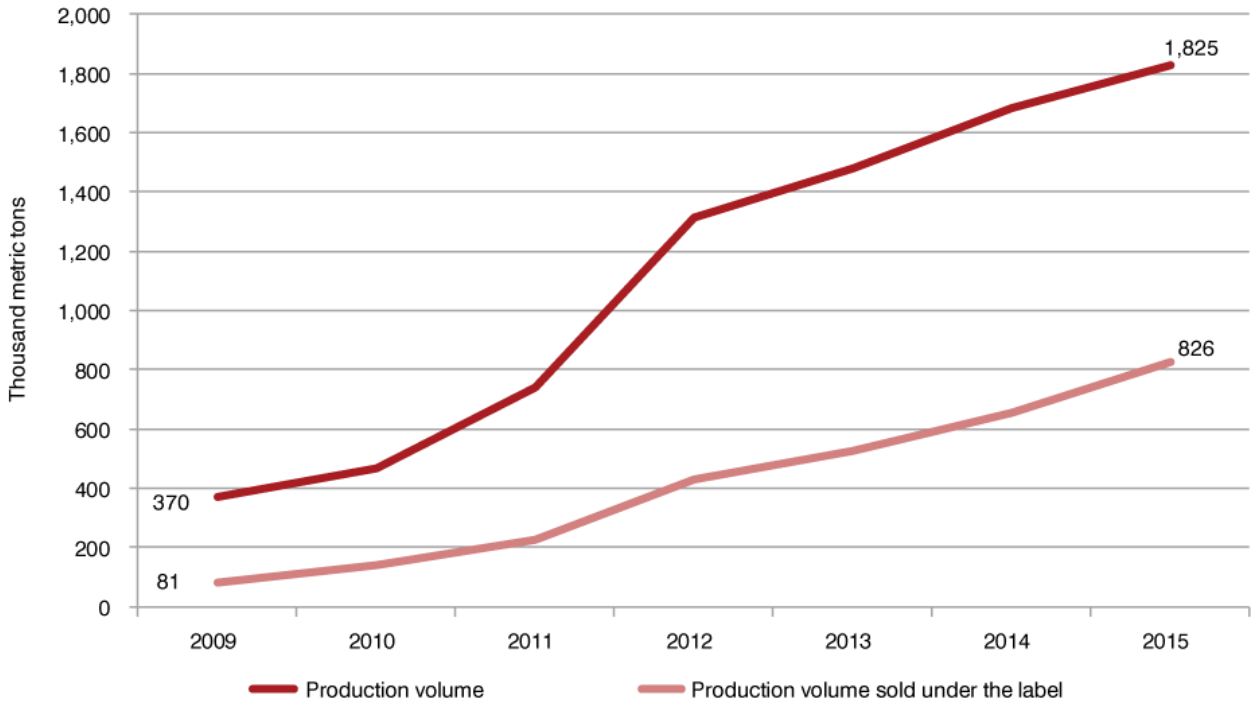
[24] UTZ defines certified volume as the estimated production potential.

Figure 76: UTZ: Certified area, 2009–2015



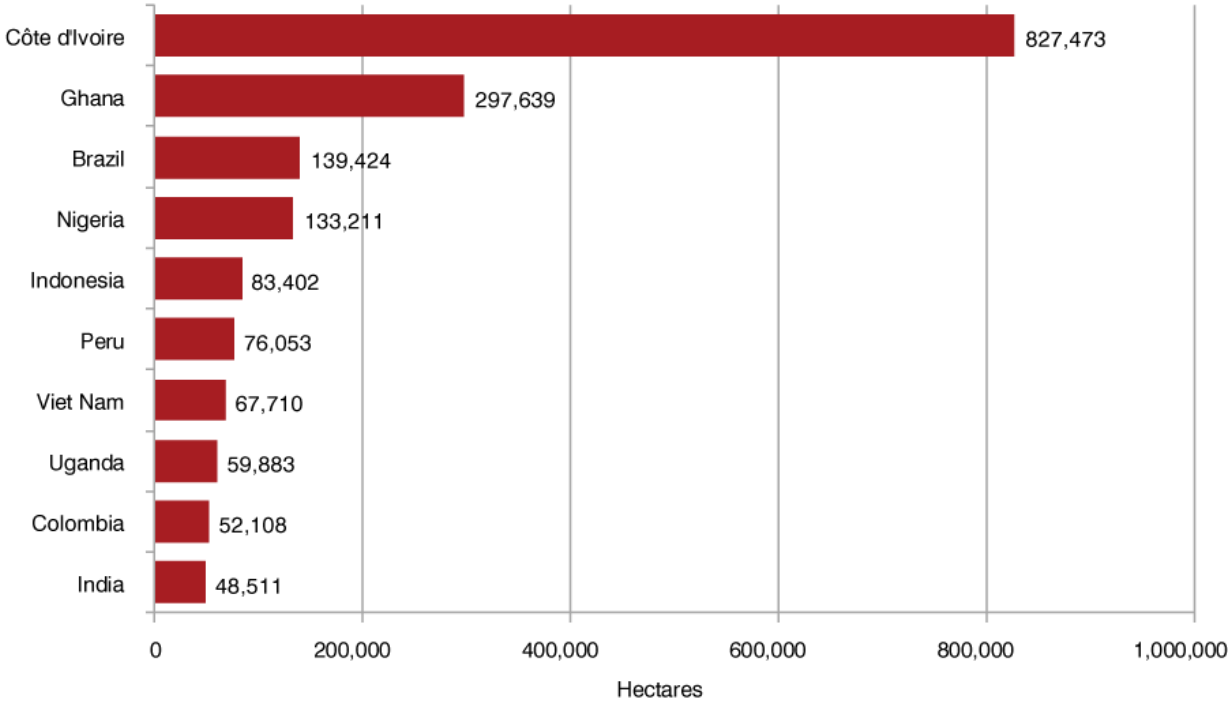
***Source**:* UTZ, 2014, 2015 and 2016.

Figure 77: UTZ: Production volume and production volume sold under the UTZ label, 2009–2015



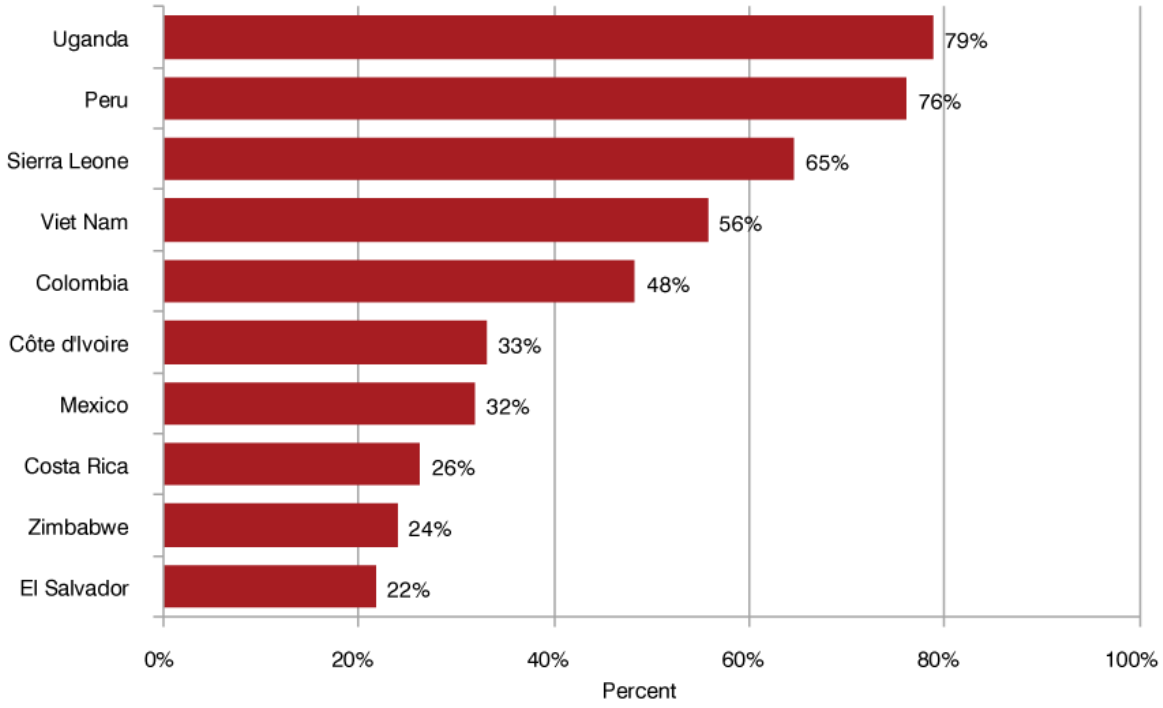
Source: UTZ, 2014, 2015 and 2016.

Figure 78: UTZ: 2015 close-up – Top 10 countries by area



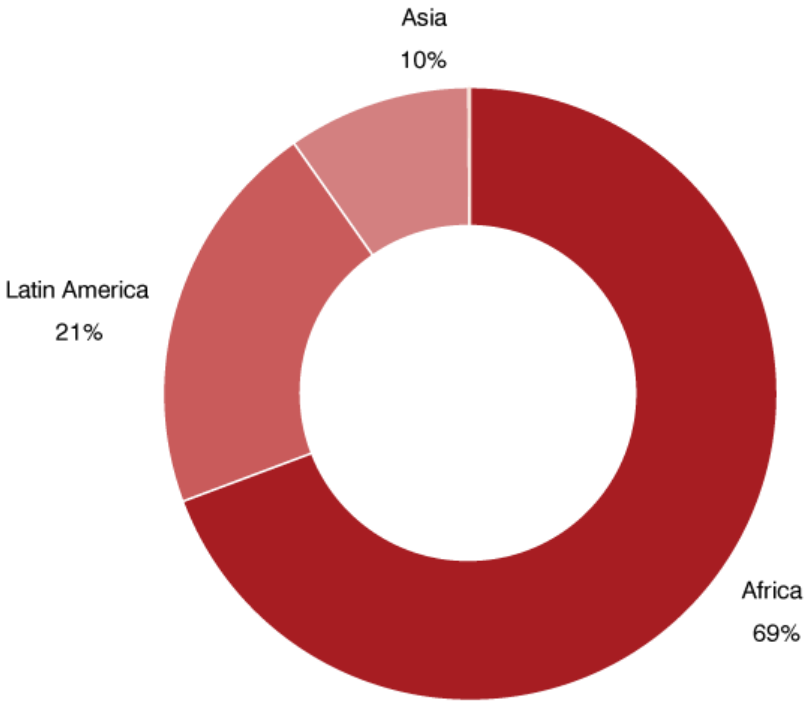
Source: UTZ, 2016.

Figure 79: UTZ: Top 10 countries (percentage of total cocoa, coffee, and tea area), 2015



Source*:* UTZ, 2016.

Figure 80: UTZ: Area by region, 2015



***Source**:* UTZ, 2016.









CHAPTER 3

FAST GROWTH IN AGRICULTURE AND FORESTRY

CHAPTER 3 FAST GROWTH IN AGRICULTURE AND FORESTRY

In the following section, the latest market and statistical data on the selected agricultural products – bananas, cocoa, coffee, cotton, oil palm, soybeans, sugarcane and tea – are presented by standard. The data cover the area, production volume, producers, and area and production volume shares of the overall total for each product.

The end of the section presents the latest data on FSC and PEFC certified forestry.

Bananas

A product with sustainability concerns

With more than 100 million metric tons of annual production, bananas are among the world's most important staple food crops, along with corn (1 billion metric tons), rice (700 million metric tons), wheat (700 million metric tons), potatoes (400 million metric tons) and cassava (300 million metric tons) (FAOSTAT, 2017).[25]

In 2014, 114 million metric tons of bananas were produced, more than half of them in the five largest producing countries: India (19%), China (9%), Uganda (7%), Philippines (6%) and Brazil (5%) (FAOSTAT, 2017).[26] Less than 20% of production is traded on international markets, valued at more than $10 billion in 2014 (compared to $49 billion for wheat, $35 billion for maize and $24 billion for rice) (United Nations, 2016).

The lion's share of banana production occurs in developing nations; the largest developed-country producers, Australia and Spain, together account for 0.6% of production. The most important sustainability concerns surrounding banana production are low wages; worker health and safety; workers' rights, including child labour; lack of biodiversity at the species and farm level; and agrochemical use and application methods.

The banana industry is the world's second largest consumer of agrochemicals after cotton (Banana Link, 2016d). About half of total production, and virtually all production destined for international trade, consists of genetic clones called the "Cavendish" banana, and is cultivated in monocultures. The combined forces of low genetic and farm-level biodiversity have made bananas especially susceptible to blights, notably Black Sigatoka and Panama Disease. Black Sigatoka is controllable only with large amounts of fungicides (The Economist, 2014,). Panama Disease is responsible for the eradication of its predecessor, the "Gros Michel" in the 1950s, and there are currently no forms of treatment (Wageningen University, 2017b).[27]

As in the tea sector, commercial banana production systems operate largely as enclave economies, and workers rely on estate managers for proper safety equipment, health care, and living facilities. The handling of agrochemicals without proper safety equipment, and risks associated with aerial spraying, are just some of the concerns regarding workers' rights on these estates[28]. Workers receive as little as 1-to-3% of the commercial price of a banana. This gives them an income that is sometimes below a living wage and encourages the use of child labour (Banana Link, 2016a; The Economist, 2002). Violence against trade union workers has been another major problem (Banana Link, 2016b).

The working and living conditions on banana estates led civil society campaigners and alternative trade movements in the 1980s and 1990s to proclaim that banana production was fuelling a "race to the bottom" (FAO, 2005; Potts et al., 2014). These claims, made against the backdrop of human rights abuses and

[25] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

[26] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

[27] The Cavendish replaced the Gros Michel due to its higher disease resistance. However, a new strain of the disease has infected several thousand hectares of plantations in China, Indonesia, Malaysia and the Philippines.

[28] See, for example, Jood et al., 2016 and Barraza et al., 2011. Litigation involving cases of sterility arising among plantation workers from the 1960s to 1980s as a result of the use of the pesticide DBCP is ongoing (Reuters, 2016).

exploitation dating back to the development of the Central American "banana republics" in the 1880s, helped drive the development of the major voluntary standards in the sector, including Fairtrade, GLOBALG.A.P., RA/SAN and organic.

Just four companies – Chiquita (United States of America), Fyffes (Ireland), Dole (United States of America), and Del Monte (United States of America) – currently account for more than 40% of the world's banana trade (Banana Link, 2016a). This figure is, however, down from 62% in 2002, and has been decreasing since the 1980s (Banana Link, 2016a, 2016c). Chiquita has committed to certifying its entire banana supply against the RA/SAN standard. Fyffes is currently the largest importer of Fairtrade bananas in the European Union (EU). While standard compliant production currently plays a major role in the global banana trade, more than half of which goes to the EU and the United States of America, certification still plays a relatively minor role across the entire spectrum of banana production, as less than one fifth of the bananas produced globally are traded on international markets, as mentioned above.

Five countries produce nearly half of the world's bananas

Bananas were grown on more than 5.4 million hectares worldwide in 2014 (FAOSTAT, 2017).[29] This represented 0.1% of the world's agricultural land. The largest banana areas were in India (802,570 hectares), United Republic of Tanzania (505,320 hectares), Brazil (478,765 hectares), the Philippines (442,751 hectares) and China (392,000 hectares). These countries represented 48.6% of the total banana area. In 2014, 114 million metric tons were produced worldwide (FAOSTAT, 2017).

Four of the voluntary sustainability standards covered in this report – **Fairtrade International**, **GLOBALG.A.P.**, **Organic** and **RA/SAN** – certified banana production in 2015. Combined, they certified a minimum of 290,000 hectares and a maximum of 451,000 hectares (average 371,000 hectares).[30] In terms of the proportion of the VSS-certified area of the global banana area, the minimum represents 5.4%, the maximum 8.4% and the average 6.9% of the total banana area. **GLOBALG.A.P.** had by far the largest VSS-certified banana area in 2015, with more than 248,000 hectares; the largest area growth (2012–2015) was noted for **RA/SAN**, 42%.[31]

Fairtrade International certified almost 41,000 hectares of bananas in 2015, constituting 0.8% of the global banana area. Almost 808,000 metric tons were produced, representing 0.7% of the global banana production volume. The countries with the largest areas were the Dominican Republic (almost 15,000 hectares), Peru (6,930 hectares), Ecuador (6,750 hectares), Colombia (5,450 hectares) and Ghana (almost 1,340 hectares). Together, these five countries accounted for 87% of the total **Fairtrade International** banana area. Between 2012 and 2015, that area has increased by almost 30%, and by 14% between 2014 and 2015 alone

More than 248,000 hectares of bananas were **GLOBALG.A.P.**-certified in 2015, equivalent to 4.6% of the global banana area. The largest areas were in Ecuador (almost 65,000 hectares), Colombia (45,600 hectares), Guatemala (almost 26,000 hectares), Costa Rica (almost 25,000 hectares) and the Dominican Republic (14,500 hectares), representing almost 71% of the total **GLOBALG.A.P.** banana area. Between 2012 and 2015, the **GLOBALG.A.P.** banana area has declined by 7.4%, and by 1% between 2014 and 2015 alone.

Organic bananas represented almost 1% of the global banana area, or almost 53,000 hectares (estimated harvested area).[32] An estimated 1.1 million metric tons were produced in 2015, 0.9% of the world's banana production. The Dominican Republic (22,800 hectares), Ecuador (11,850 hectares), the Philippines (8,900 hectares), Peru (4,900 hectares) and Costa Rica (1,900 hectares) had the largest **organic** banana areas, together representing almost 96% of the total **organic** banana area. Between 2012 and 2015, the **organic** banana area has increased by almost 12%, and by 1% between 2014 and 2015 alone.

[29] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

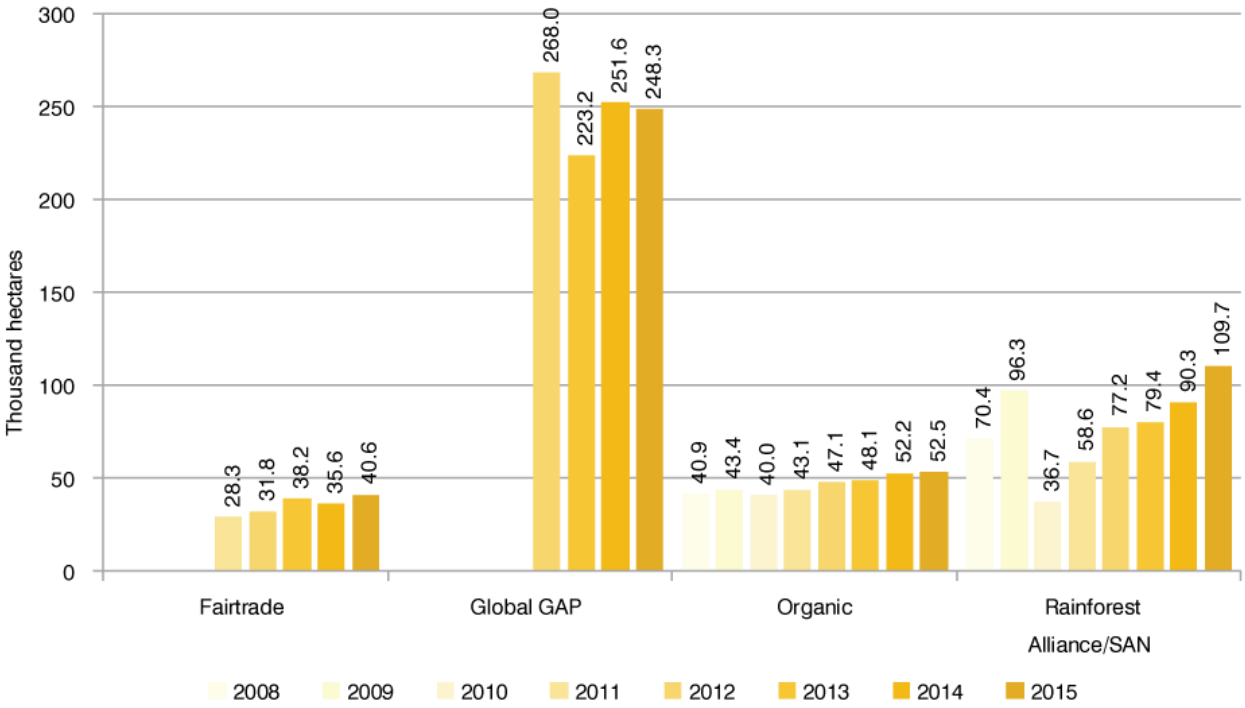
[30] Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area gives an estimate of the possible VSS area for a given sector. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

[31] 2012 is the year for which data on all the standards covered are available.

[32] In total, almost 63,000 hectares of organic bananas were certified in 2015, including in-conversion areas and areas for bananas associated with other crops, and representing 1.2% of the global banana area (Willer/Lernoud, 2017).

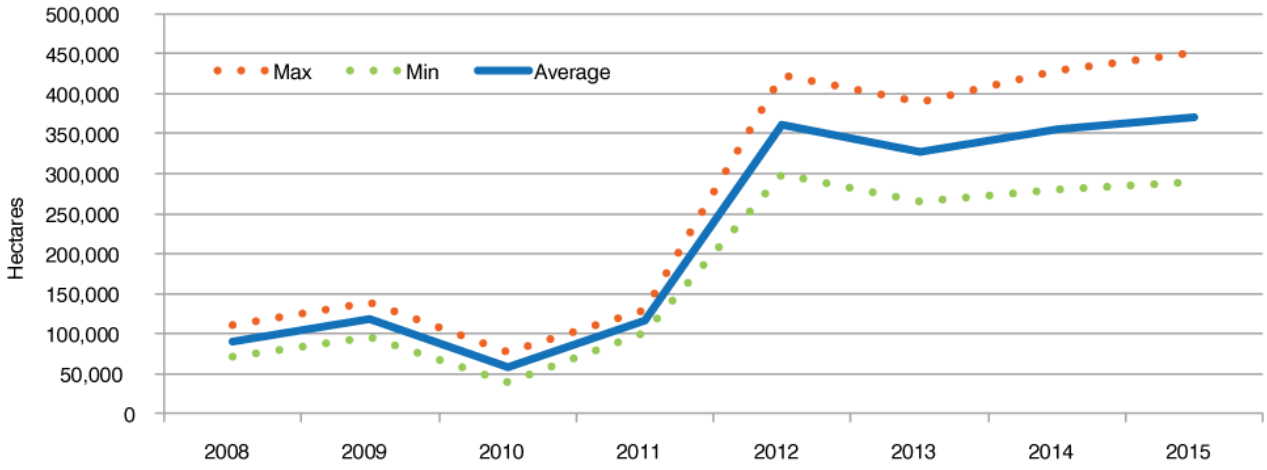
RA/SAN reported almost 110,000 hectares and almost 5.7 million metric tons of certified bananas in 2015, accounting for 5% of the global banana production volume. Five countries represented 87% of the total **RA/SAN** banana area: Costa Rica (almost 29,000 hectares), Guatemala (24,400 hectares), Colombia (21,120 hectares), Honduras (11,616 hectares) and Ecuador (9,556 hectares). The **RA/SAN** banana area has increased by 42% between 2012 and 2015, and by 21% between 2014 and 2015 alone.

Figure 81: Banana: Production area by standard, 2008–2015



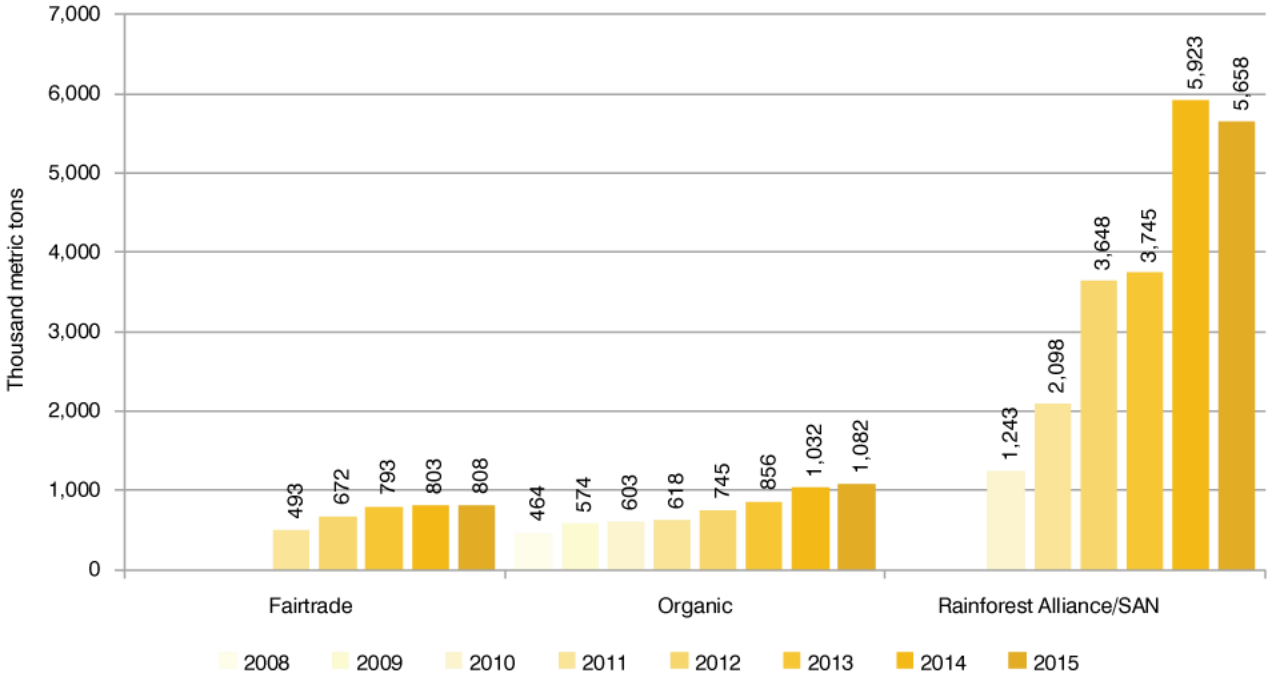
Note: The organic area is the area harvested estimated by FiBL, assuming that 90% of the fully converted area is actually harvested. For the Rainforest Alliance/SAN, the area cultivated is shown.
Source*:* Fairtrade International, 2017; GLOBALG.A.P., 2016; FiBL, 2017; Rainforest Alliance/SAN, 2016

Figure 82: Banana: Average production area, 2008–2015



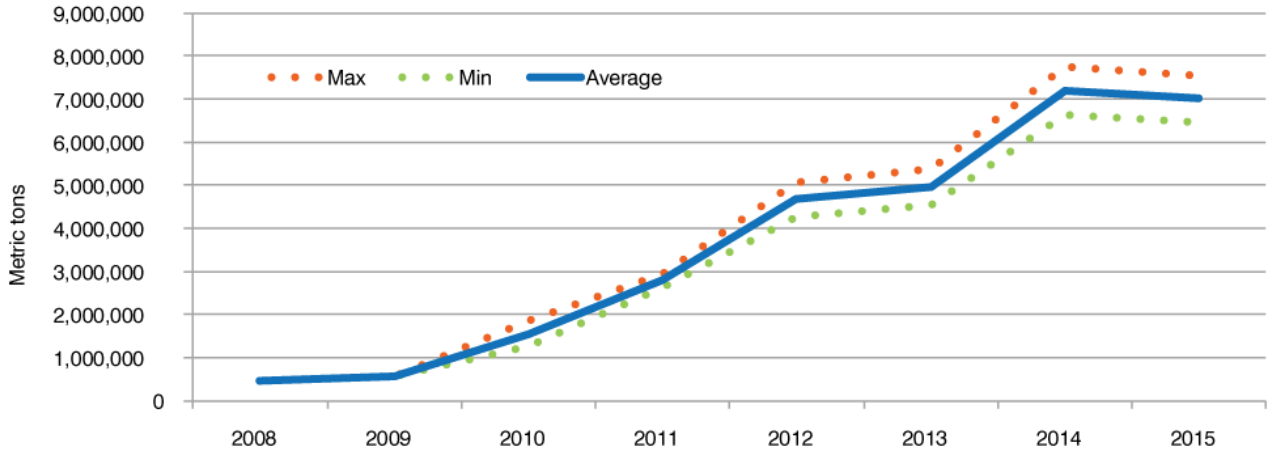
Note: Data from GLOBALG.A.P has been available since 2012.
Source*:* FiBL-IISD-ITC survey, 2017. VSS: Fairtrade International, GLOBALG.A.P., organic, and Rainforest Alliance/SAN.

Figure 83: Banana: Production volume by standard, 2008–2015



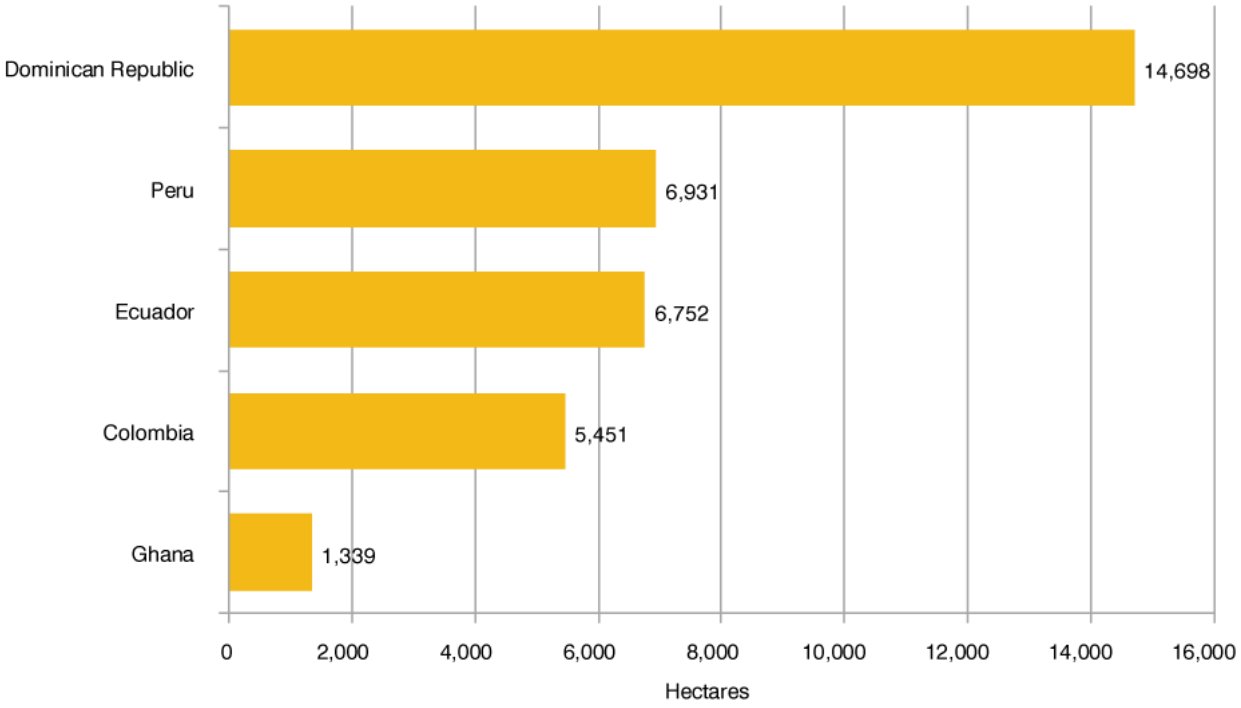
Note: The organic production volume was estimated by FiBL based on estimated yields, as actual data are not available for most of the countries. Production volume data from GLOBALG.A.P. are not available.
Sources*:* Fairtrade International, 2017; FiBL, 2017; Rainforest Alliance/SAN, 2014, 2015 and 2016

Figure 84: Banana: Average production volume, 2008–2015



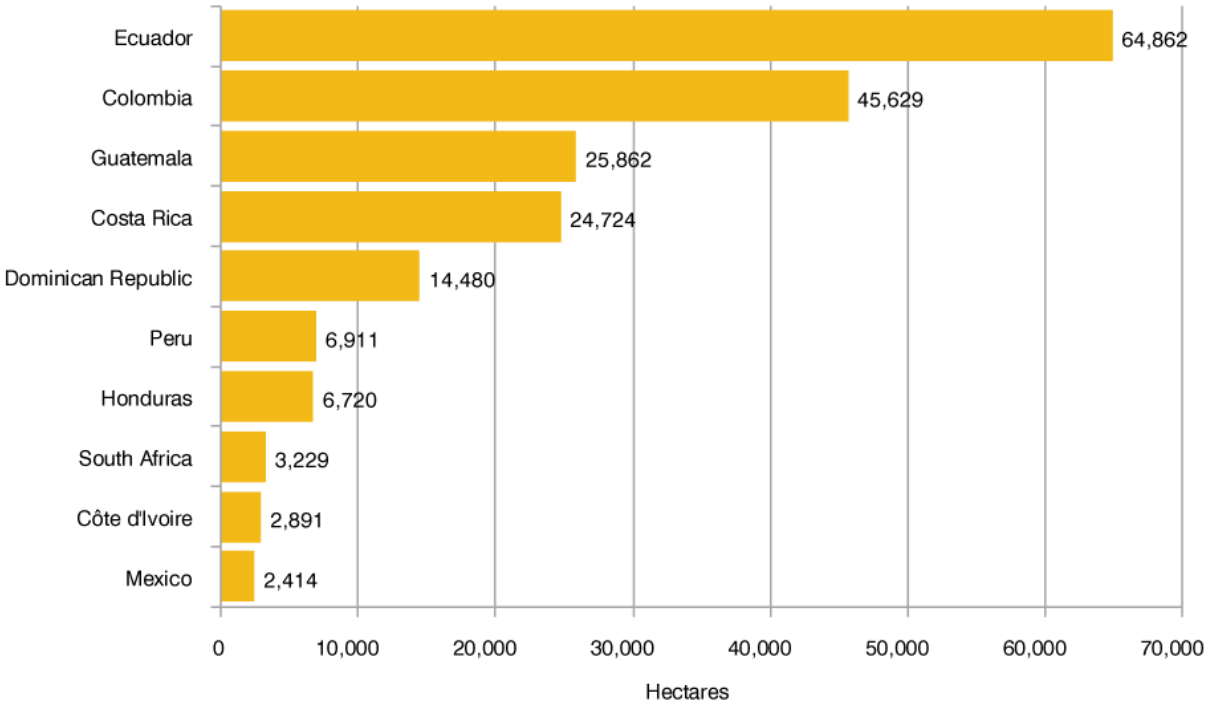
Note: Production volume data from GLOBALG.A.P. are not available.
Source*:* FiBL-IISD-ITC survey, 2017. VSS: Fairtrade International, Organic, and Rainforest Alliance/SAN.

Figure 85: Banana: Fairtrade International – Top countries by area, 2015



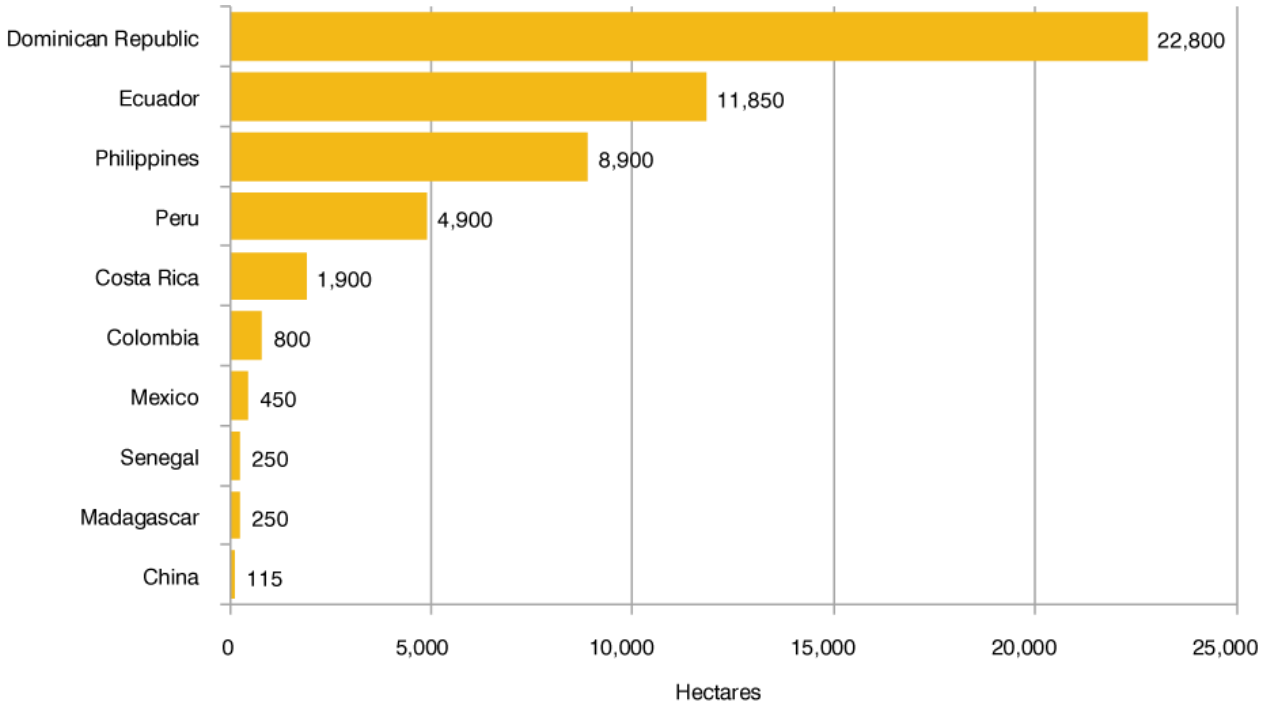
***Source**:* Fairtrade International, 2017

Figure 86: Banana: GLOBALG.A.P – Top 10 countries by area, 2015



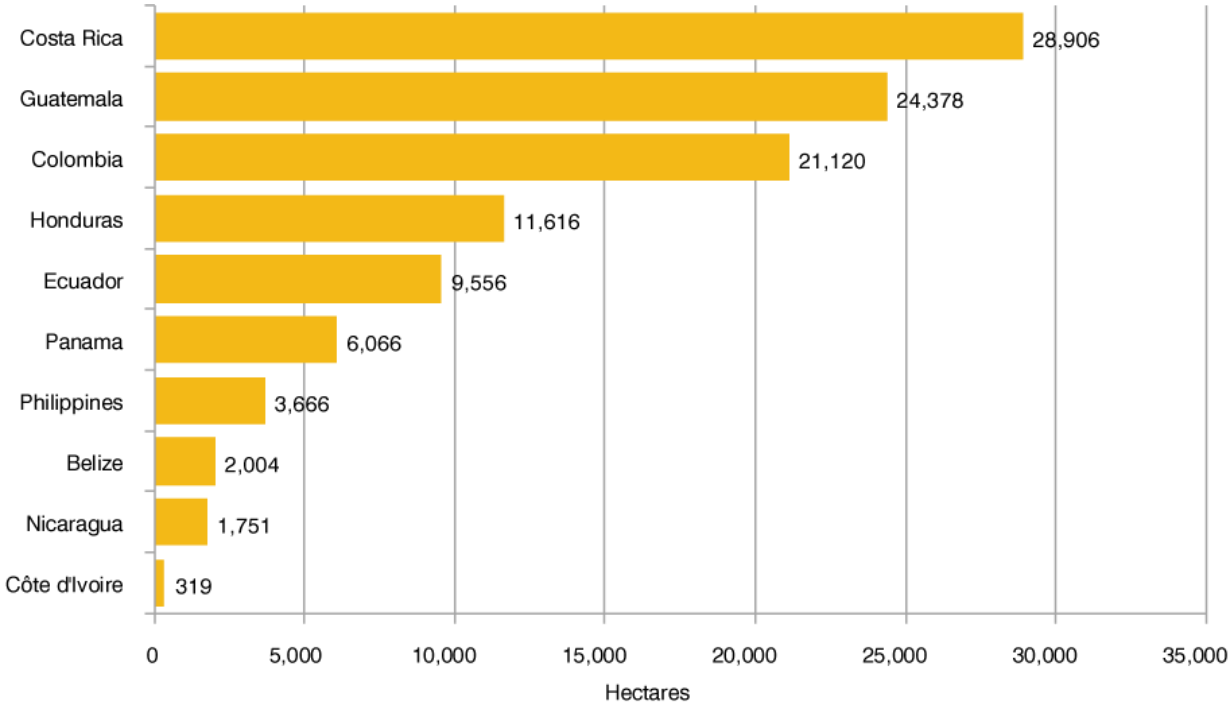
***Source**:* GLOBALG.A.P., 2016

Figure 87: Banana: Organic – Top 10 countries by area, 2015



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.
Source*:* FiBL, 2017. Based on national data sources and data from certifiers.

Figure 88: Banana: Rainforest Alliance/Sustainable Agriculture Network – Top 10 countries by area, 2015



Source*:* Rainforest Alliance/SAN, 2016

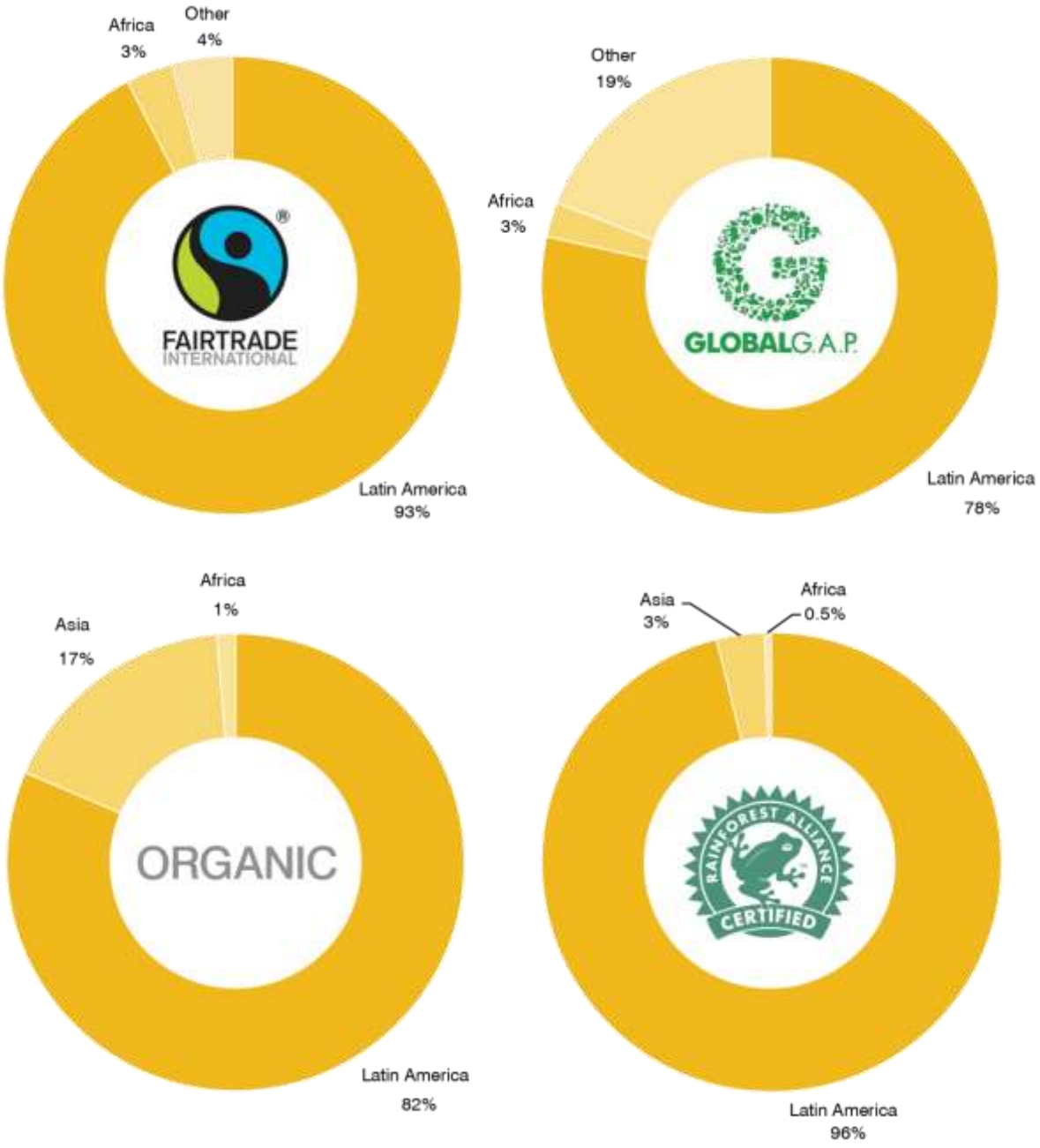


Figure 89: Banana: Fairtrade certified area by region, 2015

Source: Fairtrade International, 2017.

Figure 90: Banana: GLOBALG.A.P certified area by region, 2015

Source: GLOBALG.A.P., 2016.

Figure 91: Banana: Organic certified area by region, 2015

Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

Source: FiBL, 2017

Figure 92: Banana: Rainforest Alliance/Sustainable Agriculture Network certified area by region, 2015

Source*:* Rainforest Alliance/SAN, 2016.

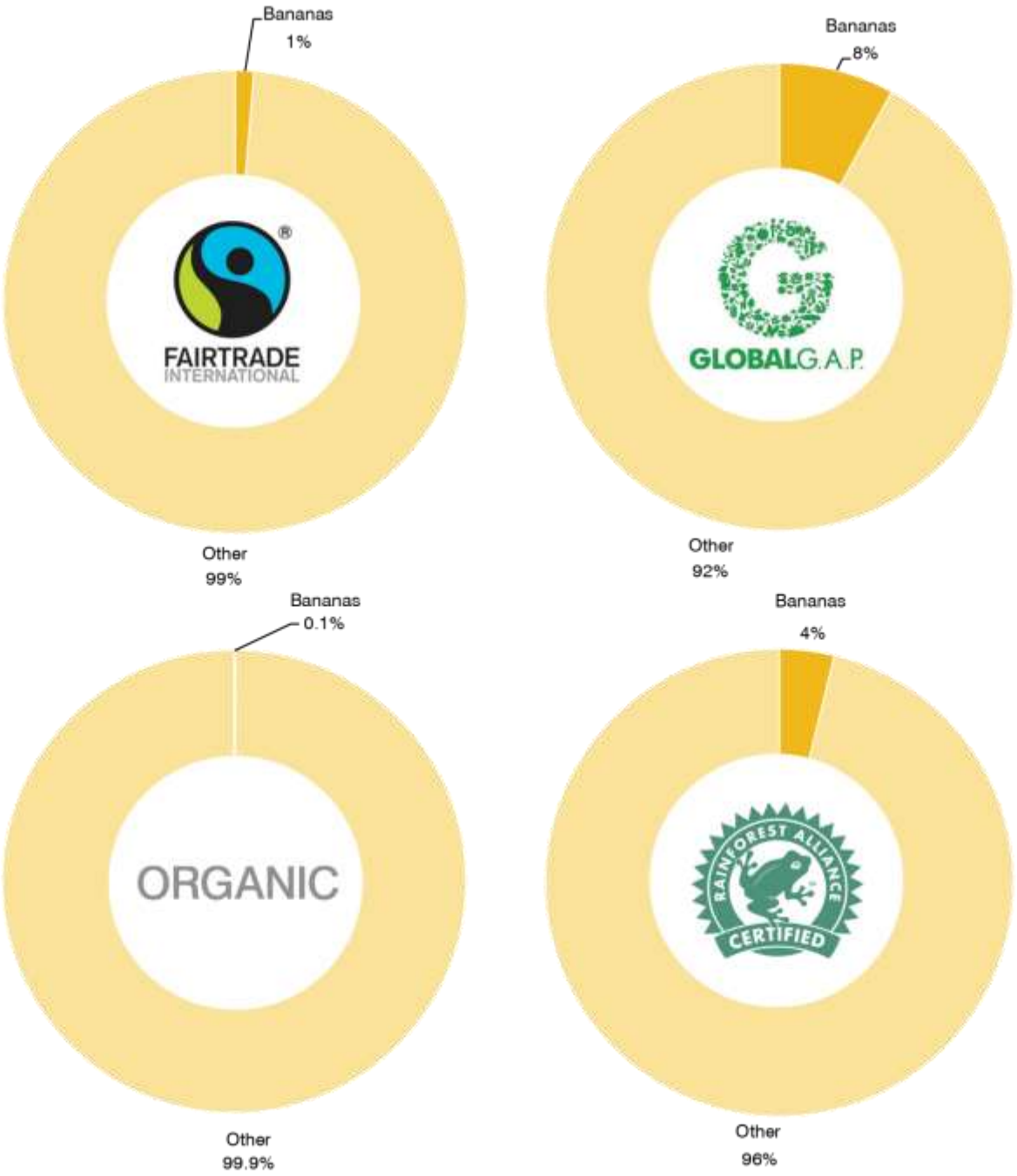


Figure 93: Banana: Share of Fairtrade area, 2015

***Source**:* Fairtrade International, 2017

Figure 94: Banana: Share of GLOBALG.A.P area, 2015

***Source**:* GLOBALG.A.P, 2016

Figure 95: Banana: Share of Organic area, 2015

***Source**:* FiBL, 2017

Figure 96: Banana: Share of Rainforest Alliance/Sustainable Agriculture Network area, 2015

***Source**:* Rainforest Alliance/SAN, 2016

Cocoa

Cocoa market: Addressing systemic poverty and child labour

Cocoa is harvested almost entirely (90-to-95%) by an estimated five million smallholders (World Cocoa Foundation, 2016b), in direct contrast to the plantation model found across other tropical cash crops, such as bananas and tea. In 2014, 4.5 million metric tons of cocoa were produced, more than 85% of it in the five largest producing countries: Côte d'Ivoire (32%), Ghana (18%), Indonesia (17%), Nigeria (8%) and Cameroon (6%) (FAOSTAT, 2017).[33] More than 90% of production, valued at over $9.5 billion in 2014, is traded on international markets.[34]

With the production base largely unorganized and located in developing countries, the most salient sustainability issue concerning cocoa is systemic poverty. Despite the size of the downstream chocolate market, valued at about $100 billion (MarketsandMarkets, 2011), the percentage that actually percolates down to cocoa farmers is relatively small: on average, they receive between 3% and 7% of the street price of a chocolate bar (Nieburg, 2014).

The downstream cocoa market is highly consolidated, and the fact that the production base is largely unorganized has resulted in a substantial imbalance of negotiating power. Three multinational processers account for more than 40% of global cocoa processing (Ryan, 2012). Moreover, much of the value added, such as the roasting, grinding, pressing and chocolate manufacture, occurs outside of producing countries. Less than 30% of cocoa beans is ground in the top five producing countries (ICCO, 2014), most of which is exported before the final confectionary process.[35]

Furthermore, a lack of inputs and extension services at the production level has resulted in a global cocoa harvest that is estimated at less than one third of theoretical maximums. Inadequate disease and pest management, aging trees and reduced soil fertility are major factors contributing to low yields (World Cocoa Foundation, 2016a). In addition to the economic cost to producers, the combination of low yields and consistently expanding demand has resulted in an expansion in plantings, which in turn has led to the unnecessary deforestation and forest degradation of at least 2.1 million hectares in the Guinean rainforest of West Africa since 1960.

The growth in plantings also accounts for an additional 1.4 billion metric tons of CO_2 (Abou et al., 2016; CIFOR, 2011). Demand is expected to continue to grow by 2.5% per annum from 2015 to 2020 (Pipitone, 2015). If yields do not increase, the trend towards unnecessary deforestation will likely continue. Research is under way to study and develop cacao-based agroforestry systems that help to better secure farmers' income and food security (Armengot et al., 2016).

Cocoa's poverty trap has resulted in the use of child labour, an issue that attracted significant attention at the turn of the 21st century. It resulted in the Harkin-Engel Protocol (2001), an international agreement to end the worst forms of child labour in the cocoa sector. The Harkin-Engel Protocol includes binding commitments by industry to form an independent organization to address child and forced labour issues within the industry and to implement global standards to prevent such practices in the industry's supply chains (Potts et al., 2014).

Currently, major voluntary standards operative in the sector include Fairtrade, Organic, RA/SAN and UTZ. Between them, they have attracted or enabled 100% compliant sourcing commitments by 2020 from four of the top six manufacturers: Mars, Hershey's, Ferrero and Lindt (Fountain & Hütz-Adams, 2015).

[33] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

[34] This includes production that has already undergone primary processing, such as cocoa butter, powder and paste (United Nations, 2016).

[35] Cocoa butter, powder and paste accounted for about $2.6 billion of exports from the top five producing countries in 2014; cocoa beans, $5.8 billion. Of the producing countries, Mexico is the largest chocolate trader, representing 4% of the world market by weight (United Nations, 2016).

16% of world's cocoa area certified by four voluntary standards

Cocoa was grown on more than 10 million hectares worldwide in 2014 (FAOSTAT, 2017).[36] This represented 0.2% of the global agricultural land. The largest producing countries were Côte d'Ivoire (2.7 million hectares), Indonesia (1.7 million hectares), Ghana (1.7 million hectares), Nigeria (almost 1.4 million hectares) and Brazil (almost 700,000 hectares). These countries accounted for 79% of the total cocoa area. In 2014, when over 4.5 million metric tons were produced worldwide (FAOSTAT, 2017).

Four of the standards covered in this report – **Fairtrade International**, **Organic**, **RA/SAN** and **UTZ** – certify cocoa production. Combined, they certified a minimum of 1.7 million hectares and a maximum of 3.1 million hectares in 2015 (average 2.4 million hectares).[37] In terms of the proportion of the VSS-certified area of the global cocoa area, the minimum represents 16.2%, the maximum 29.8%, and the average, 23.0%. **UTZ** reported the largest VSS-certified cocoa area (1.5 million hectares), and the largest area growth (fivefold) was noted for **RA/SAN** (2011–2015).

Fairtrade International certified over 570,000 hectares of cocoa in 2015, constituting 5.5% of the global cocoa area. More than 252,000 metric tons were produced, representing 5.7% of the global cocoa production volume. The countries with the largest cocoa area were Ghana (over 241,000 hectares), Côte d'Ivoire (more than 173,000 hectares), the Dominican Republic (70,000 hectares), Peru (39,300 hectares), and Ecuador (17,500 hectares). These five countries combined accounted for 94% of the total **Fairtrade International** cocoa area. That area has increased by almost 68% between 2011 and 2015, and by 32% between 2014 and 2015 alone

Organic cocoa represented 2.6% of the global cocoa area, or more than 267,000 hectares (estimated harvested area).[38] An estimated 155,750 metric tons of cocoa were produced in 2015, almost 3.5% of the world's cocoa production. The Dominican Republic (108,300 hectares), the Democratic Republic of Congo (27,550 hectares), Peru (23,050 hectares), Tanzania (17,750 hectares), and Mexico (15,300 hectares) were the biggest **organic** cocoa producing countries, together representing 72% of the total **organic** cocoa area. Between 2011 and 2015, the **organic** cocoa area has increased by almost 38%. Between 2014 and 2015, the **organic** cocoa area grew by almost 17%.

RA/SAN certified more than 737,000 hectares in 2015. More than 500,000 metric tons of **RA/SAN** cocoa were reported in 2015, or 11.8% of the global cocoa production volume. The five countries with the largest cocoa area certified by RA/SAN – Côte d'Ivoire (453,000 hectares), Ghana (138,000 hectares), Indonesia (almost 47,000 hectares), the Dominican Republic (over 24,000 hectares) and Nigeria (over 20,000 hectares) – represented 93% of the standard's total cocoa area. That area has increased almost fourfold between 2011 and 2015, but dropped by almost 13% between 2014 and 2015.

Over 1.5 million hectares of cocoa were **UTZ-**certified in 2015, almost 15% of the global cocoa area. The countries with the largest UTZ-certified cocoa area were Côte d'Ivoire (827,500 hectares), Ghana (almost 298,000 hectares), Nigeria, Indonesia (63,000 hectares) and Ecuador (35,300 hectares), together representing almost 87% of the **UTZ** total. **UTZ** reported an estimated production volume of over 0.9 million metric tons in 2015, which is almost 21% of the global cocoa production volume. Between 2011 and 2015, the **UTZ** cocoa area has more than trebled, and grew by almost 2% between 2014 and 2015 alone.

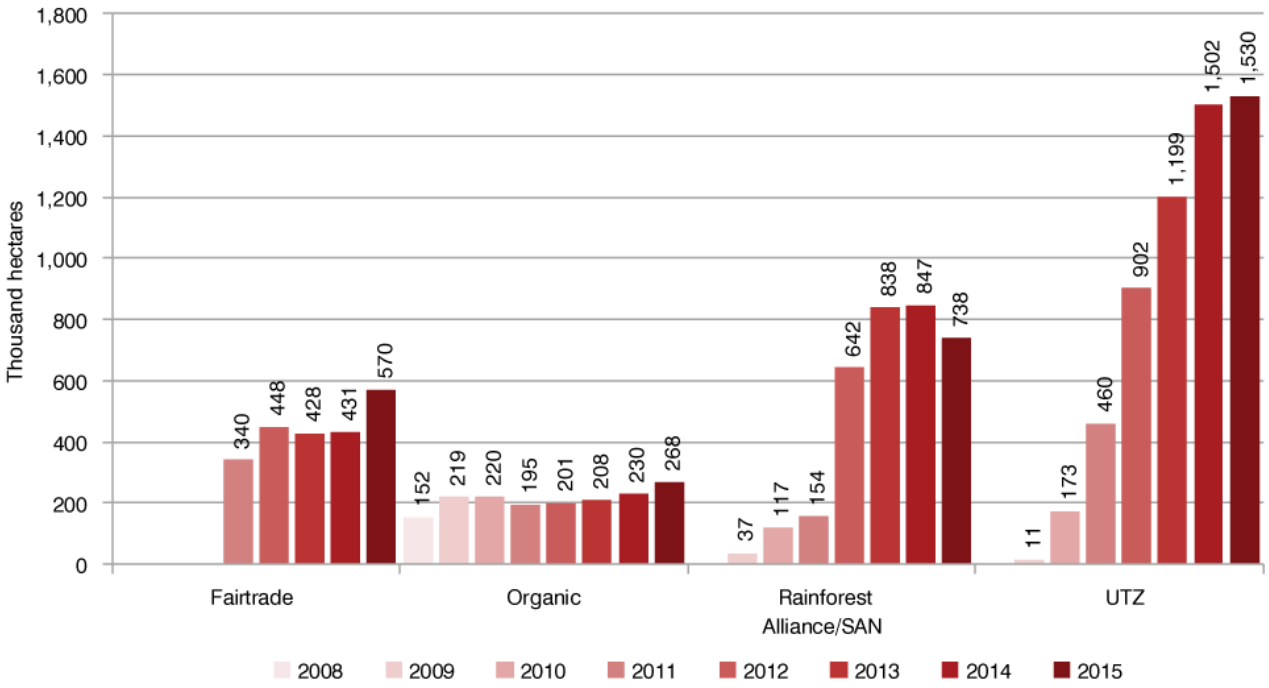
For tables of VSS-compliant cocoa production, see the Appendix.

[36] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

[37] Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area gives an estimate of the possible VSS area for a given commodity. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

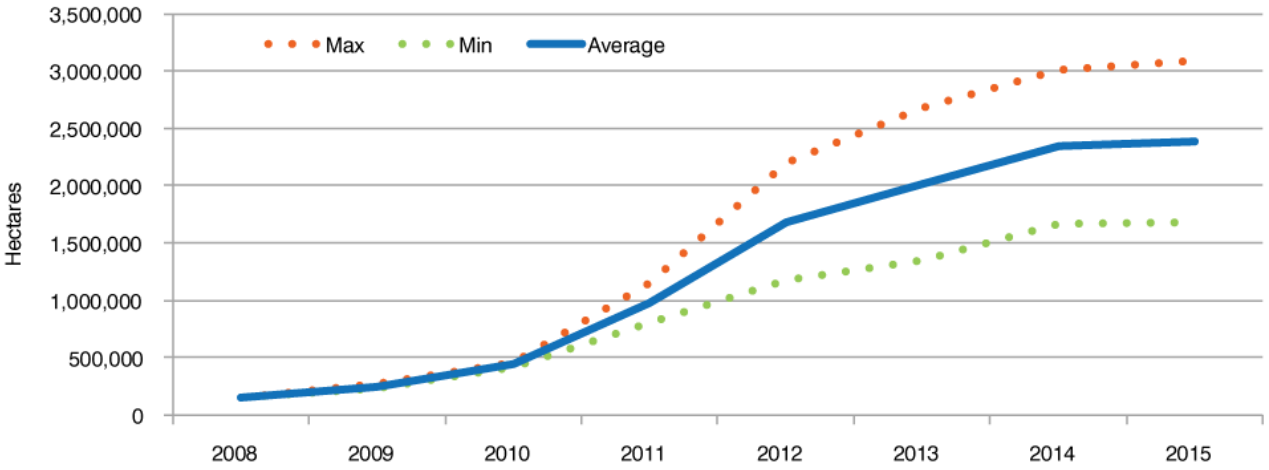
[38] The total organic cocoa area (including in-conversion areas) was 317,706 hectares in 2015, representing 3% of the global cocoa area (Willer/Lernoud, 2017).

Figure 97: Cocoa: Production area by standard, 2008–2015



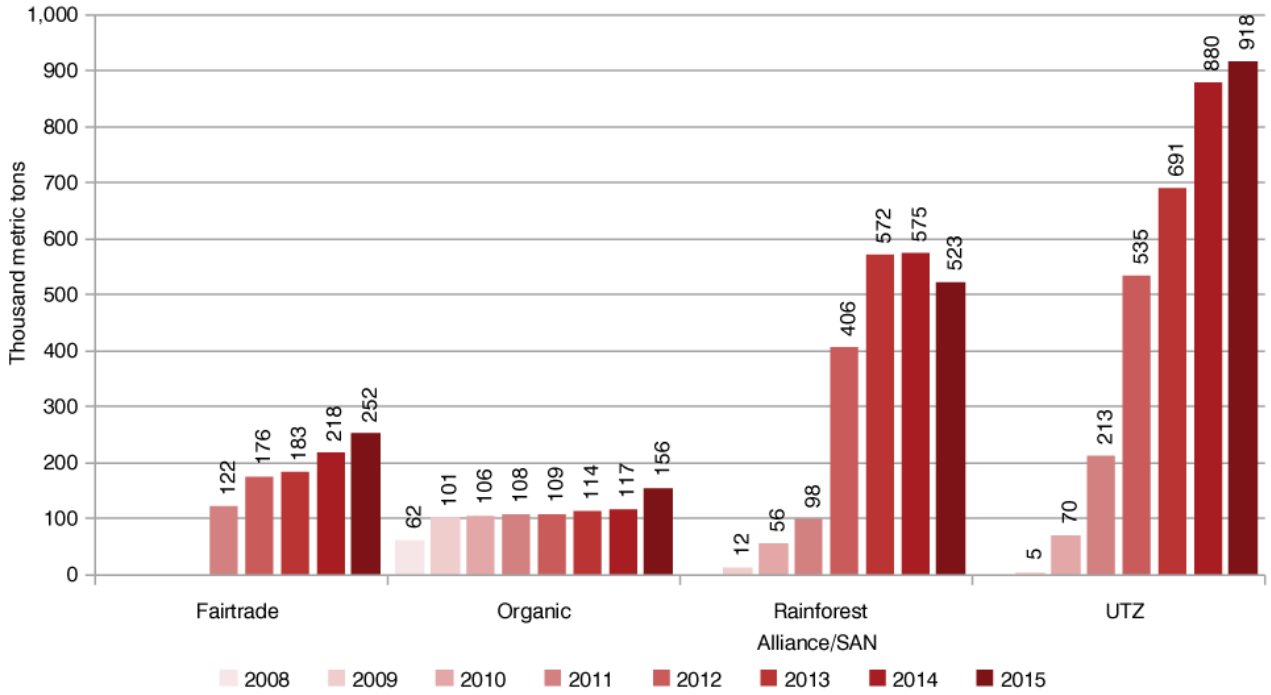
Note: The organic area is the area harvested estimated by FiBL, assuming that 90% of the fully converted area is actually harvested. For the Rainforest Alliance/SAN, the area cultivated is shown.
Sources*:* Fairtrade International, 2017; FiBL, 2017; Rainforest Alliance/SAN, 2014, 2015, and 2016; UTZ, 2014, 2015, and 2016.

Figure 98: Cocoa: Average production area, 2008–2015



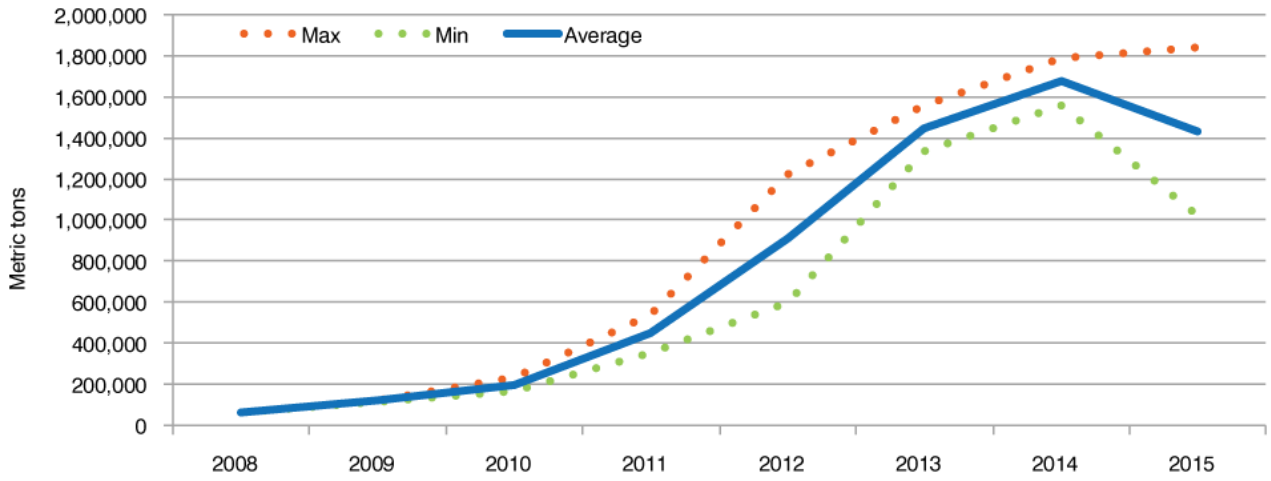
Sources*:* FiBL-IISD-ITC survey, 2017. VSS: Fairtrade International, organic, Rainforest Alliance/SAN and UTZ.

Figure 99: Cocoa: Production volume by standard, 2008–2015



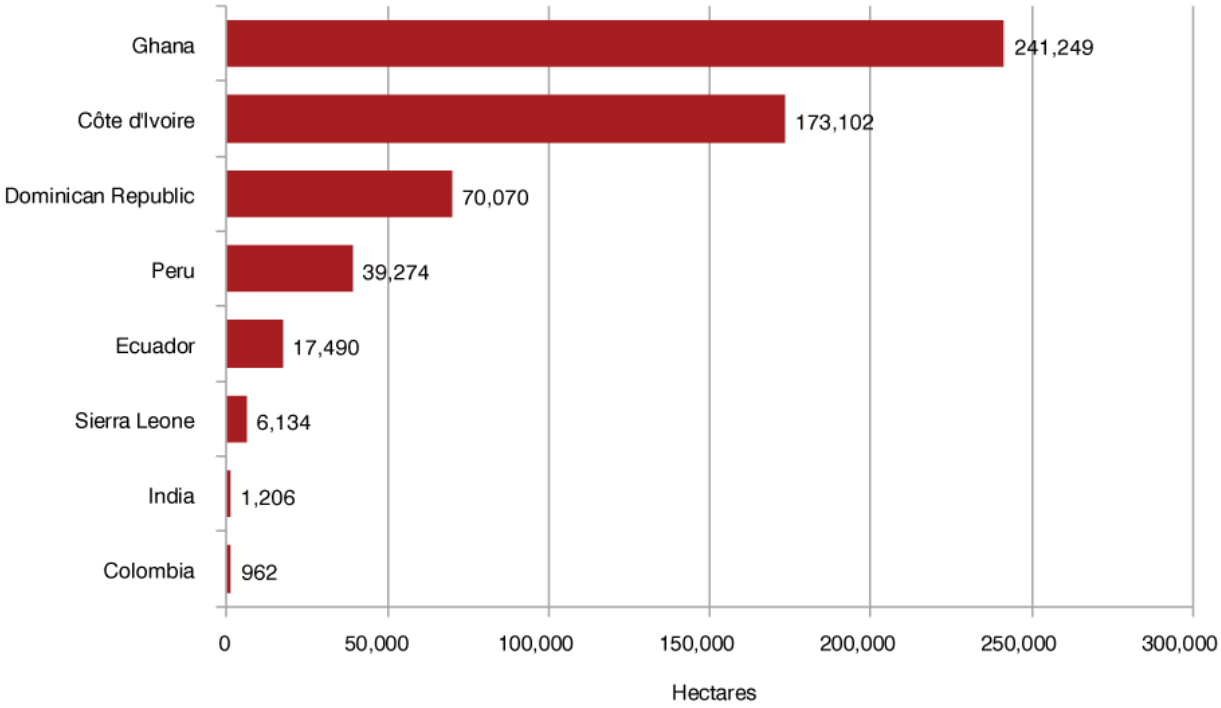
Note: The organic production volume was estimated by FiBL based on estimated yields, as actual data is not available for most of the countries. Please note that UTZ defines certified volume as the estimated production potential.
Sources*:* Fairtrade International, 2017; FiBL, 2017; Rainforest Alliance/SAN, 2014, 2015, and 2015; UTZ, 2014, 2015, and 2015.

Figure 100: Cocoa: Average production volume, 2008–2015



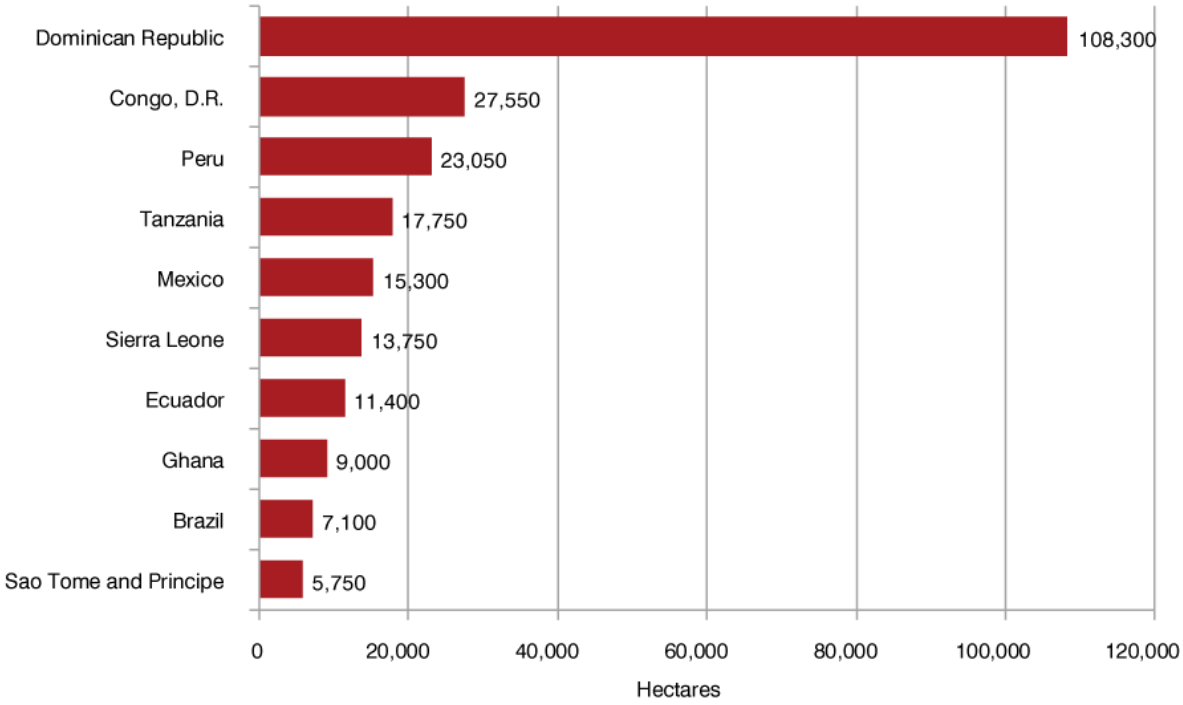
Sources*:* FiBL-IISD-ITC survey, 2017. VSS: Fairtrade International, organic, Rainforest Alliance/SAN and UTZ.

Figure 101: Cocoa: Fairtrade International – Top 10 countries by area, 2015



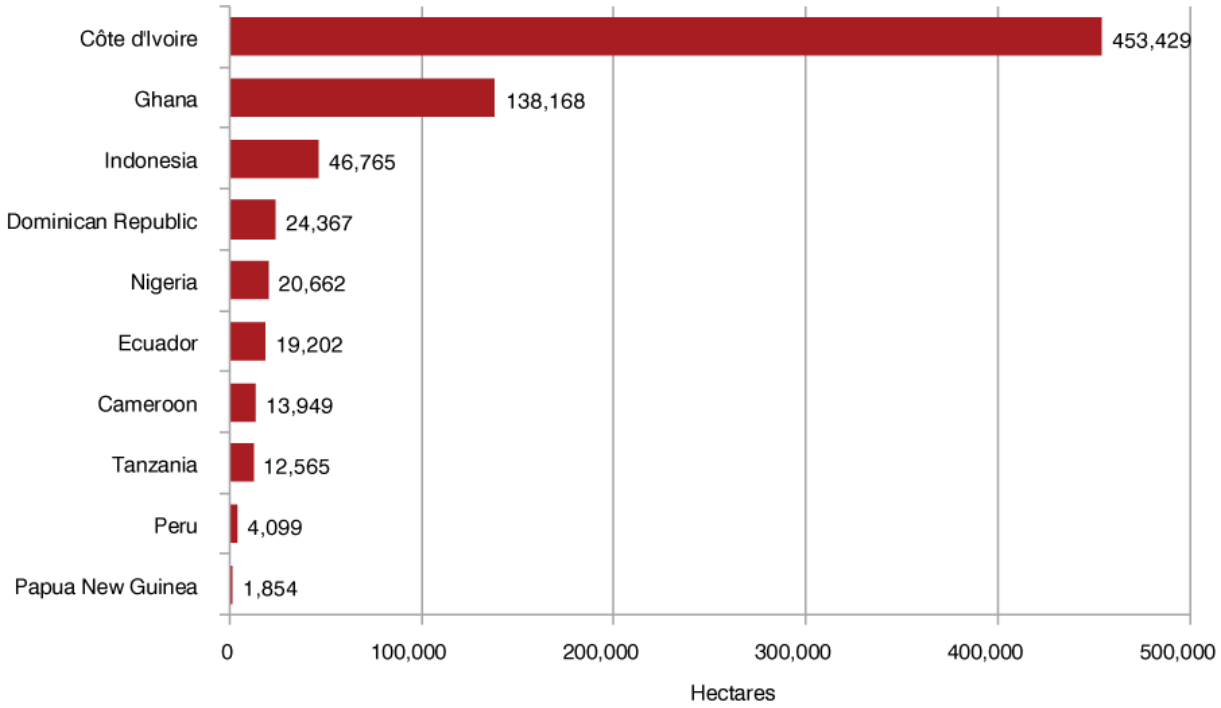
***Source**:* Fairtrade International, 2017.

Figure 102: Cocoa: Organic – Top 10 countries by area, 2015



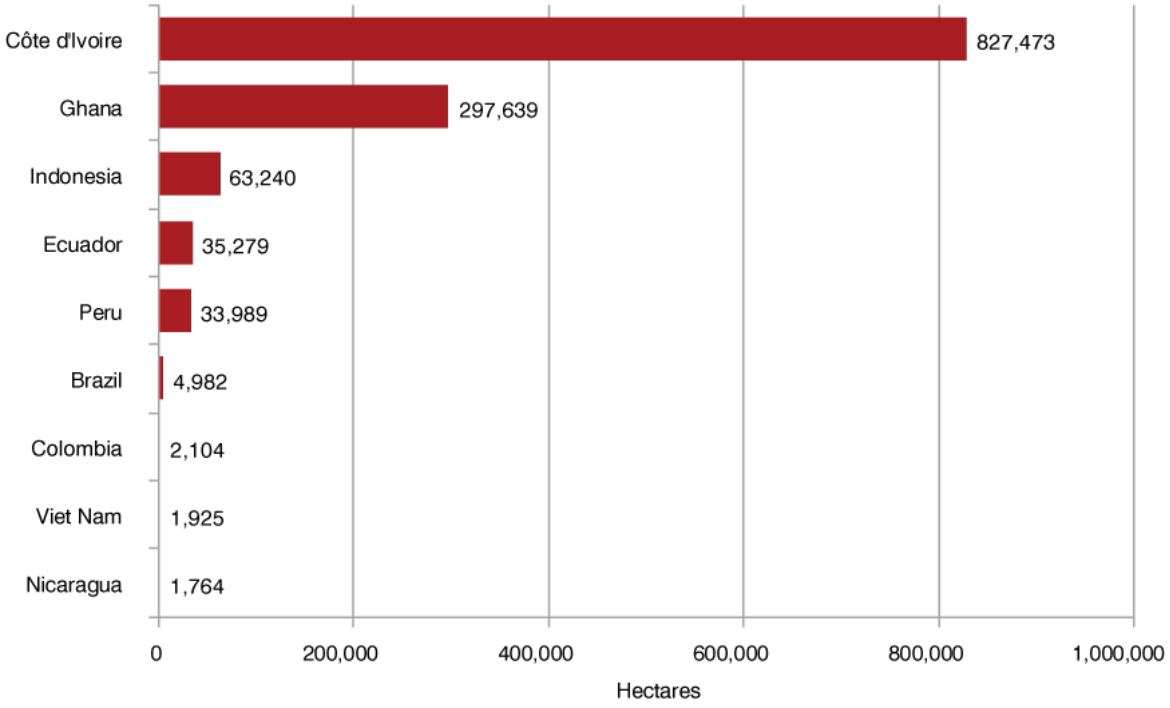
Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.
***Source**:* FiBL, 2017. Based on national data sources and data from certifiers.

Figure 103: Cocoa: Rainforest Alliance/Sustainable Agriculture Network – Top 10 countries by area, 2015



***Source**:* Rainforest Alliance/SAN, 2016.

Figure 104: Cocoa: UTZ – Top 10 countries by area, 2015



***Source**:* UTZ, 2016.

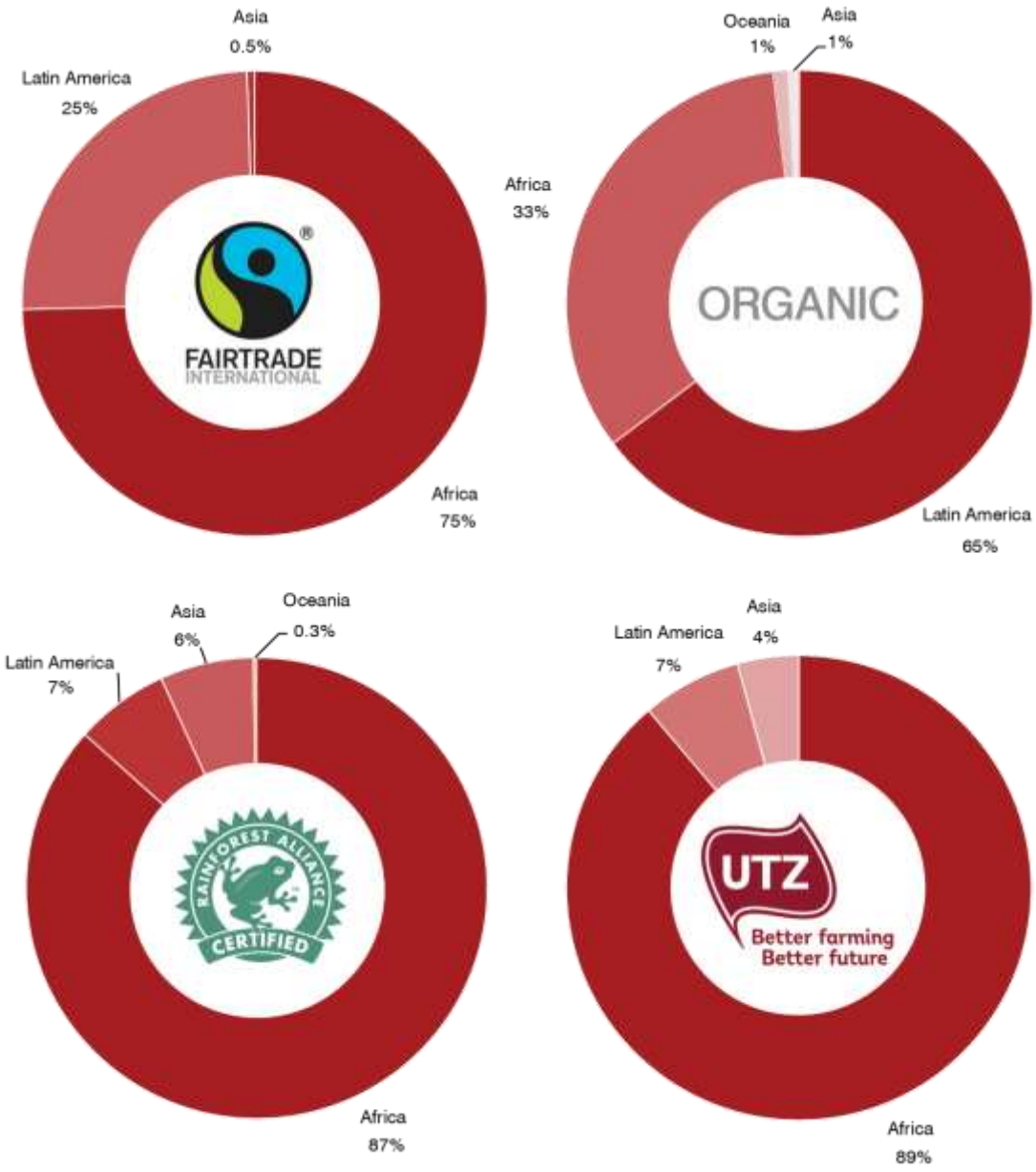


Figure 105: Cocoa: Fairtrade certified area by region, 2015

Source: Fairtrade International, 2017.

Figure 106: Cocoa: Organic certified area by region, 2015

Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

Source: FiBL, 2017.

Figure 107: Cocoa: Rainforest Alliance/Sustainable Agriculture Network certified area by region, 2015

Source: Rainforest Alliance/SAN, 2016.

Figure 108: Cocoa: UTZ certified area by region, 2015

Source: UTZ, 2016.

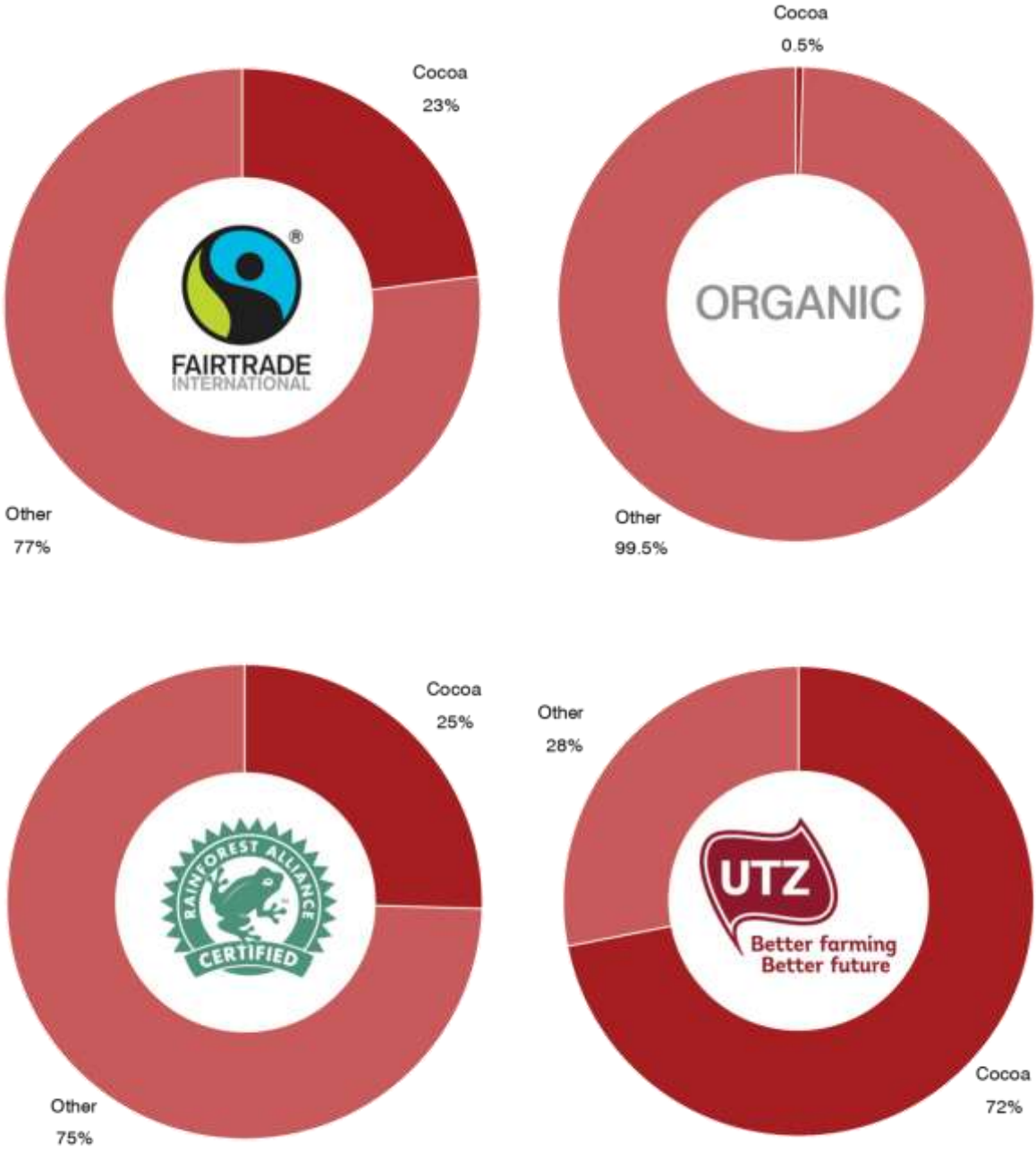


Figure 109: Cocoa: Share of Fairtrade area, 2015
***Source**:* Fairtrade International, 2017.

Figure 110: Cocoa: Share of Organic area, 2015
***Source**:* FiBL, 2017.

Figure 111: Cocoa: Share of Rainforest Alliance/Sustainable Agriculture Network area, 2015
***Source**:* Rainforest Alliance/SAN, 2016.

Figure 112: Cocoa: Share of UTZ area, 2015
Source: UTZ, 2016.

Coffee

Coffee sector addresses biodiversity concerns, boasts highest VSS compliance rate

Coffee is generally regarded as one of the pioneering industries (along with forestry) for the development of voluntary sustainability standards. In 2014, 8.9 million metric tons of coffee were produced, more than three quarters of it in the five largest producing countries: Brazil (33%), Viet Nam (16%), Indonesia (8%), Colombia (7%) and India (5%) (FAOSTAT, 2017).[39] More than three quarters of green coffee, valued at $20.1 billion in 2014, is traded on international markets (compared to $9.5 billion for cocoa and $6.3 billion for tea) (United Nations, 2016).

Farmers working in coffee production number between 20 and 25 million, and while production units are on average larger and more organized than in the cocoa sector, the sector is nevertheless largely defined by smallholder production (Giovannucci, Lewin, & Varangis, 2004). Smallholders are similarly susceptible to price decreases and volatility insofar as they are unorganized, substitutable, and unable to respond quickly to market volatility, given that coffee is a perennial crop.

Over time, low prices have coincided with a movement away from the traditional agroforestry cultivation methods in an effort to increase yields. Diverse shade systems – involving more than 40% canopy cover – have decreased from 43% of total cultivation in 1996 to 24% in 2010 (Jha et al., 2014). While this transition has coincided with a 36% increase in production, coffee expansion remains a concern for biodiversity, as coffee is grown in 13 of the world's 25 biodiversity hotspots. More than 80% of the total area devoted to coffee cultivation is to be found in current or former rainforest areas (Halweil, 2002).

Sun coffee production entails not only the complete removal of native plant species in these areas but also increased application of agrochemicals and irrigation, greater exposure to soil erosion and reduced carbon sequestration (May, Mascarenhas, and Potts, 2004). Like cocoa, coffee offers an exceptional opportunity to produce the highest quality product with only minimal disturbance to local ecosystems, by using a combination of newer growing methods and traditional agroforestry systems (Vaast et al., 2006). Coffee thus has the potential to reinforce local biodiversity under the right conditions.

The first shipment of certified coffee was organic and occurred in 1967 from Finca Irlanda in Chiapas, Mexico, to Germany (Wallengren, 2016). Fairtrade and RA/SAN coffee were established in the late 1980s, around the same time as the dissolution of the International Coffee Agreement in 1989 and the coffee crisis of 2001, both of which ultimately added to the momentum of these standards in the sector.[40] UTZ was rolled out in the early 2000s, as was the 4C Code of Conduct and two private standards – Starbucks' C.A.F.E. Practices, and Nespresso AAA.

While VSS once accounted for a niche segment of the market, they have since grown to become a precompetitive tool for ensuring transparency and progress in improving supply chains across mainstream markets. Of all the sectors covered in this report, coffee continues to be the one with the highest rate of VSS compliance. The largest buyers of compliant coffee are Nestlé, Mondelez, D.E. Master Blenders, Tchibo, Keurig Green Mountain, UCC Coffee, and Starbucks (Panhuysen and Pierrot, 2014).

Organic coffee area up 45% between 2011 and 2015

Coffee was grown on more than 10 million hectares worldwide in 2014 (FAOSTAT, 2017).[41] This represented 0.2% of the global agricultural land. The largest producing countries were Brazil (almost 2 million hectares), Indonesia (1.2 million hectares), Côte d'Ivoire (almost 0.9 million hectares), Colombia (almost 0.8 million hectares) and Mexico (almost 0.7 million hectares). Together, they accounted for 53.5% of the total coffee area. In 2014, almost 9 million metric tons of coffee were produced worldwide (FAOSTAT, 2017).

[39] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

[40] For a comprehensive history of the growth of standards in each sector, see *The State of Sustainability Initiatives: Standards and the Green Economy* (Potts et al., 2014)

[41] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

Five of the voluntary sustainability standards covered in this report – **4C**, **Fairtrade International**, **Organic**, **RA/SAN** and **UTZ**– certified coffee production. Combined, they certified a minimum of 2.6 million hectares and a maximum of 4.6 million hectares in 2015 (average 3.6 million hectares).[42] In terms of the proportion of the VSS-certified area of the global coffee area, the minimum represents 24.8%, the maximum 44.3% and the average, 34.5%. **4C** had the largest VSS-certified (licenced) coffee area, 1.6 million hectares, and registered the largest area growth, a threefold increase between 2011 and 2015.

Almost 1.6 million hectares of coffee worldwide were **4C**-certified in 2015, accounting for 15.2% of the global coffee area. Almost 2.6 million metric tons of **4C** coffee were reported. **4C** is present in some of the most important coffee-producing countries. In 2015, its largest coffee areas were in Brazil (almost 0.7 million hectares), Colombia (over 0.3 million hectares), Viet Nam (almost 170,000 hectares), Indonesia (73,400 hectares) and Peru (66,750 hectares). These five countries represented almost 82% of the standard's total. Between 2011 and 2015, that area has almost trebled, although it dropped by almost 4% between 2014 and 2015.

Fairtrade International certified almost 1.3 million hectares of coffee in 2015, constituting nearly 12.4% of the global coffee area. Almost 560,000 metric tons were produced. The largest **Fairtrade International** coffee areas were in Colombia (213,000 hectares), Ethiopia (almost 208,000 hectares), United Republic of Tanzania (167,000 hectares), Peru (almost 160,000 hectares) and Mexico (almost 118,000 hectares). Together, these five countries represented 67% of the total **Fairtrade International** coffee area. Between 2011 and 2015, that area has increased by 61%, and grew by almost 17% between 2014 and 2015 alone

For **Organic,** the estimated harvested area represented 7.6% of the global coffee area,[43] almost 800,000 hectares. FiBL estimates that more than 340,000 metric tons were produced in 2015. The countries with the largest **organic** coffee areas were Mexico (almost 253,000 hectares), Ethiopia (almost 144,000 hectares), Peru (99,050 hectares), Indonesia (74,300 hectares), and United Republic of Tanzania (71,350 hectares), which together represented 79% of the total **organic** coffee area. The **organic** coffee area has increased by 45% between 2011 and 2015. Between 2014 and 2015, the **organic** coffee area grew by almost 29%.

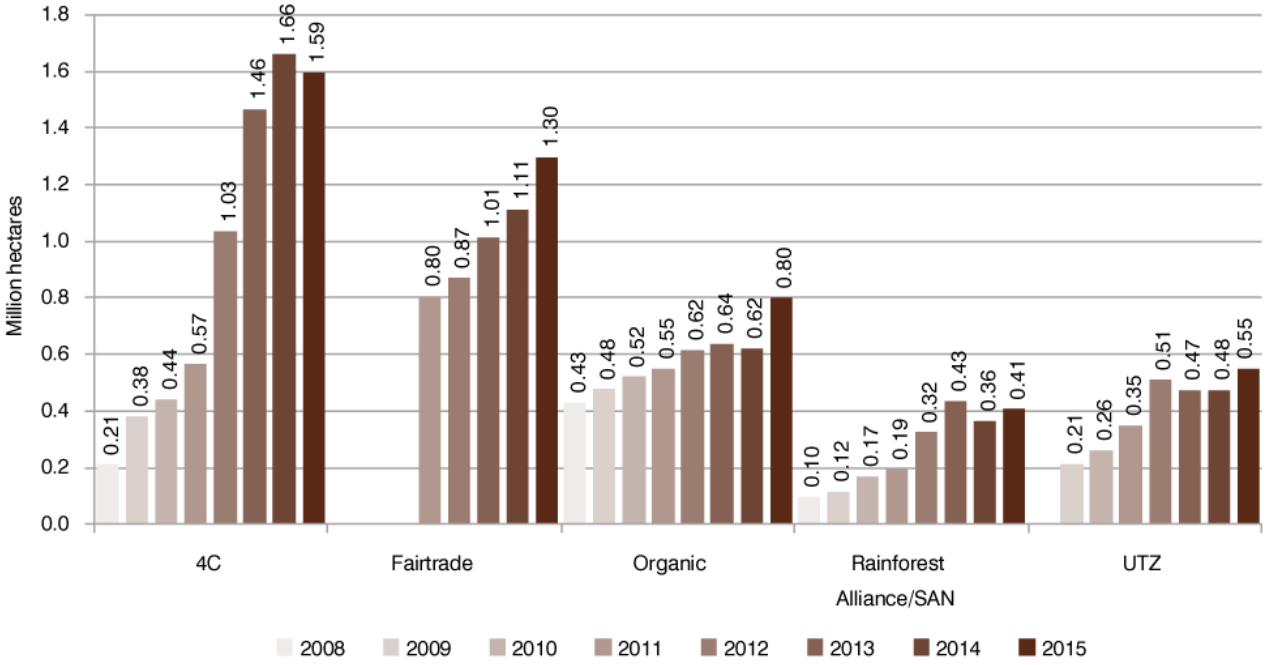
RA/SAN certified more than 405,000 hectares of coffee worldwide. Over 520,000 metric tons of **RA/SAN** coffee were reported in 2015, 6% of the global coffee production volume. The five largest **RA/SAN** coffee areas represented almost 55% of the total **RA/SAN** coffee area: Brazil (82,450 hectares), Ethiopia (almost 44,000 hectares), Colombia (more than 39,000 hectares), Peru (35,650 hectares), and Guatemala (almost 23,000 hectares). Between 2011 and 2015, the **RA/SAN** coffee area has more than doubled. Between 2014 and 2015, the **RA/SAN** coffee area grew by 11%.

Almost 550,000 hectares of coffee were **UTZ-**certified in 2015, which is 5.2% of the total coffee area. **UTZ** estimated a production volume of over 821,000 metric tons of coffee in 2015, representing 9.3% of global coffee production. Brazil has the largest **UTZ** coffee area, with more than 134,000 hectares, followed by Viet Nam (almost 66,000 hectares), Colombia (almost 50,000 hectares), Honduras (over 45,000 hectares), Uganda (45,000 hectares) and Peru. These six countries together accounted for almost 70% of the total **UTZ** coffee area. Between 2011 and 2015, that area has grown by almost 58%, and by over 15% between 2014 and 2015 alone.

[42] Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area gives an estimate of the possible VSS area for a given commodity. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

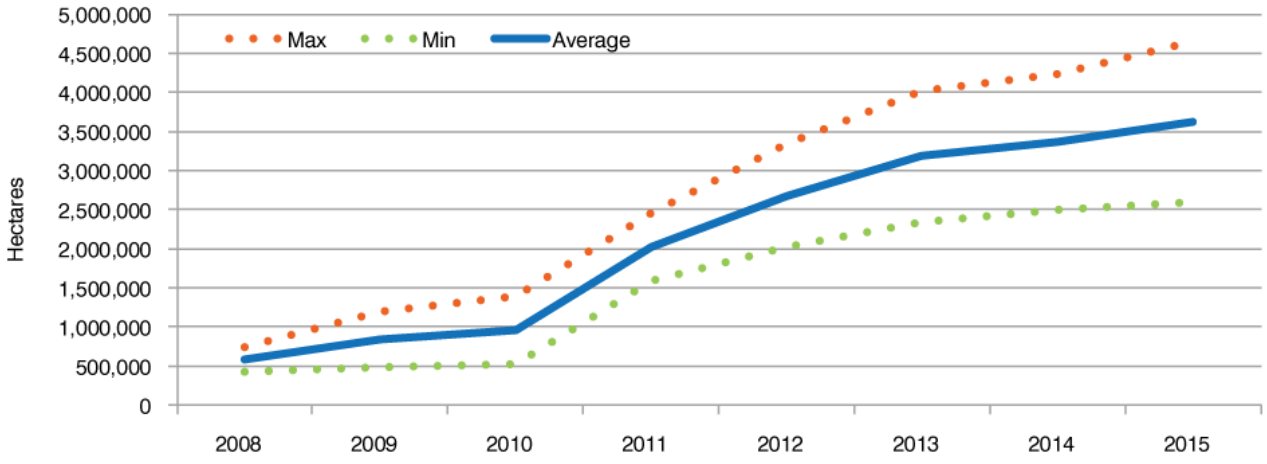
[43] In total, 903,878 hectares of organic coffee were certified in 2015 (including in-conversion areas), representing 8.6% of the global coffee area (Willer/Lernoud, 2017).

Figure 113: Coffee: Production area by standard, 2008–2015



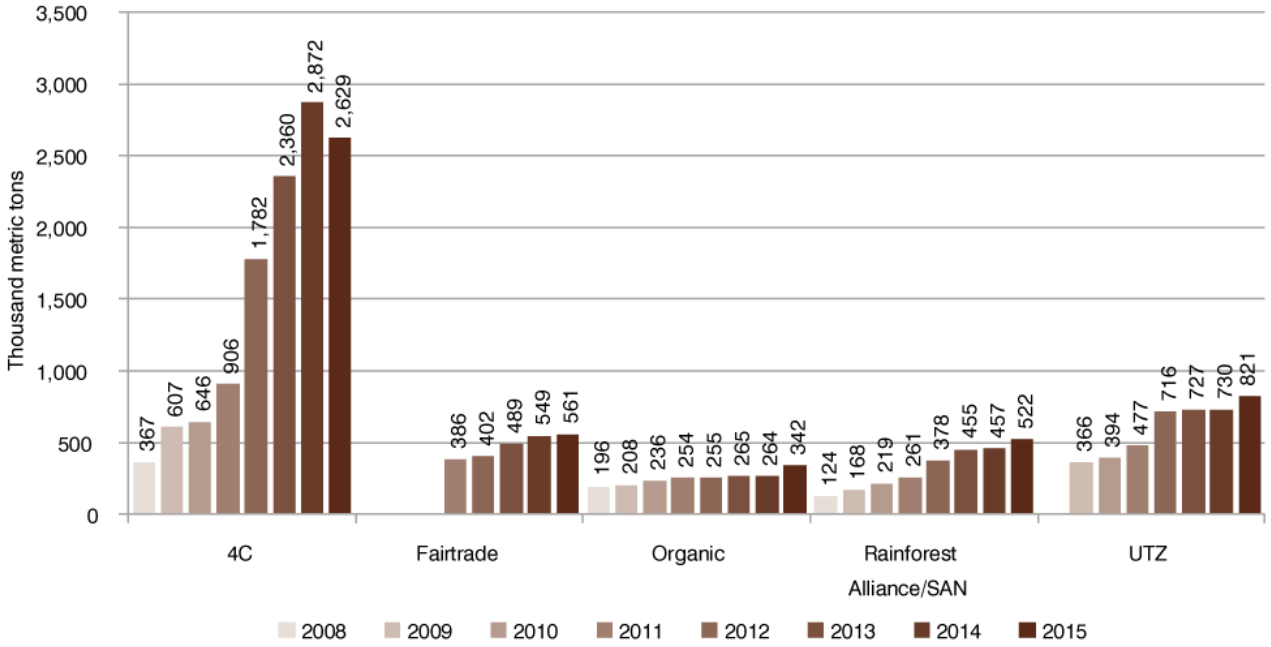
Note: The organic area is the area harvested estimated by FiBL, assuming that 90% of the fully converted area is actually harvested. For the Rainforest Alliance/SAN, the area cultivated is shown.
Sources: 4C, 2014, 2015, and 2016; Fairtrade International, 2017; FiBL, 2017; Rainforest Alliance/SAN, 2014, 2015, and 2016; UTZ, 2014, 2015, and 2016.

Figure 114: Coffee: Average production area, 2008–2015



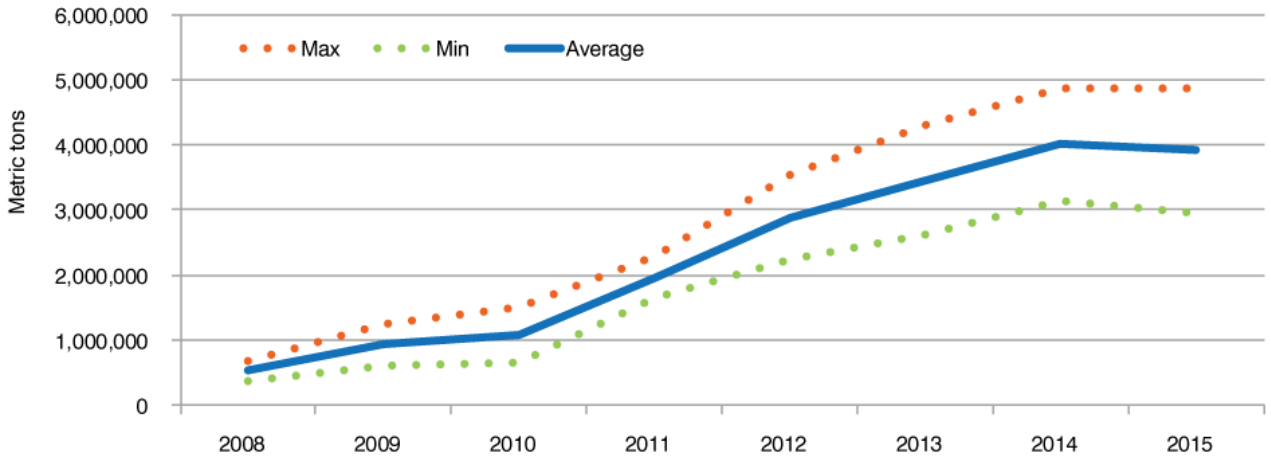
Source: FiBL-IISD-ITC survey, 2017. VSS: 4C, Fairtrade International, organic, Rainforest Alliance/SAN and UTZ.

Figure 115: Coffee: Production volume by standard, 2008–2015



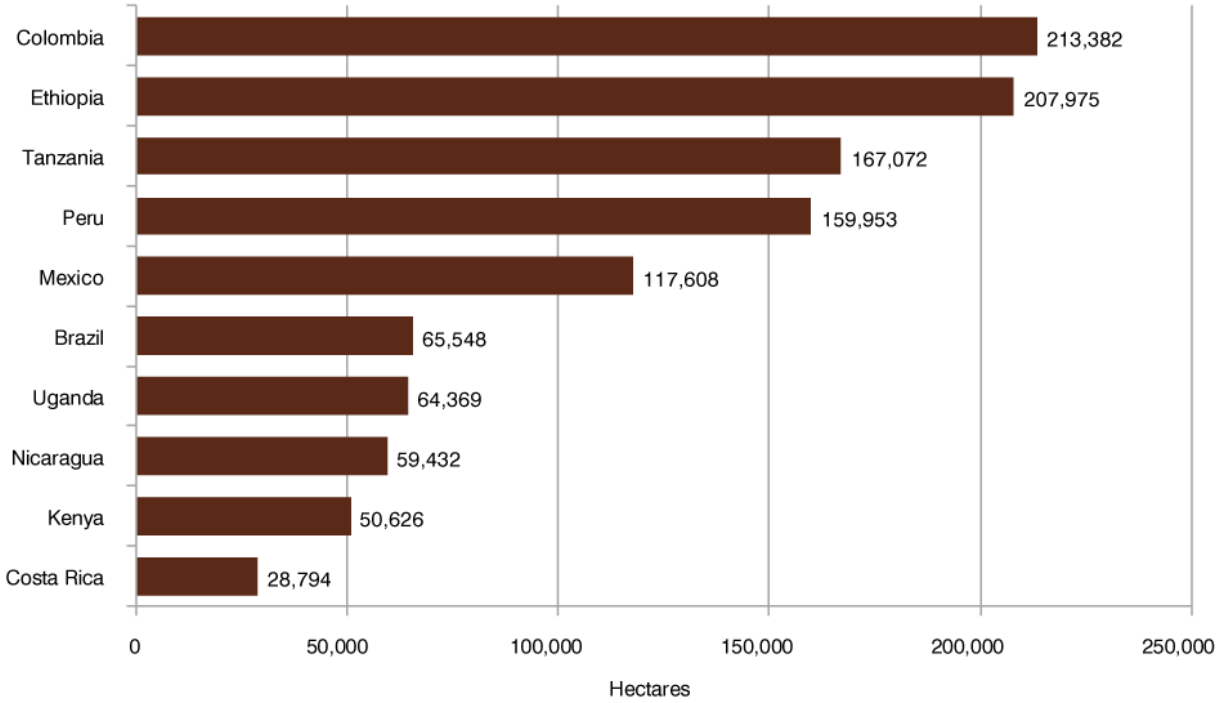
Note: The organic production volume was estimated by FiBL based on estimated yields, as actual data is not available for most of the countries. Please note that UTZ defines certified volume as the estimated production potential.
Sources: 4C, 2014, 2015, and 2016; Fairtrade International, 2017; FiBL, 2017; Rainforest Alliance/SAN, 2014, 2015, and 2016; UTZ, 2014, 2015, and 2016.

Figure 116: Coffee: Average production volume, 2008–2015



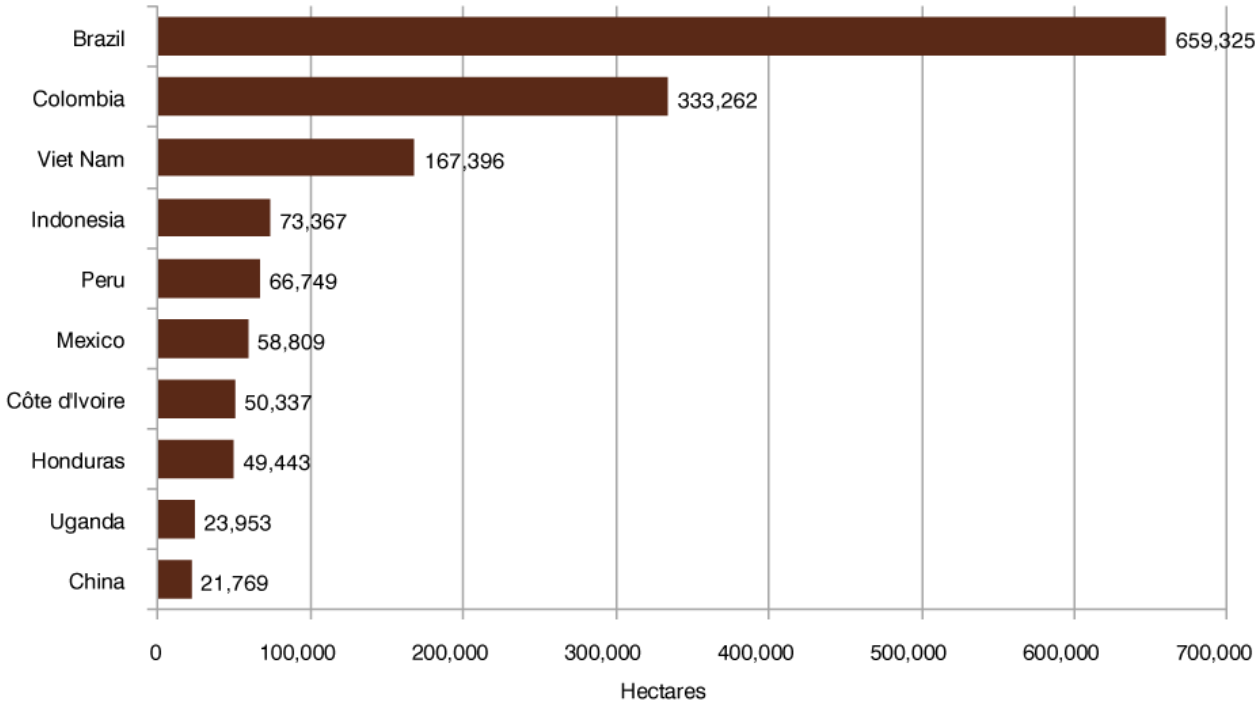
Source: FiBL-IISD-ITC survey, 2017. VSS: 4C, Fairtrade International, organic, Rainforest Alliance/SAN and UTZ.

Figure 117: Coffee: 4C – Top 10 countries by area, 2015



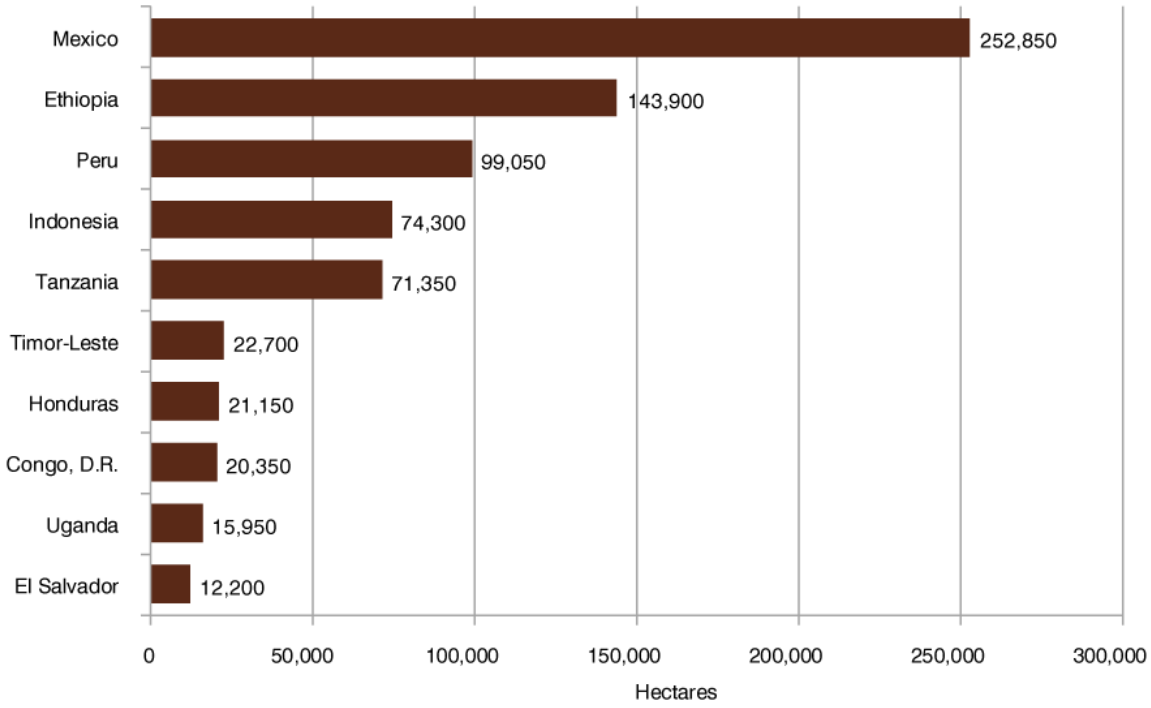
Source: 4C, 2016.

Figure 118: Coffee: Fairtrade International – Top 10 countries by area, 2015



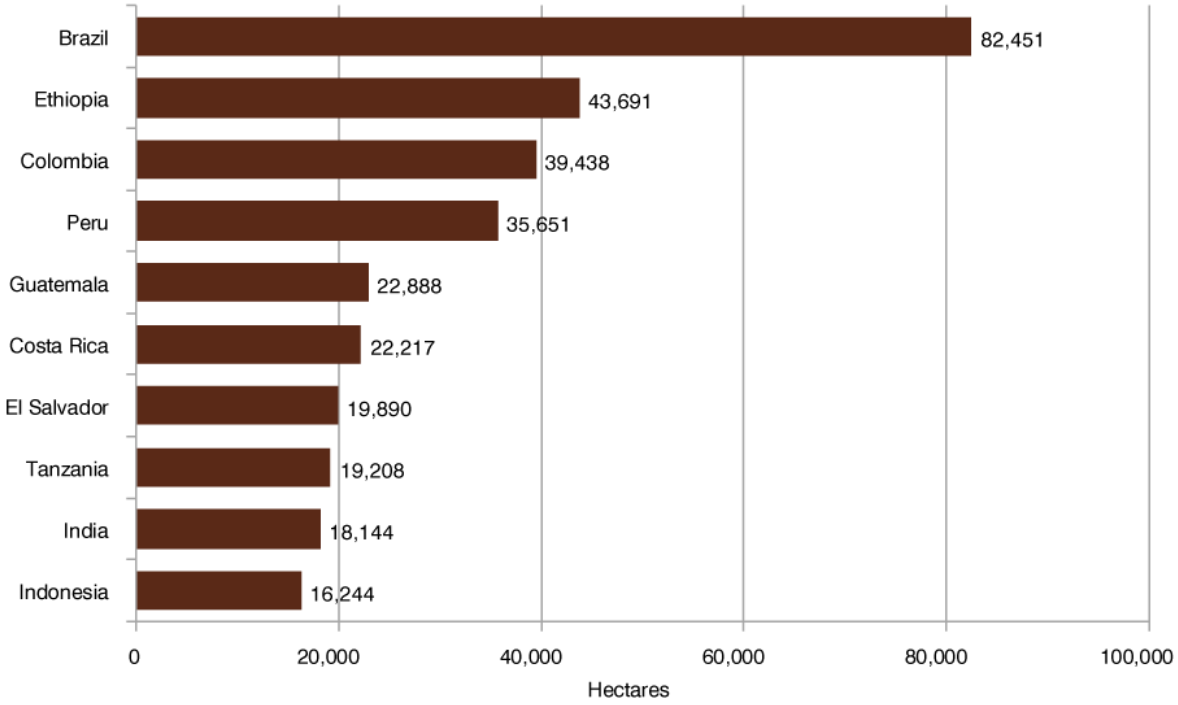
Source: Fairtrade International, 2017.

Figure 119: Coffee: Organic – Top 10 countries by area, 2015



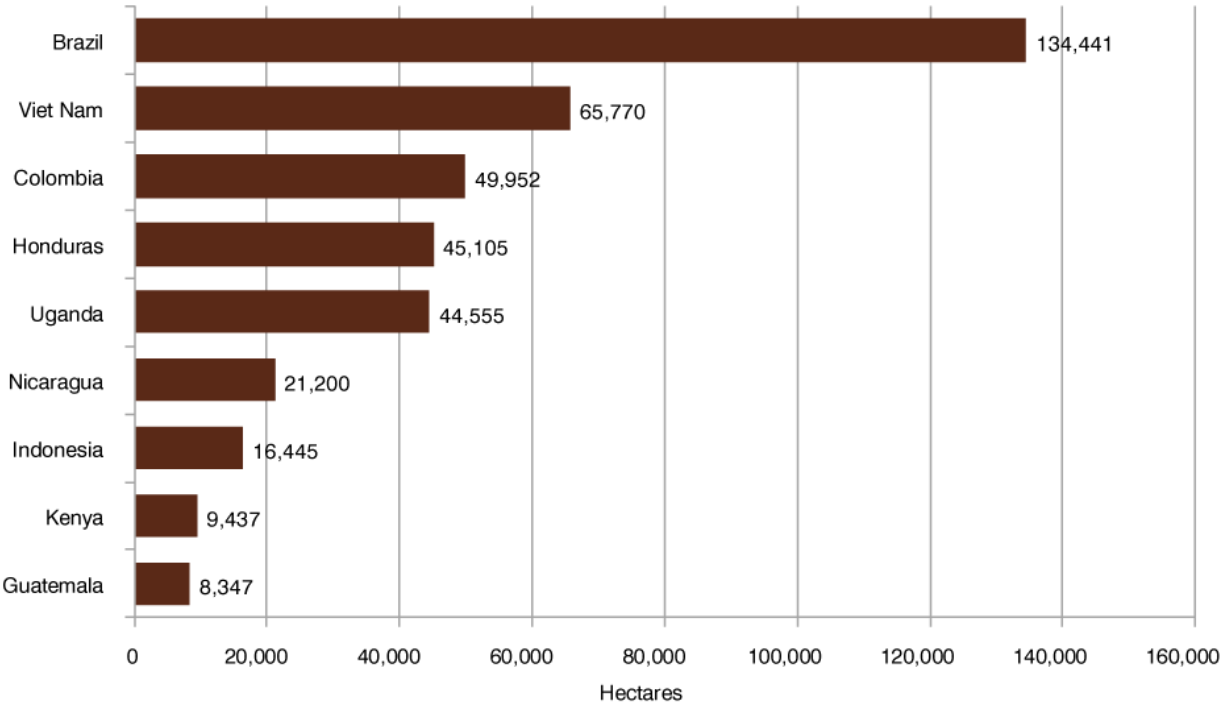
Note: Please note that the organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.
Source: FiBL, 2017. Based on national data sources and data from certifiers.

Figure 120: Coffee: Rainforest Alliance/Sustainable Agriculture Network – Top 10 countries by area, 2015



Source: Rainforest Alliance/SAN, 2016.

Figure 121: Coffee: UTZ – Top countries by area, 2015



Source: UTZ, 2016.

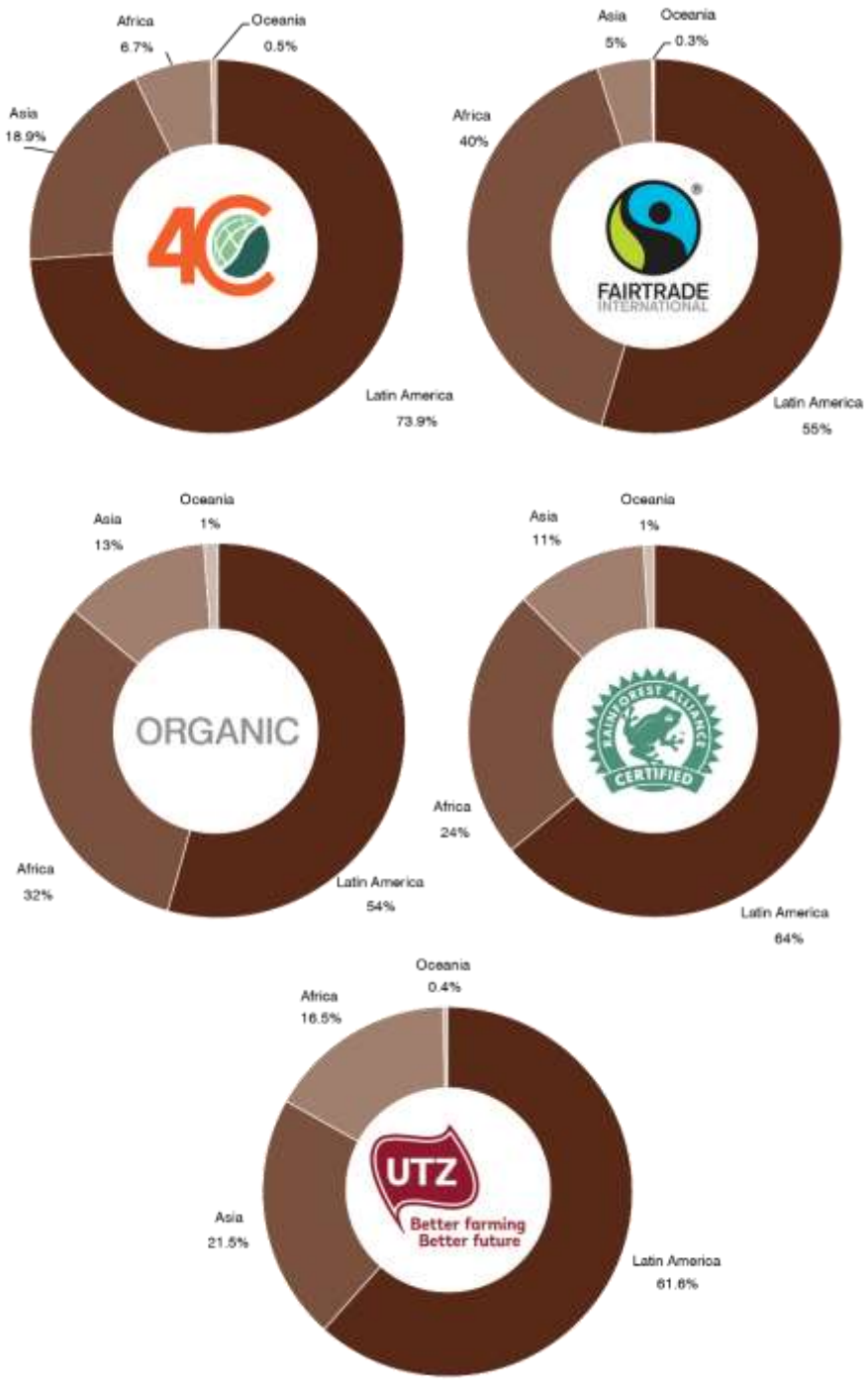


Figure 122: Coffee: 4C certified area by region, 2015

Source: 4C, 2016.

Figure 123: Coffee: Fairtrade certified area by region, 2015

Source: Fairtrade International, 2017

Figure 124: Coffee: Organic certified area by region, 2015

Source: FiBL, 2017. Please note that the organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

Figure 125: Coffee: Rainforest Alliance/Sustainable Agriculture Network certified area by region, 2015

Source: Rainforest Alliance/SAN 2016.

Figure 126: Coffee: UTZ certified area by region, 2015

Source: UTZ, 2016.

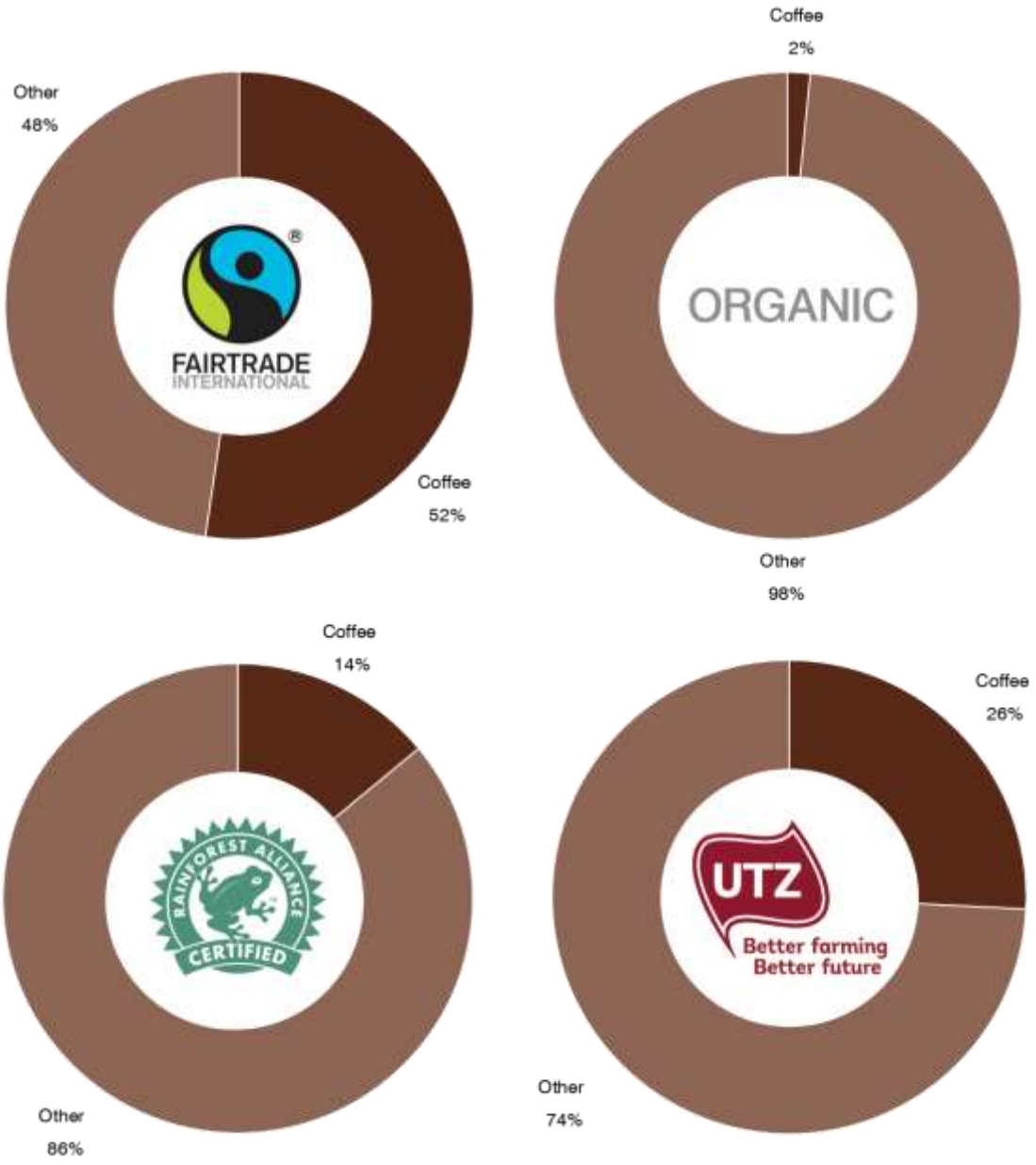


Figure 127: Coffee: Share of Fairtrade area, 2015
Source: Fairtrade International, 2017.

Figure 128: Coffee: Share of Organic area, 2015
Source: FiBL, 2017.

Figure 129: Coffee: Share of Rainforest Alliance/Sustainable Agriculture Network area, 2015
Source: Rainforest Alliance/SAN, 2016.

Figure 130: Coffee: Share of UTZ area, 2015
Source: UTZ, 2016.

Cotton

Cotton market, hampered by high water use, volatile prices and worker exploitation, sees gains in standards compliance

Cotton is one of the world's most pesticide- and water-intensive crops. Large areas of cotton are cultivated on marginal land, albeit with significant inputs of water and fertilizer. In 2014, 26.2 million metric tons of cotton lint were produced. The five largest producing countries accounted for more than 75% of global production: India (24%), China (24%), United States of America (22%), Pakistan (15%) and Brazil (9%) (FAOSTAT, 2017).[44]

Close to 40% of lint production is traded on international markets, valued at nearly $25 billion in 2015 (United Nations, 2016). Production systems vary widely between countries and regions, with cultivation both on plantations and smallholdings; harvested mechanically and by hand; rainfed (50% of plantings) and irrigated; and genetically modified (GM) (68% of plantings in 2014 (ISAAA, 2014)) and non-GM (Ferrigno, 2012; James, 2015).

While significant regional disparities exist in agrochemical use, cotton production accounted for 25% of all insecticides applied in agriculture prior to the widespread introduction of genetically modified BT cotton over the past decade (SEEP, 2012). By 2014, GM cotton accounted for more than two thirds of global plantings (James, 2015). Initially, BT cotton resulted in a significant drop in pesticide usage. However, in recent years pesticide use increased again due to pests developing resistance and heavy attacks of white fly (Kranthi, 2015).

There are, however, indications that the effectiveness of GM seed is partially counterbalanced by certain adverse ecosystem impacts (Gutierrez et. al, 2015).[45] Another important factor in reduced agrochemical use is the widespread adoption of Integrated Pest Management, or the systematic measurement of pests and application of pesticides in line with a needs-based approach.

Cotton's water footprint is remarkable among agricultural crops, accounting for 5% of the world's irrigated area on less than 1% of the world's agricultural area (FAOSTAT, 2017).[46] In practice, irrigation methods have often been inefficient (flood irrigation requires 10 times more water than drip irrigation) and have resulted in a dramatic lowering of the ground water level, water body eutrophication and synthetic fertilizer application or soil salinization. Overall, it is estimated that one third of irrigated cotton production globally is affected by salinity or is expected to become affected by salinity in the near future (Chapagain, Hoekstra, Savenije, & Gautam, 2006).

Cotton prices are highly volatile due to the non-perishable nature of the commodity and its ability to be stockpiled, as well as significant government intervention in markets, its vulnerability to flooding, and pricing pressure from substitutable synthetic fibers. With two thirds of production occurring in developing countries, workers are susceptible to low wages, or in some documented cases, slave labour (Simpson, 2011; Uzbek-German Forum for Human Rights & Cotton Campaign, 2012).

While VSS have been present in the cotton market since the 1980s in the form of organic cotton, increasing demand for social and economic accountability has led to the adoption of several additional voluntary standards over the past decade, notably Fairtrade International, CmiA and BCI. All allow synthetic fertilizers and pesticides, with the exception of Organic, and BCI allows GM seeds as well (BCI 2017).

As with most other agricultural sectors, growth in compliance has been driven by industry commitments, with 10% commitments by 2020 or earlier from such companies as Adidas, H&M, Ikea and Nike (Adidas, n.d.; H & M, 2016; Nike, 2016).

[44] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

[45] The documented increase of the specific "superweed" Palmer amaranth is but one example of ecosystem modification resulting from widespread use of BT cotton. See for example, Gutierrez, Ponti, Herren, Baumgärtner, & Kenmore, 2015.

[46] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

CmiA-certified cotton area grows by 67% in 2014–2015

Cotton was grown on almost 35 million hectares worldwide in 2014 (FAOSTAT, 2017). This represented 0.7% of the global agricultural land. The largest producing countries were India (13 million hectares), China (4.2 million hectares), United States of America (3.8 million hectares), Pakistan (almost 3 million hectares) and Uzbekistan (1.3 million hectares). Together, these countries accounted for 73% of the total cotton area. In 2014, 79 million metric tons of seed cotton and 26 million metric tons of cotton lint (FAOSTAT, 2017) were produced worldwide.

Four of the VSS covered in this report – **BCI**, **CmiA**, **Fairtrade International** and **Organic** – certified cotton production. Combined, they certified a minimum of 3.2 million hectares and a maximum of 3.6 million hectares in 2015 (average 3.4 million hectares).[47] In terms of the proportion of the VSS-certified area of the global cotton area, the minimum represents 9.1%, the maximum 10.3% and the average, 9.7% **BCI** had the largest VSS-certified cotton area, 2.2 million hectares, and showed the highest growth, a ninefold increase between 2011 and 2015.

BCI cotton was grown on more than 2.2 million hectares worldwide in 2015, or 6.4% of the global cotton area and 6.8% of the global seed cotton production volume (5.4 million metric tons) and 8% of the global cotton lint production volume (2.1 million metric tons). In 2015, the countries with the largest **BCI** cotton areas were India (638, 000 hectares), Brazil (556,000 hectares), Pakistan (498,000 hectares), and China (246,000 hectares). These three countries represent almost 87% of the total **BCI** cotton area. Between 2011 and 2015, that area has increased ninefold, and grew by almost 38% between 2014 and 2015 alone.

CmiA certified more than 975,000 hectares of cotton in 2015, representing almost 3% of the global cotton area and 21% of the cotton area in Africa. Almost 342,000 metric tons of cotton lint were produced in 2015, which is about 1.3% of global production, and 21% of the cotton lint produced in Africa was **CmiA-**certified. **CmiA** was active in 11 countries, with the largest areas in Côte d'Ivoire (367,000 hectares), Zambia (almost 225,000 hectares) and Cameroon (almost 210,000 hectares). Together, these three countries accounted for 82% of the total **CmiA** area. Between 2011 and 2015, that area has more than trebled, and grew by almost 67% between 2014 and 2015 alone.

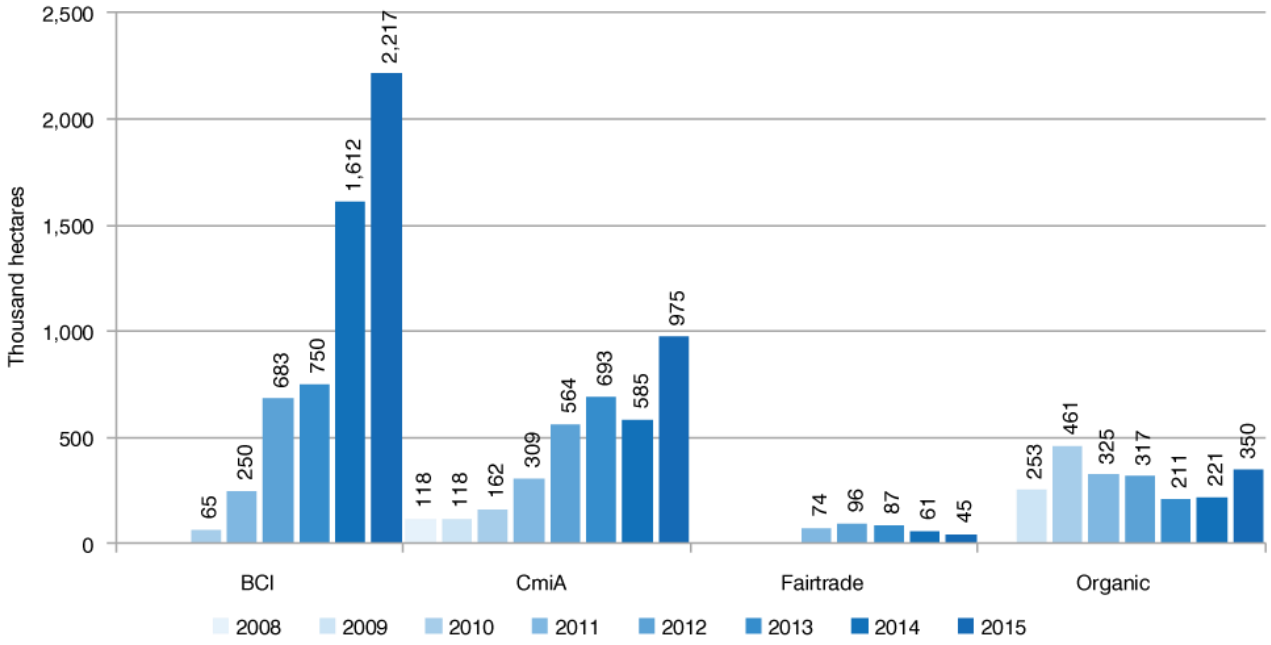
Fairtrade International certified more than 45,000 hectares of cotton in 2015, constituting 0.1% of the global cotton area. Almost 44,000 metric tons of cotton lint were produced, representing 0.2% of the global cotton lint production volume. The standard's largest cotton areas were in India (almost 33,000 hectares) and Senegal (more than 3,000 hectares). Between 2011 and 2015, that area has decreased by almost 40%, and by almost 26% between 2014 and 2015 alone.

Organic cotton represented 1% of the global cotton area, more than 350,000 hectares. According to the Textile Exchange, more than 308,000 metric tons of seed cotton were registered in 2015 (0.4% of the world's seed cotton production), and over 112,000 metric tons of cotton lint (0.4% of the global cotton lint production). India (almost 277,000 hectares), the United Republic of Tanzania (16,800 hectares) and Ethiopia (11,000 hectares) had the largest **organic** cotton areas. Together, these countries accounted for 87% of the total **organic** cotton area. Between 2011 and 2015, that area has increased by almost 8%, and by almost 59% between 2014 and 2015 alone.

For tables on VSS-compliant cotton production, see the Appendix.

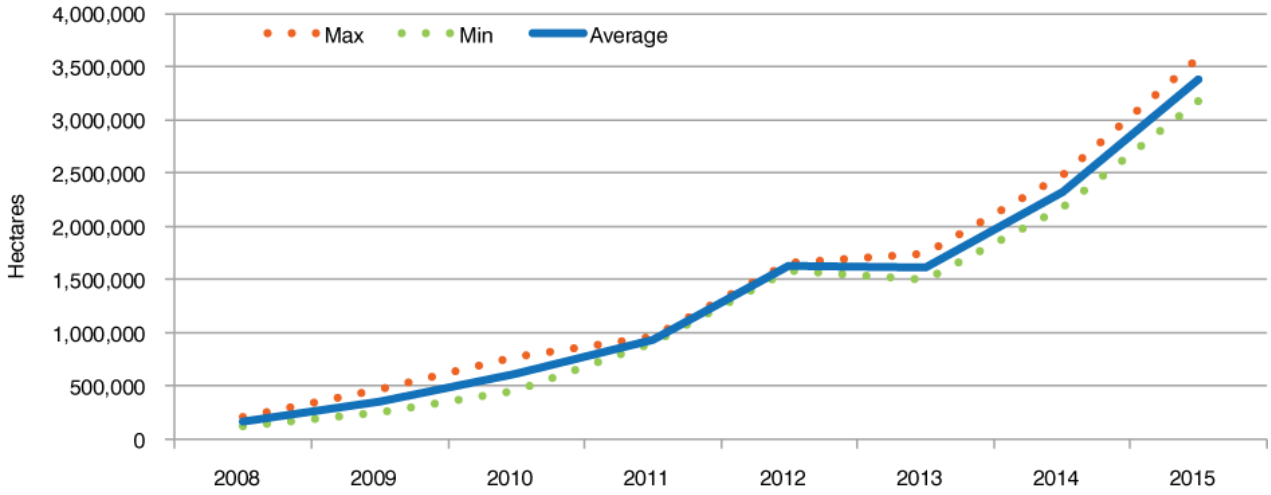
[47] Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area gives an estimate of the possible VSS area for a given commodity. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

Figure 131: Cotton: Production area by standard, 2008–2015



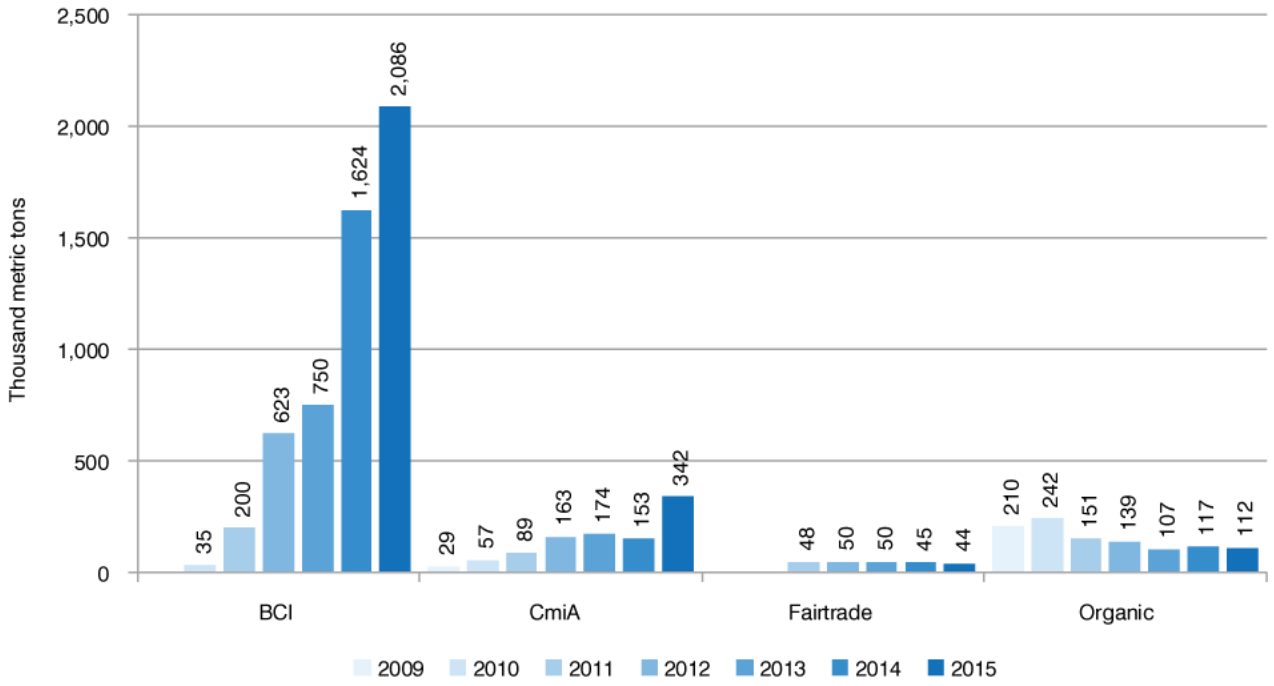
***Sources**:* Better Cotton Initiative, 2014, 2015, and 2016; Cotton Made in Africa, 2014, 2015, and 2016; Fairtrade International, 2017; Textile Exchange, 2014, 2015, and 2016.

Figure 132: Cotton: Average production area, 2008–2015



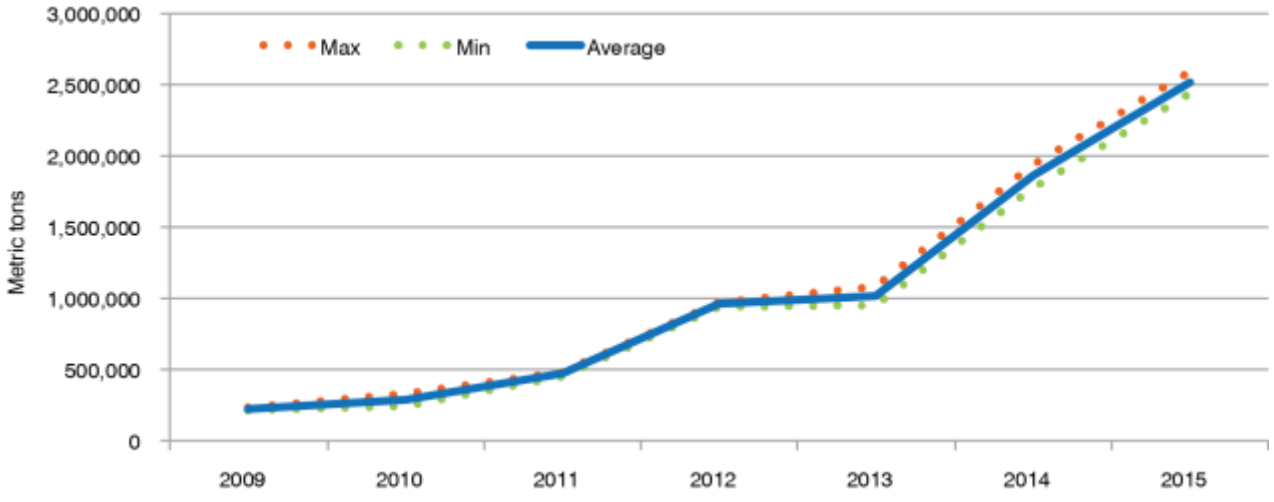
***Source**:* FiBL-IISD-ITC survey, 2017. VSS: Better Cotton Initiative, Cotton Made in Africa, Fairtrade International and organic.

Figure 133: Cotton lint: Production volume by standard, 2008–2015



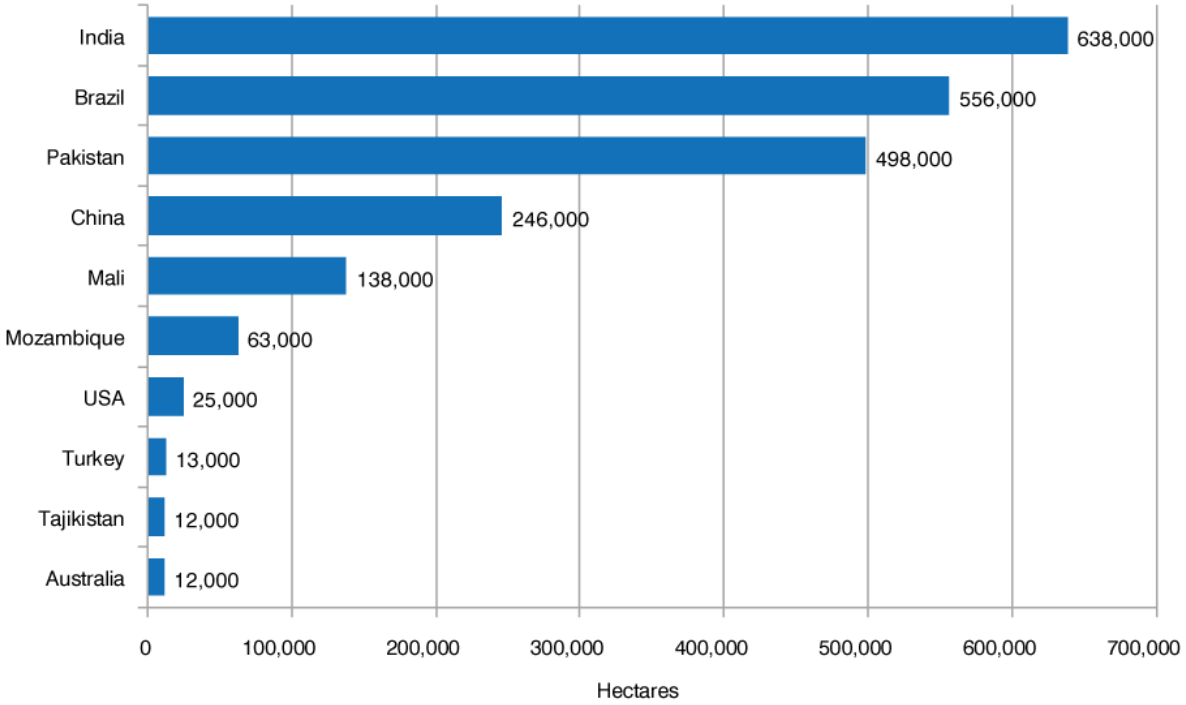
***Sources**:* Better Cotton Initiative, 2014, 2015, and 2016; Cotton Made in Africa, 2014, 2015, and 2016; Fairtrade International, 2017; Textile Exchange, 2014, 2015, and 2016.

Figure 134: Cotton: Average production volume, 2008–2015



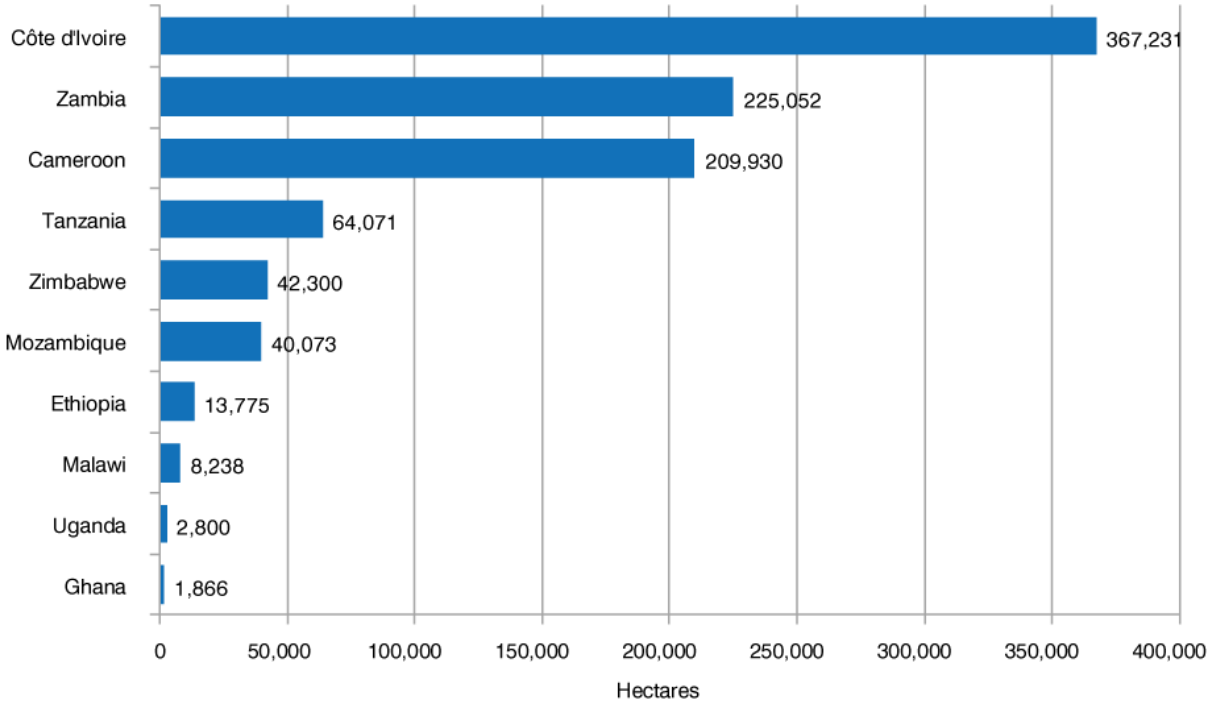
***Source**:* FiBL-IISD-ITC survey, 2017. VSS: Better Cotton Initiative, Cotton Made in Africa, Fairtrade International and organic.

Figure 135: Cotton: Better Cotton Initiative – Top countries by area, 2015



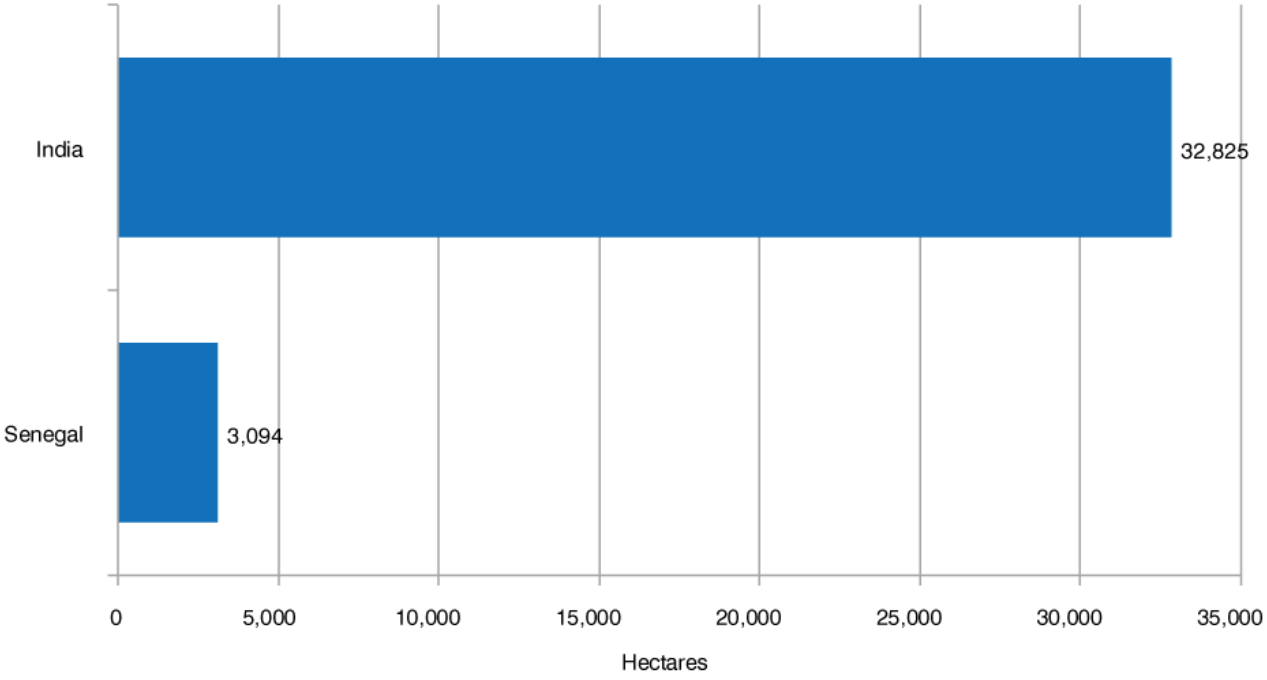
***Source**:* Better Cotton Initiative (BCI), 2016.

Figure 136: Cotton: Cotton made in Africa – Top countries by area, 2015



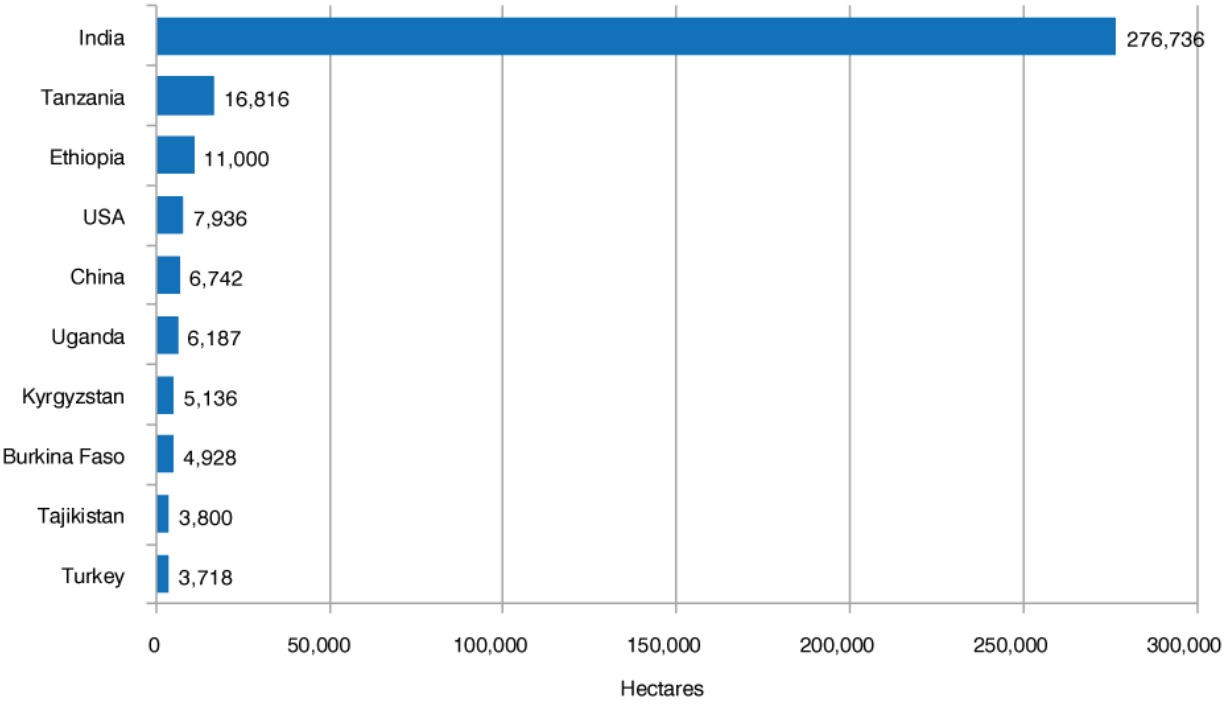
***Source**:* Cotton Made in Africa (CmiA), 2016.

Figure 137: Cotton: Fairtrade International – Top countries by area, 2015



***Source**:* Fairtrade International, 2017.

Figure 138: Cotton: Organic – Top 10 countries by area, 2015



***Source**:* Textile Exchange, 2016.

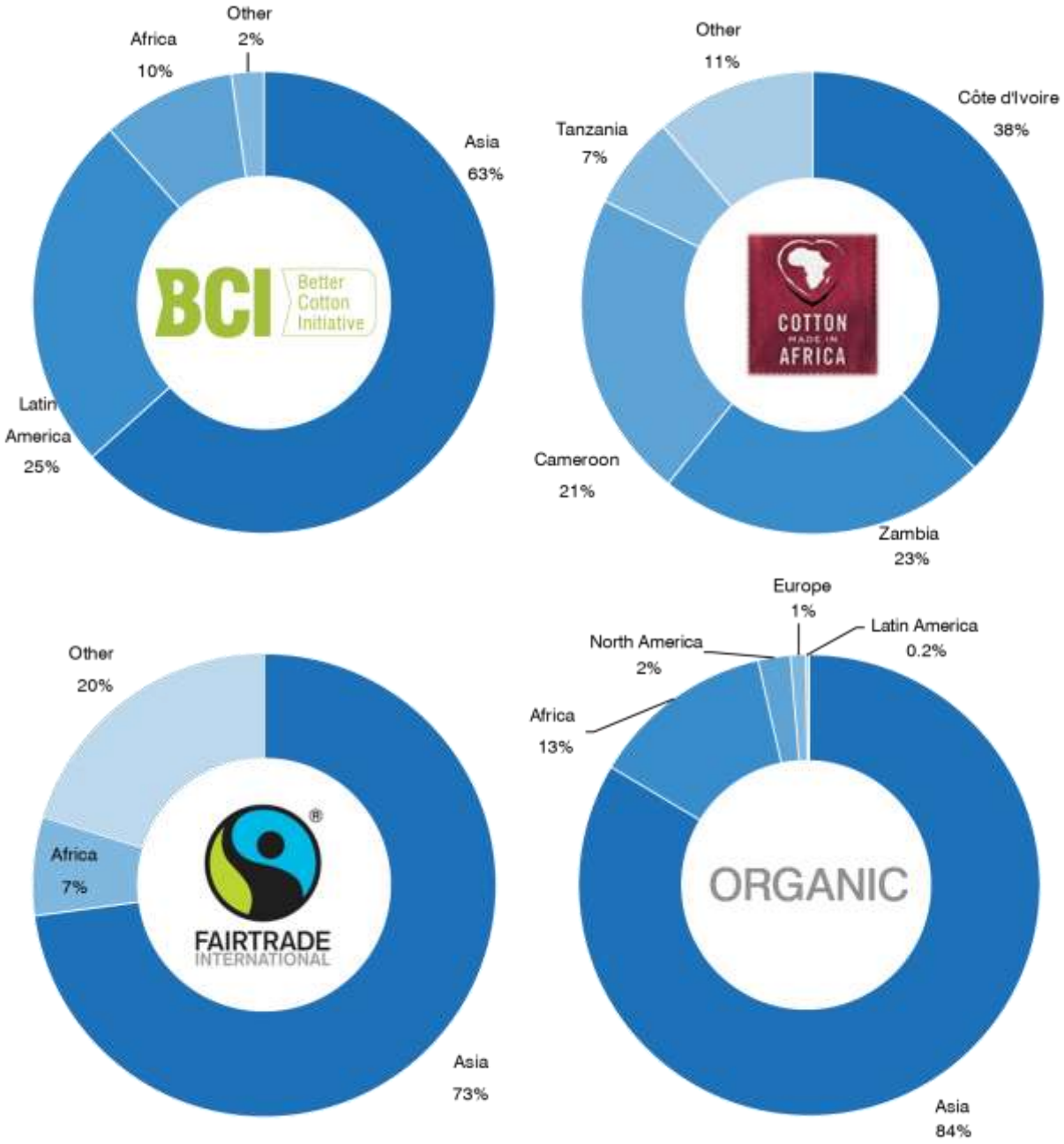


Figure 139: Cotton: Better Cotton Initiative certified area by region, 2015
***Source**:* Better Cotton Initiative (BCI), 2016.

Figure 140: Cotton: Cotton made in Africa certified area by country, 2015
Source: Cotton Made in Africa (CmiA), 2016.

Figure 141: Cotton: Fairtrade certified area by region, 2015
***Source**:* Fairtrade International, 2017.

Figure 142: Cotton: Organic certified area by region, 2015
***Source**:* Textile Exchange, 2016.

Palm oil

Palm oil, a major driver of deforestation, now among the fastest-growing VSS-compliant sectors

Palm oil is used primarily as edible oil, with India, Indonesia, the EU and China being the largest consumers, although half the palm oil imported into Europe is used for biodiesel (Nelsen, 2016). Among the class of oil crops, palm oil is one of the most efficient in terms of land use, with a per acre productivity between three and eight times higher than for the other major oil crops, such as rape, sunflower and soybean (Barcelos et al., 2015).

From this perspective, palm oil has the potential to provide an efficient source of calories to a growing world population. However, palm oil grows best in the equatorial climates of tropical rainforests and is a major driver of deforestation in these areas (Wakker et al., 2004; Vijay et al., 2016). With 85% of production occurring in the designated biodiversity hotspots of Indonesia (51%) and Malaysia (34%), where production has grown by 10% and 5% per annum respectively over the past 20 years (FAOSTAT, 2017),[48] palm oil expansion currently represents a serious threat to global biodiversity and contributes to the risk of climate change. In 2014, the global palm oil trade was worth $34 billion (United Nations, 2016).

The link between palm oil production and deforestation reached international attention during the great fires of 1997, when much of South-East Asia was covered in smoke from slash-and-burn clearing for palm oil plantations. While there has been a moratorium on deforestation in Indonesia since 2011, rates of illegal logging there are estimated at 80% (Indonesia Investments, 2005).

Due in part to the urgency of the problem, standard-compliant palm oil, and specifically palm oil certified under RSPO, was one of the fastest-growing VSS-compliant agricultural products between 2008 and 2015. Other factors that have made the sector conducive to participation in standards markets are that over three quarters of palm oil is traded on international markets, that large private companies account for a significant amount of production (about half in Indonesia, for example (Indonesia Investments, 2005)), and that RSPO operates partly on a credit-trading system, allowing for lower costs and faster participation in the market.

One of the most important contributing factors to deforestation in the palm oil sector is that inadequate monitoring mechanisms have historically limited accountability and law enforcement. However, in 2014 RSPO became the first VSS to implement full disclosure of its compliant concessions using Geographic Information Systems (GIS) technology through Global Forest Watch, a milestone for transparency in the sector (World Resources Institute, 2014). Global Forest Watch also uses GIS to track deforestation, allowing, among other things, for stakeholders to observe where deforestation is occurring in relation to RSPO holdings.

AAK, KLK, Unilever and Sainsbury's have each committed to 100% RSPO certified palm oil. Additionally, RSPO has facilitated several national initiatives in Europe that have set goals for 100% RSPO-certified palm oil sourcing (at the national level) between 2014 and 2020, including Norway, Denmark, Belgium, France, Germany, Austria, Switzerland, United Kingdom, Netherlands, Sweden and Italy (RSPO, 2017b).

RSPO covers 15% of global oil palm area

Oil palm was grown on more than 18 million hectares worldwide in 2014 (FAOSTAT, 2017).[49] This represented 0.4% of the global agricultural land. The countries with the largest area were Indonesia (7.4 million hectares), Malaysia (4.7 million hectares), Nigeria (3 million hectares), Thailand (0.7 million hectares) and Ghana (0.35 million hectares), representing 87% of the total oil palm area. In 2014, more than 274 million metric tons of oil palm were produced worldwide, and 57 million metric tons of palm oil (FAOSTAT, 2017).

Three of the voluntary standards covered in this report – **organic**, **RA/SAN** and **RSPO** – certified oil palm production. Combined, they certified a minimum of 2,784,000 hectares and a maximum of almost

[48] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.
[49] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

2,828,000 hectares in 2015 (average 2,806,000 hectares).[50] In terms of the proportion of the VSS-certified area of the global oil palm area, the minimum represents 14.9%, the maximum 15.1% and the average, 15%. **RSPO** has the largest VSS-certified oil palm area, 3.5 million hectares, and **RA/SAN** showed the largest area growth, 36% between 2013 and 2015.

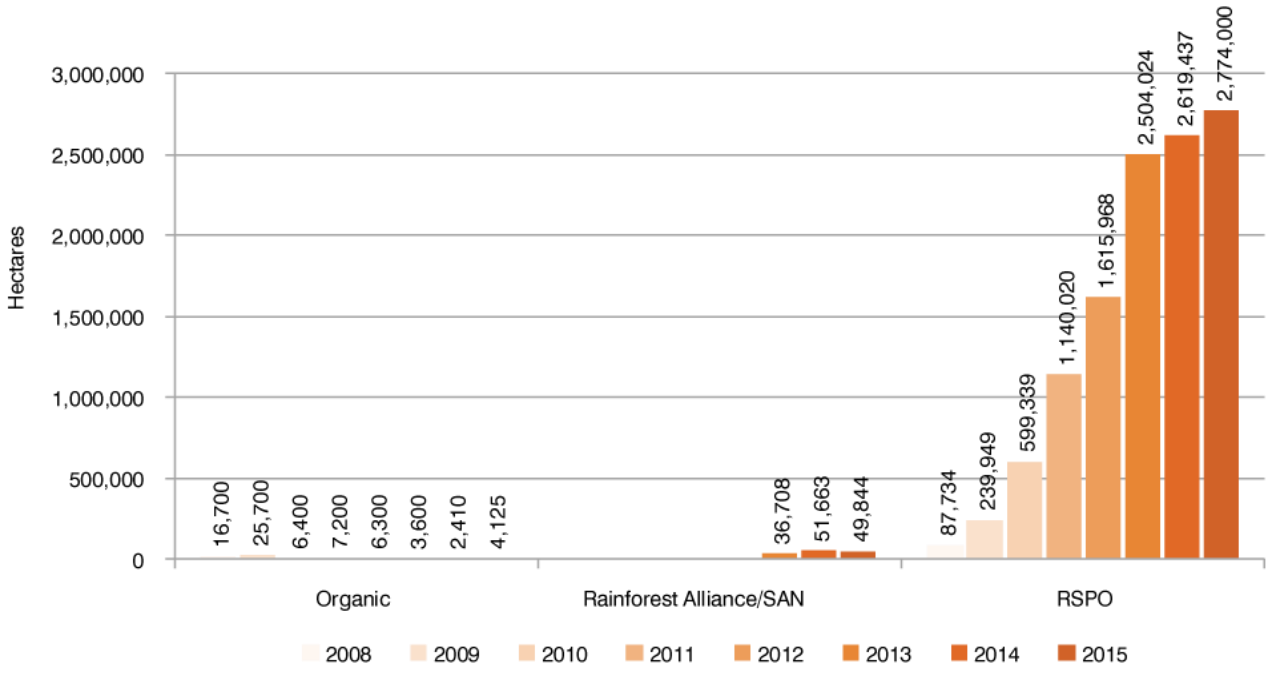
Organic oil palm represented 0.02% of the global oil palm area, with an estimated harvested area of 4,125 hectares.[51] FiBL estimates that almost 36,500 metric tons of oil palm were produced in 2015, which is about 0.01% of world production. **Organic** oil palm was produced in six countries, with the biggest areas in Ghana (1,400 hectares) and Colombia (1,200 hectares). The **organic** oil palm area has increased by 15% between 2013 and 2015.

Almost 50,000 hectares of oil palm worldwide were **RA/SAN**-certified in 2015, or more than 856,000 metric tons. In 2015, four countries were producing **RA/SAN** oil palm: Guatemala (over 28,000 hectares), Honduras (more than 10,000 hectares), Indonesia (6,000 hectares) and Colombia (5,200 hectares). The **RA/SAN** oil palm area has increased by 36% between 2013 and 2015, the first year data became available.

RSPO certified almost 3.5 million hectares (2.8 million hectares cultivated) of oil palm in 2015, representing almost 15% of the global oil palm area. Some 12.9 million metric tons of palm oil were produced that year. **RSPO** was active in 15 countries, with the largest areas were in Indonesia (1.2 million hectares), Malaysia (almost 1.2 million hectares) and Papua New Guinea (more than 143,000 hectares). Together, these countries accounted for almost 74% of the total **RSPO** palm oil area. Between 2013 and 2015, that area increased by almost 16%.

For tables of VSS-compliant oil palm production, see the Appendix.

Figure 143: Oil Palm: Production area by standard, 2008–2015

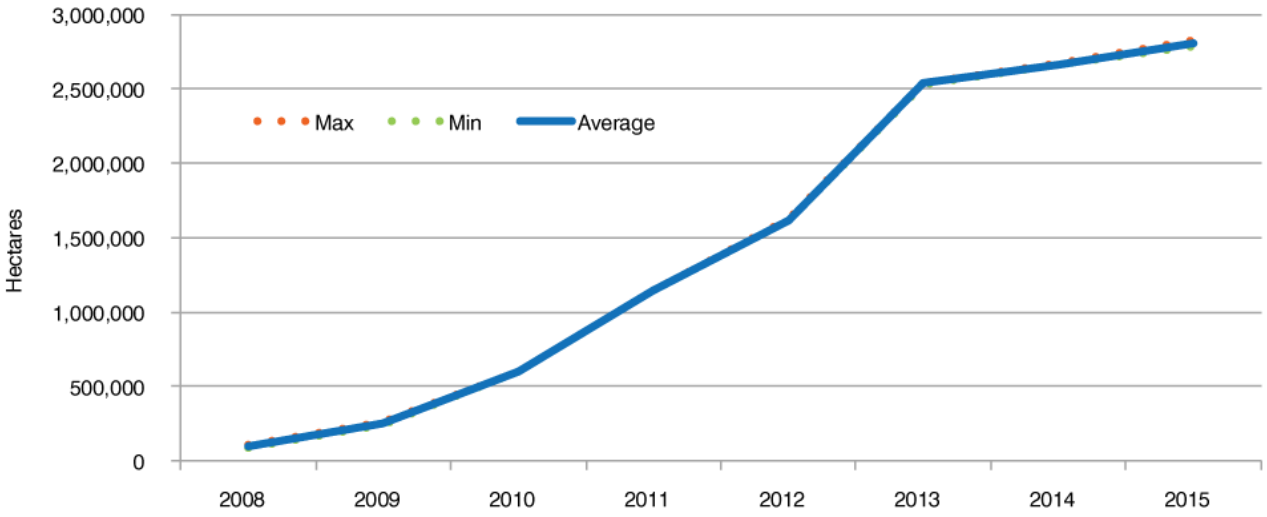


***Sources**:* FiBL, 2017; Rainforest Alliance/SAN, 2015 and 2016; Roundtable on Sustainable Palm Oil (RSPO), 2014, 2015, and 2016.
Note: The organic area is the area harvested estimated by FiBL, assuming that 90% of the fully converted area is actually harvested. For the Rainforest Alliance/SAN, the area cultivated is shown.

[50] Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area gives an estimate of the possible VSS area for a given commodity. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

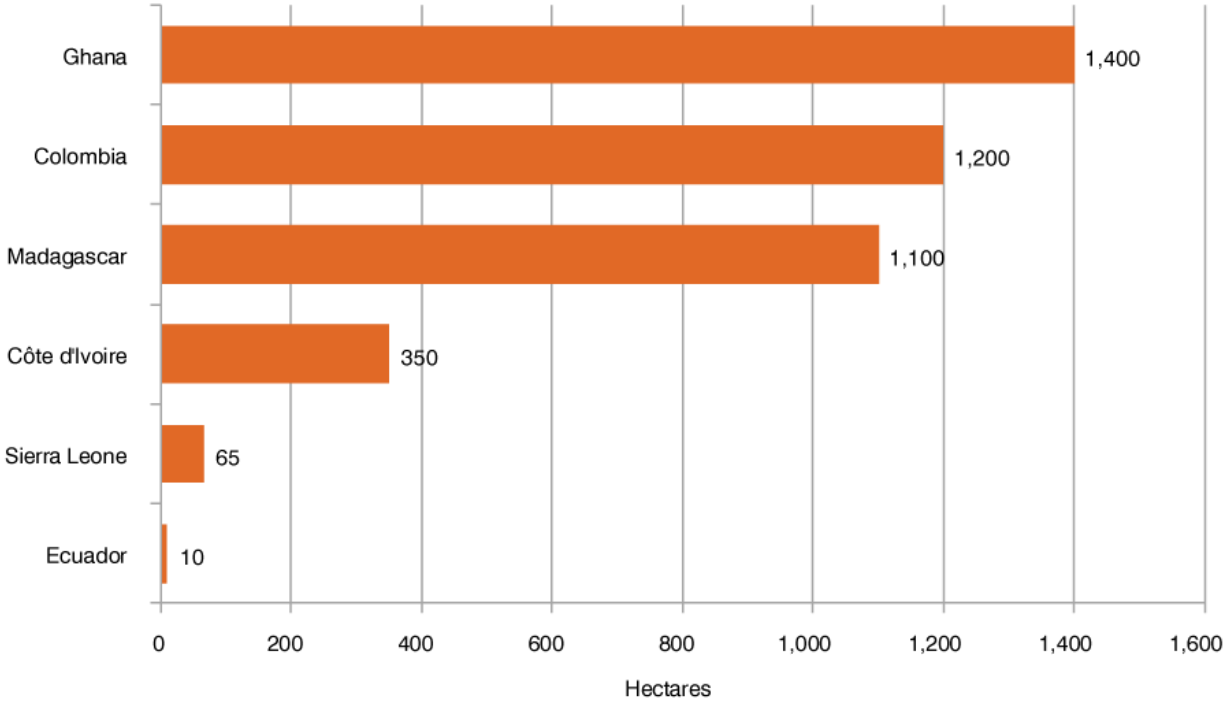
[51] In total, 5,028 hectares of organic oil palm were certified in 2015 (including in-conversion areas), representing 0.03% of the global oil palm area (Willer/Lernoud, 2017).

Figure 144: Oil Palm: Average production area, 2008–2015



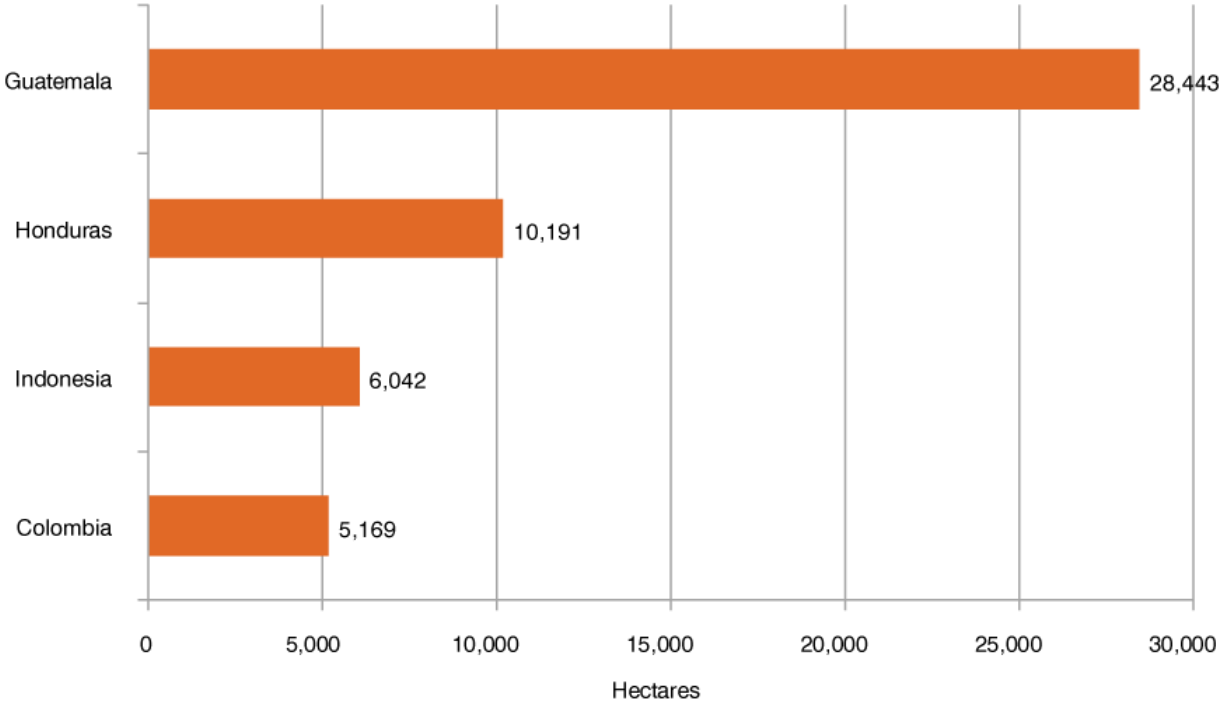
Note: For Rainforest Alliance/SAN, data has been available since 2013. Please note that due to the dominance of RSPO, multiple certifications do not play a major role.
Source*:* FiBL-IISD-ITC survey, 2017. VSS: organic, Rainforest Alliance/SAN and Roundtable on Sustainable Palm Oil (RSPO).

Figure 145: Oil Palm: Organic – Top countries by area, 2015



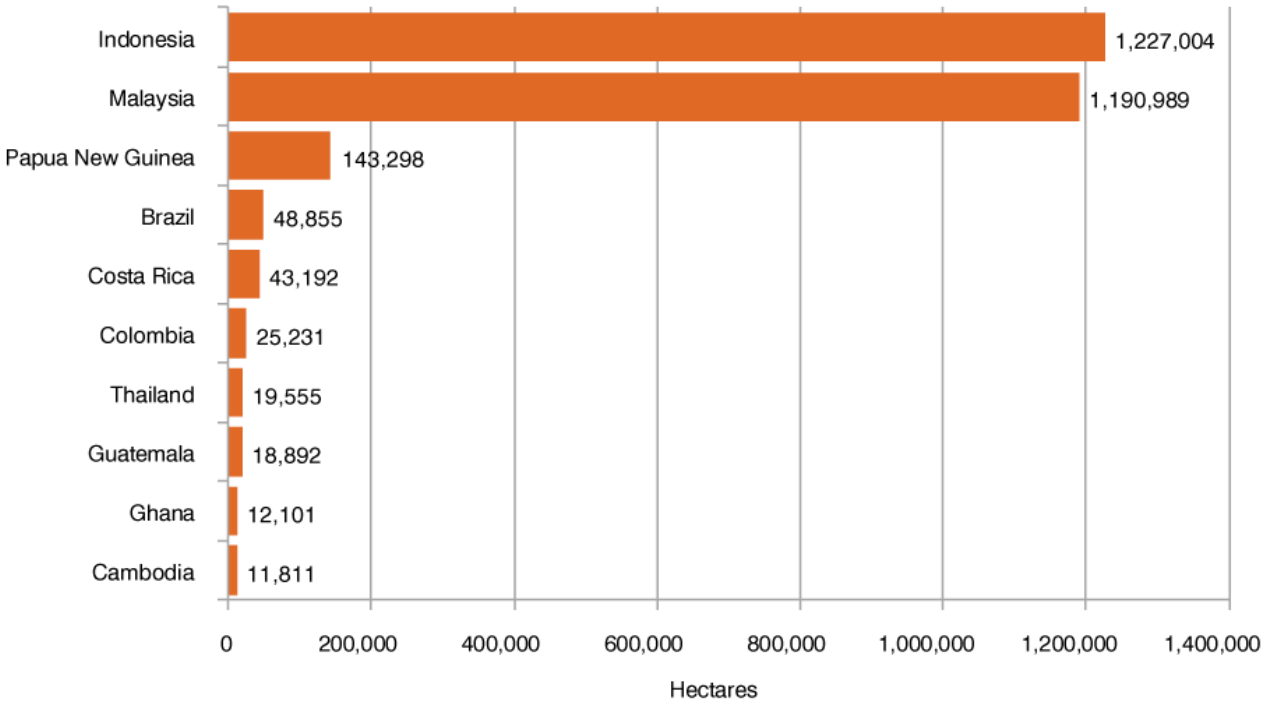
Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.
Source*:* FiBL, 2017. Based on national data sources and data from certifiers.

Figure 146: Oil Palm: Rainforest Alliance/Sustainable Agriculture Network – Top countries by area, 2015



***Source**:* Rainforest Alliance/SAN, 2016.

Figure 147: Oil Palm: Roundtable on Sustainable Palm Oil – Top 10 countries by area, 2015



***Source**:* Roundtable on Sustainable Palm Oil (RSPO), 2016.

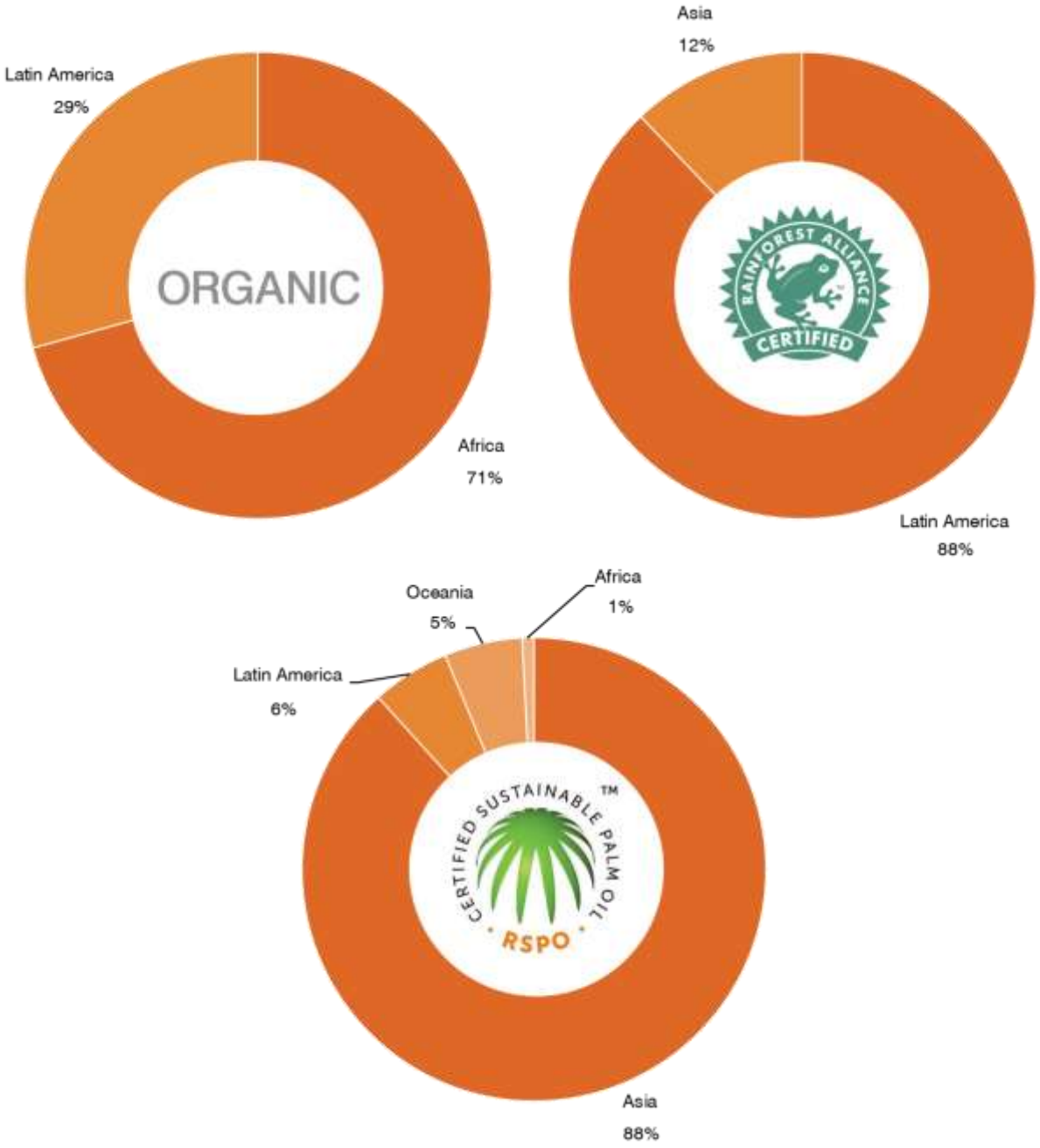


Figure 148: Oil Palm: Organic certified area by region, 2015

Note: that the organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

Source*:* FiBL, 2017.

Figure 149: Oil Palm: Rainforest Alliance/Sustainable Agriculture Network certified area by region, 2015

Source*:* Rainforest Alliance/SAN, 2016.

Figure 150: Oil Palm: Roundtable on Sustainable Palm Oil certified area by region, 2015

Source*:* Roundtable on Sustainable Palm Oil (RSPO), 2016.

Soy

Rising demand for soy feed that is not genetically modified

Approximately 70% of soybeans are produced for animal feed, with demand increasing rapidly due to rising median incomes across the developing world, which in turn increases the consumption of higher-protein diets, especially meat products (Product Board MVO, 2011). In 2014, 306 million metric tons of soy were produced on 2.4% of the world's agricultural land, up from 1.5 % in 2000, with more than 80% coming from three countries: the United States of America (35%), Brazil (28%) and Argentina (17%) (FAOSTAT, 2017).

The soy trade was valued at $59 billion in 2014 (United Nations, 2016). Soy production has expanded particularly rapidly in South America, where GM varieties prevail (similar to the United States of America) (GMO compass, 2014). Brazil, for example, experienced a 30% increase in land devoted to soybean cultivation between 2000 and 2014 (FAOSTAT, 2017). The expansion of soy in South America is directly or indirectly linked to deforestation.

About two thirds of all the soybeans produced worldwide are traded on international markets, of which two thirds go to China and 14% to the EU (United Nations, 2016).

Soy is traditionally a temperate-climate crop and was not historically cultivated in such tropical areas as the Brazilian Cerrado until the widespread use of GM soy began (Kaimowitz and Smith, 2001). Brazil is second only to the United States of America in the production of GM soy, which is now the most expansively cultivated GM crop in the world, boasting a global adoption rate of 83% (ISAAA, 2015). Roundup Ready varieties are most common, as they simplify production, especially when accompanied by weed management that uses the herbicides to which these GM varieties are resistant (Economic Research Service (ERS) 2016).

As most countries – including the EU members, most of which ban the production of GM soy but not imports of GM soy for feed purposes – allow imports of GM soy for animal feed purposes, the expansion of GM varieties continues. At the same time, the demand for GM-free feed soy, especially in Europe, is increasing, mainly driven by large food retailers that are eager to offer their customers non-GM products, including meat and eggs produced without feed based on GM.

As to voluntary standards for soy, two issues are of relevance: deforestation and GM soy. In order to source soy from tropical regions without causing deforestation, the Basel Criteria for soy were developed in 2004 as a collaborative effort between WWF and the Swiss retailer Coop (ProForest, 2004). While the Basel Criteria were not developed as a full-fledged standard, they are the foundation upon which the ProTerra and RTRS standards were developed.[52]

ProTerra has become the largest GM-free soy standard, also serving as the reference standard for Danube Soy (www.donausoja.org), the leading association in promoting the production and use of non-GM soy in Europe. Unlike ProTerra, RTRS allows GM soy and has an EU-RED[53] compliant scheme for soy-based biodiesel imports: RTRS EU-RED (European Commission, 2017).

Since the European Union is the only major market for non-GM soy, the standard-compliant soy market has remained small relative to other agricultural sectors. One factor that sets soy apart from other standard-compliant agricultural markets is that only a small share of it is consumed directly as food, i.e. most is used for feeding animals. It follows that certified soy would be more appealing within the context of a market with a significant demand for livestock standards, as is currently the case in the aquaculture and organic livestock sectors.

As regards organic livestock products, there is a major consumer demand, particularly for eggs (in some countries 20% or more of the eggs sold are organic (Willer et al., 2017), which creates a large demand for organic soy for feed). This demand is expected to increase because of the constantly growing organic market. Furthermore, according to the EU regulation on organic agriculture, organic animal feed (currently

[52] For a comprehensive history of the growth of standards in each sector see *The State of Sustainability Initiatives: Standards and the Green Economy* (Potts et al., 2014).

[53] European Parliament and Council 2009 Directive of Renewable Energies (EU-RED).

95%) must be 100% organic from 2018 onwards (Council of the European Union, 2007). Additionally, some European countries, retailers and organic producer associations have agreed to increasingly source organic soy from within Europe. In Switzerland, for instance, the organic farmer organization Bio Suisse, together with retailers, feed mills and importers, has agreed to abandon imports from overseas and to source exclusively organic soy and all other feeding components from Europe from 2019 onwards (Bernet et al., 2016).

Within Europe, different public and private initiatives also work towards expanding the production of soy. In order to produce soy also in colder regions, especially northern Europe, important breeding efforts are under way to develop soy varieties that are adapted to these conditions (Bernet et al., 2016).

Certified soybeans are grown on 2.2% of world's soybean area

Soybeans were grown on more than 117 million hectares worldwide in 2014 (FAOSTAT, 2017),[54] representing 2.4% of the global agricultural land. The largest soybean areas were in the United States of America (33.4 million hectares), Brazil (30.3 million hectares), Argentina (19.3 million hectares), India (10.9 million hectares) and China (6.8 million hectares). Together, these countries accounted for nearly 86% of the total soybean area. In 2014, more than 306 million metric tons of soybeans were produced worldwide (FAOSTAT 2017).

Three of the standards covered in this report – **Organic**, **ProTerra Foundation** and **RTRS** – certified soybean production. Combined, they certified a minimum of 2.5 million hectares and a maximum of almost 3.1 million hectares in 2015 (average 2.8 million hectares).[55] In terms of the proportion of the VSS-certified area of the global soybean area, the minimum represents 2.2%, the maximum 2.6% and the average, 2.4%. **ProTerra Foundation** has the largest VSS-certified soybean area, 1.8 million hectares; the largest growth (2011 to 2015) was noted for **RTRS**, a fivefold increase.

Organic soybeans represented 0.4% of the global soybean area; the harvested area was more than 500,000 hectares.[56] FiBL estimates that almost 0.9 million metric tons of soybeans were produced in 2015. The largest **organic** soybean area in 2015 was in China (more than 250,000 hectares), followed by India (117,000 hectares), the United States of America (51,000 hectares) and Canada (15,000 hectares). In total, these countries' areas accounted for 82% of the total **organic** soybean area. Between 2011 and 2015, the **organic** soybean area has increased by more than 38%, and by almost 59% between 2014 and 2015 alone.

More than 1.8 million hectares of soybean were **ProTerra Foundation**-certified in 2015, representing 1.5% of the global soybean area and almost 1.3% the global soybean production, or 3.9 million metric tons. Five countries produced **ProTerra** soybeans in 2015: Brazil (almost 1.8 million hectares), the Russian Federation (15,000 hectares), the United States of America (10,000 hectares), and Canada and France (2,500 hectares respectively). Between 2011 and 2015, the **ProTerra** soybean area has increased by almost 48%, and by almost 49% between 2014 and 2015 alone.

RTRS certified more than 0.7 million hectares of soybeans in 2015, representing 0.6% of the global soybean area. In 2015, almost 2.4 million metric tons of soybeans were produced (0.8% of global soybean production volume). **RTRS** was active in seven countries, with the largest areas in Brazil (431,000 hectares) and Argentina (more than 211,000 hectares). These two countries accounted for almost 90% of the total **RTRS** area. Between 2011 and 2015, the **RTRS** soybean area has increased almost fourfold, and by almost 52% between 2014 and 2015 alone.

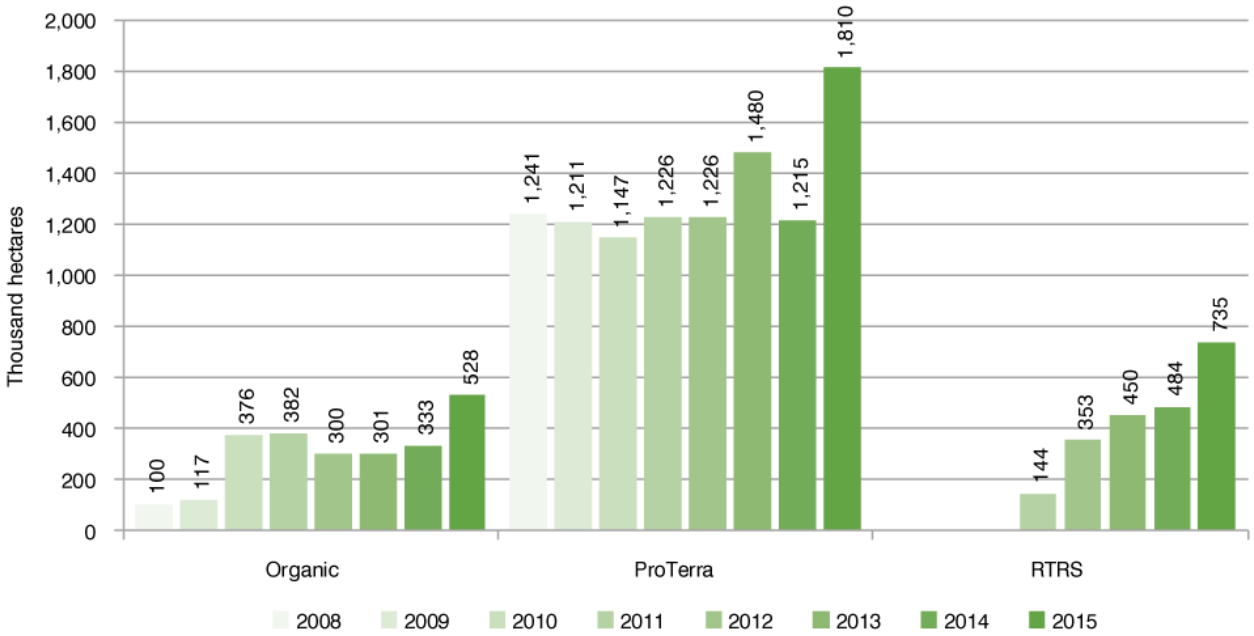
For tables of VSS-compliant soybean production, see the Appendix.

[54] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

[55] Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area gives an estimate of the possible VSS area for a given commodity. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

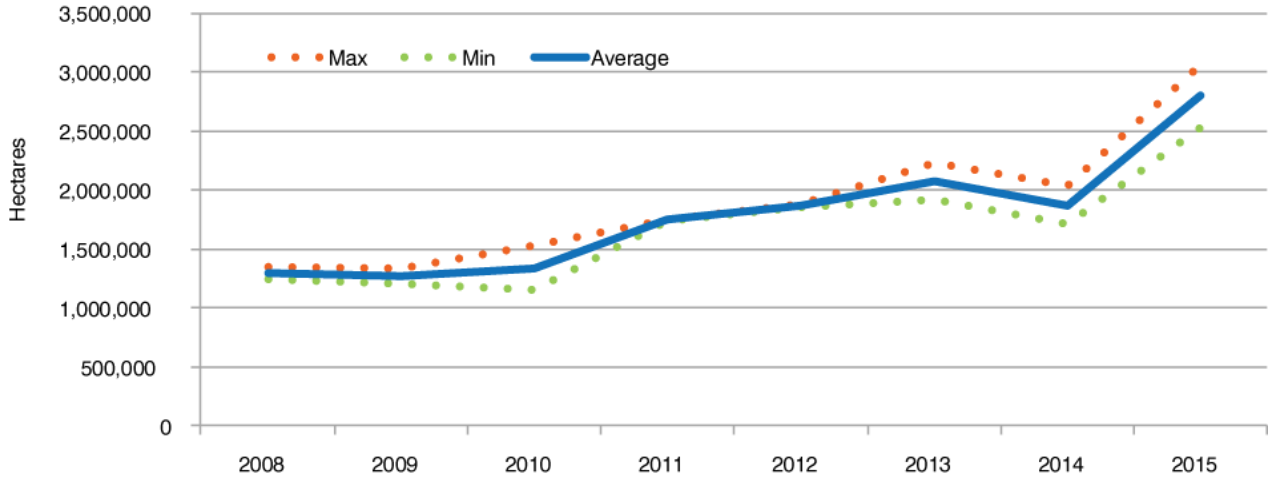
[56] In total, 604,243 hectares of organic soybeans were certified in 2015 (including in-conversion areas), representing 0.5% of the global soybean area (Willer/Lernoud, 2017).

Figure 151: Soybean: Production area by standard, 2008–2015



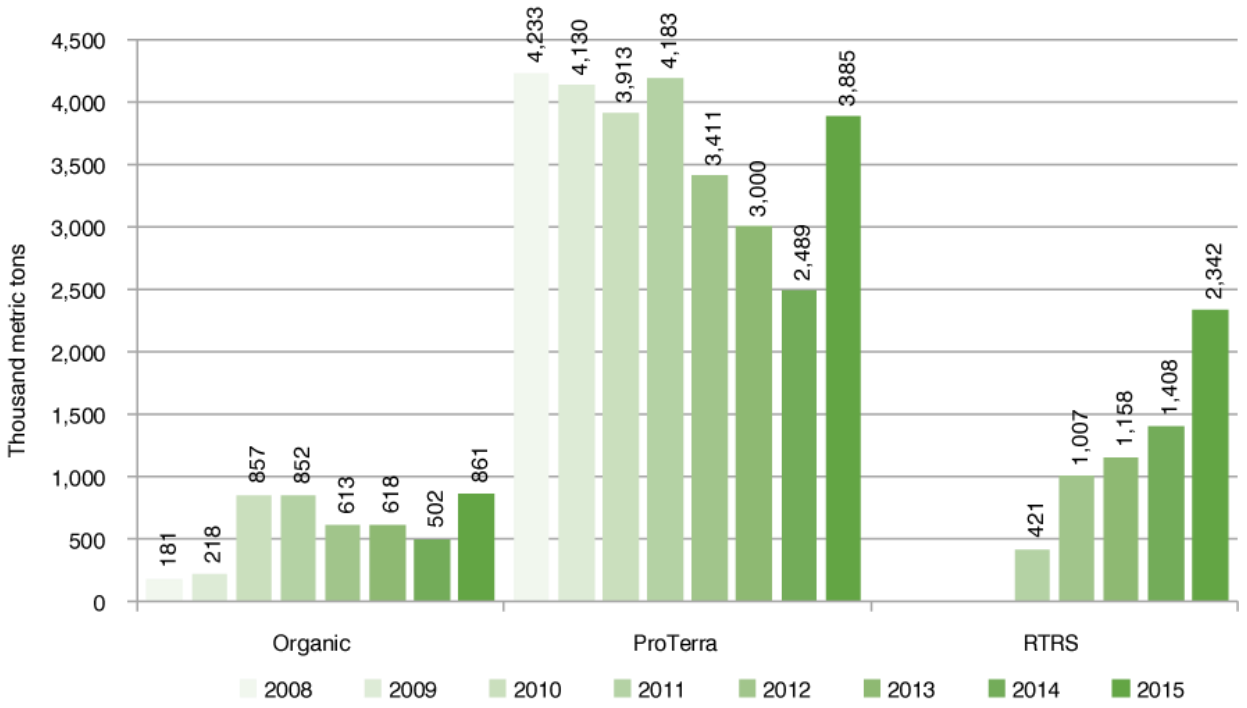
Note: The organic area is the area harvested as estimated by FiBL, assuming that 90% of the fully converted area is actually harvested.
Sources: FiBL, 2017; ProTerra Foundation, 2015 and 2016; Round Table on Responsible Soy (RTRS), 2014, 2015, and 2016.

Figure 152: Soybean: Average production area, 2008–2015



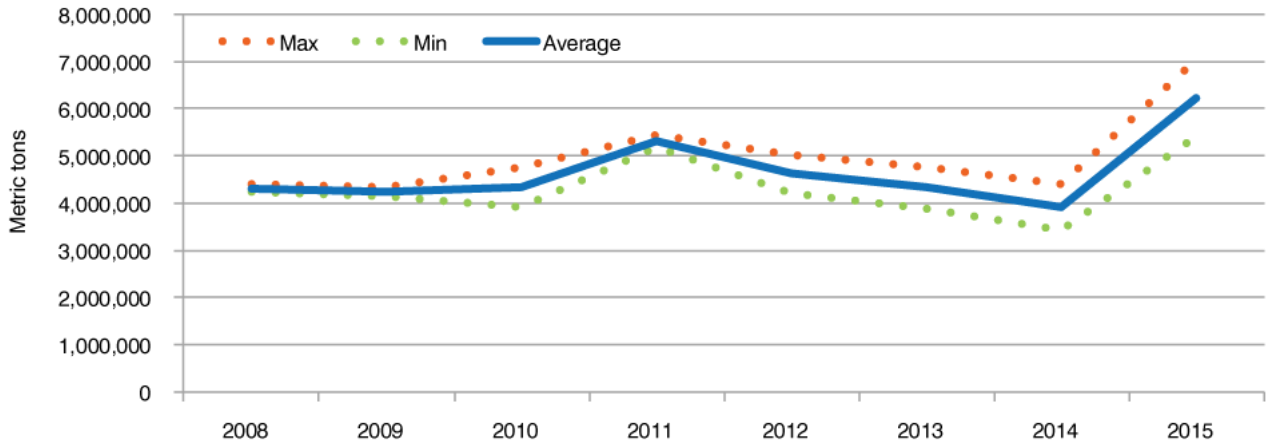
Source: FiBL-IISD-ITC survey, 2017. VSS: organic, ProTerra Foundation and Round Table on Responsible Soy (RTRS).

Figure 153: Soybean: Production volume by standard, 2008–2015



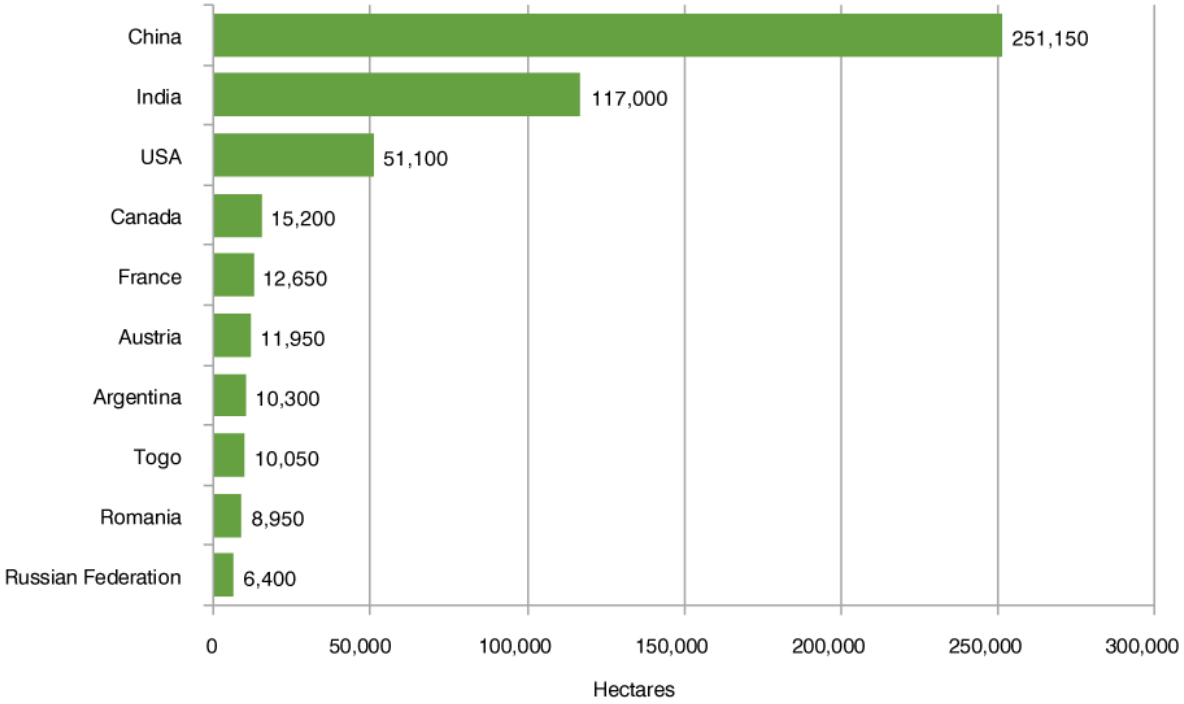
Note: The organic production volume was estimated by FiBL based on estimated yields, as actual data is not available for most of the countries.
Sources: FiBL, 2017; ProTerra Foundation, 2015 and 2016; Round Table on Responsible Soy (RTRS), 2014, 2015, and 2016.

Figure 154: Soybean: Average production volume, 2008–2015



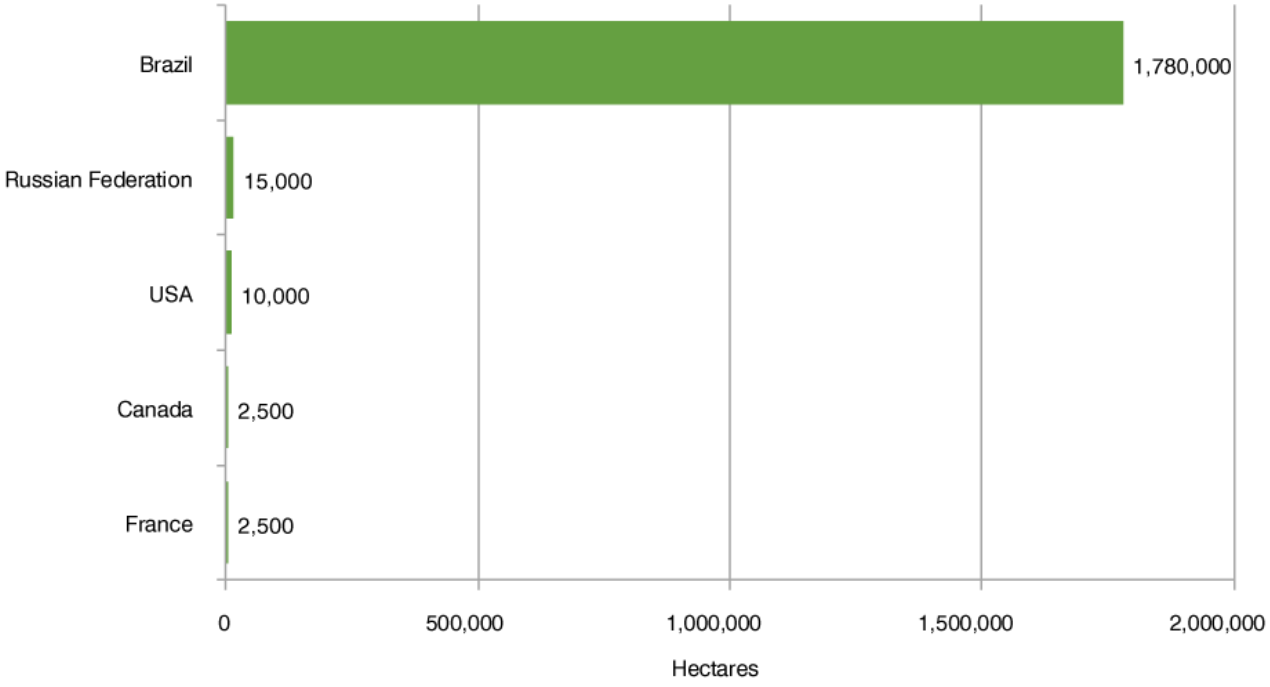
Note: Production volume data for ProTerra Foundation has been available since 2013.
Source: FiBL-IISD-ITC survey, 2017. VSS: organic, ProTerra Foundation and Round Table on Responsible Soy (RTRS).

Figure 155: Soybean: Organic – Top 10 countries by area, 2015



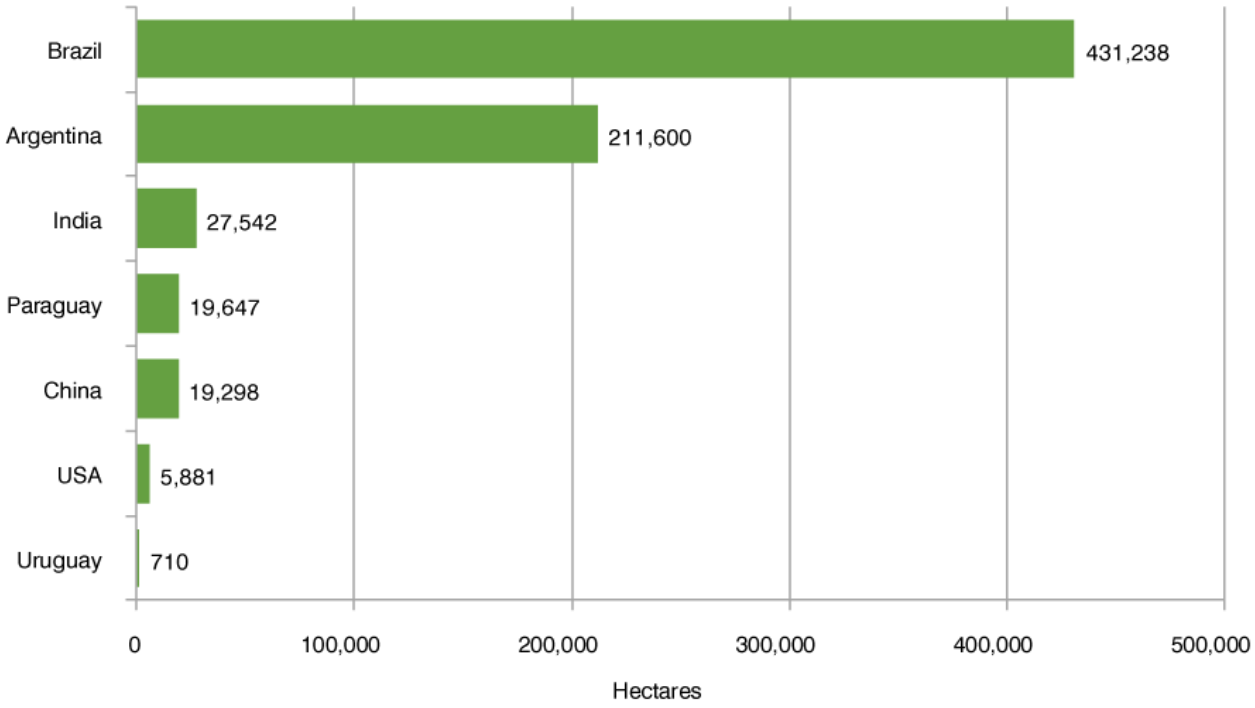
Source: FiBL, 2017. Based on national data sources and data from certifiers.
Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

Figure 156: Soybean: ProTerra – Top countries by area, 2015



Source: ProTerra Foundation, 2016.

Figure 157: Soybean: Round Table on Responsible Soy – Top countries by area, 2015



Source: Round Table on Responsible Soy (RTRS), 2016.

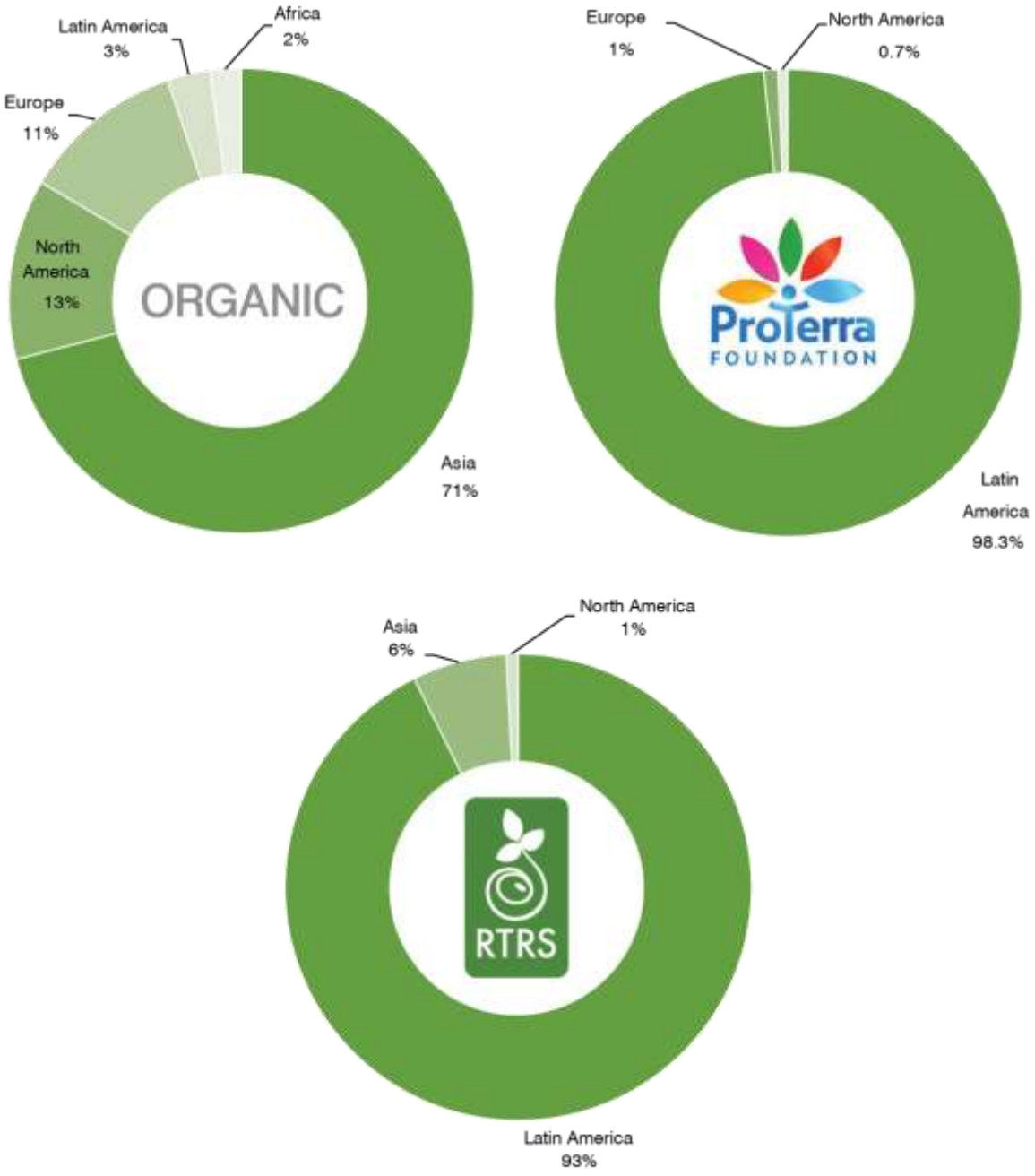


Figure 158: Soybean: Organic certified area by region, 2015

Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.
Source*:* FiBL, 2017

Figure 159: Soybean: ProTerra certified area by region, 2015

Source*:* ProTerra Foundation, 2016

Figure 160: Soybean: RTRS certified area by region, 2015

Source*:* Round Table on Responsible Soy (RTRS), 2016.

Sugarcane

Biodiversity, water scarcity, child labour: sugarcane concerns addressed by standards

Sugarcane is exceptional for its photosynthetic efficiency, which has led it to become the world's primary sugar source[57] and a major ethanol feedstock. Brazil is the world's largest producer of sugarcane, with 39% of global production. Some 59% of Brazilian sugarcane went to global ethanol production in 2014/2015, more than 95% of which was consumed domestically (USDA Foreign Agricultural Services, 2016). In contrast, more than 75% of Brazilian cane sugar is exported, with Brazil accounting for over half of global trade (Barros, 2016). The four next-largest producers of sugarcane are India (19%), China (7%), Thailand (6%) and Pakistan (3%) (FAOSTAT, 2017).

Global consumption of cane sugar grew by 31% between 2000 and 2014 (USDA Foreign Agricultural Services database, 2017), while the sugarcane-harvested area increased by 40%, or 7.8 million hectares. The majority (72%) of global sugarcane expansion during this period occurred in Brazil,[58] primarily in the biodiverse Cerrado region.[59] Sugarcane cultivation in the Cerrado, which formerly involved the removal of native vegetation, now commonly occurs on exhausted pastureland, thus enabling efficient land use.

Nevertheless, sugarcane operations continue to have significant effects on biodiversity. Sugarcane is usually grown as a large-scale mono-crop, and production can affect soil quality and water resources through the eutrophication of water bodies and air quality when fields are burned. Sugarcane cultivation also demands significant amounts of water. Flood irrigation has historically been used, and water requirements are similar to those of cotton in terms of average intensity during the growing period.[60]

Despite the significant impact of sugarcane on environmental sustainability, the crop is historically and notoriously known for its association with child and forced labour, reports of which continue to this day. According to the United State Department of Labour (2016), sugarcane production is currently the agricultural sector where child and/or forced labour is most widespread, reported in 19 countries. This history led to the initiation of Fairtrade sugar over the course of the 1980s, with a focus on poverty reduction, worker health and safety, and labour rights. Fairtrade sugar and to a lesser degree the other VSS in the sugarcane sector remained a niche product until the development and roll-out of the Bonsucro standard in 2005, with the support of WWF.

Bonsucro, based on the mainstream roundtable model, enabled standard-compliant sugarcane to become one of the fastest-growing markets in recent years. The ProTerra standard has been used for verification of good agricultural practices in the sugarcane sector since 2006 and is now being used in certification. In 2012, Rainforest Alliance became the latest international standard to enter the sugarcane market, also with an eye to mainstream markets.[61]. Drivers for compliance include national policies promoting biofuel use and commitments from major downstream buyers, including Coca-Cola, Ferrero Group, General Mills, PepsiCo and Unilever.

Three standards certify production of sugarcane, world's largest source of sugar

Sugarcane was grown on over 27 million hectares worldwide in 2014 (FAOSTAT, 2017),[62] representing 0.6% of the global agricultural land. The countries with the largest areas were Brazil (10.4 million hectares), India (5 million hectares), China (1.8 million hectares), Thailand (1.3 million hectares) and

[57] Sugar cane and sugar beets account for approximately 75% and 25% of the world's sugar production, respectively. Sugar and syrups are also produced from the saps of certain species of maple trees and from sweet sorghum, although total production volumes are insignificant on a global scale (United Nations Development Programme, 2010).

[58] The ratio of use for ethanol and cane sugar has remained stable at about 60:40 during this period, suggesting that growth in ethanol demand is driving expansion in addition to growth in cane sugar demand (Valdes, 2011).

[59] The other major producing region is in the Brazilian northeast.

[60] 1,500 millimetres to 2,500 millimetres over 270 to 365 days, compared to 700 millimetres to 1,300 millimetres over 180 to 195 days for cotton (FAO, 1986).

[61] For a comprehensive history of the growth of standards in each sector, see *The State of Sustainability Initiatives: Standards and the Green Economy* (Potts et al., 2014).

[62] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

Pakistan (1.1 million hectares), which together accounted for almost 73% of the total sugarcane area. In 2014, nearly 1,900 million metric tons of sugarcane were produced worldwide (FAOSTAT, 2017).

Three of the voluntary standards covered in this survey – **Bonsucro**, **Fairtrade International** and **Organic** – certified sugarcane production. Combined, they certified a minimum of 1.1 million hectares and a maximum of 1.2 million hectares in 2015 (average 1.16 million hectares).[63] In terms of the proportion of the VSS-certified area of the global sugarcane area, the minimum represents 4.2%, the maximum 4.4% and the average, 4.3%. **Bonsucro** has the largest VSS-certified sugarcane area, 0.9 million hectares; the largest growth was noted for **Fairtrade International**, whose area doubled between 2011 and 2015.

Bonsucro certified over 900,000 hectares of sugarcane in 2015, representing almost 3.4% of the global sugarcane area. In 2015, the standard registered 3.3 million metric tons of cane sugar and 51 million metric tons of sugarcane, representing 2.7% of the global sugarcane production volume. **Bonsucro´s** largest areas were in Brazil (almost 818,000 hectares) and Australia (nearly 44,000 hectares); together, they accounted for 95% of **Bonsucro´s** total sugarcane area. Between 2011 and 2015, the **Bonsucro** sugarcane area has increased by over 27%. Between 2014 and 2015, however, that area decreased by 1.5%.

Fairtrade International sugarcane represented 0.7% of the global sugarcane area, or almost 187,000 hectares. Some 0.8 million metric tons of **Fairtrade International** cane sugar were registered in 2015. **Fairtrade International** certifies sugarcane only in developing countries; the largest areas in 2015 were in Fiji (almost 69,000 hectares), Paraguay (30,400 hectares) and Jamaica (10,500 hectares). Together, these three countries accounted for almost 59% of the total **Fairtrade International** sugarcane area. That area has more than doubled between 2011 and 2015, and grew by 19% between 2014 and 2015 alone.

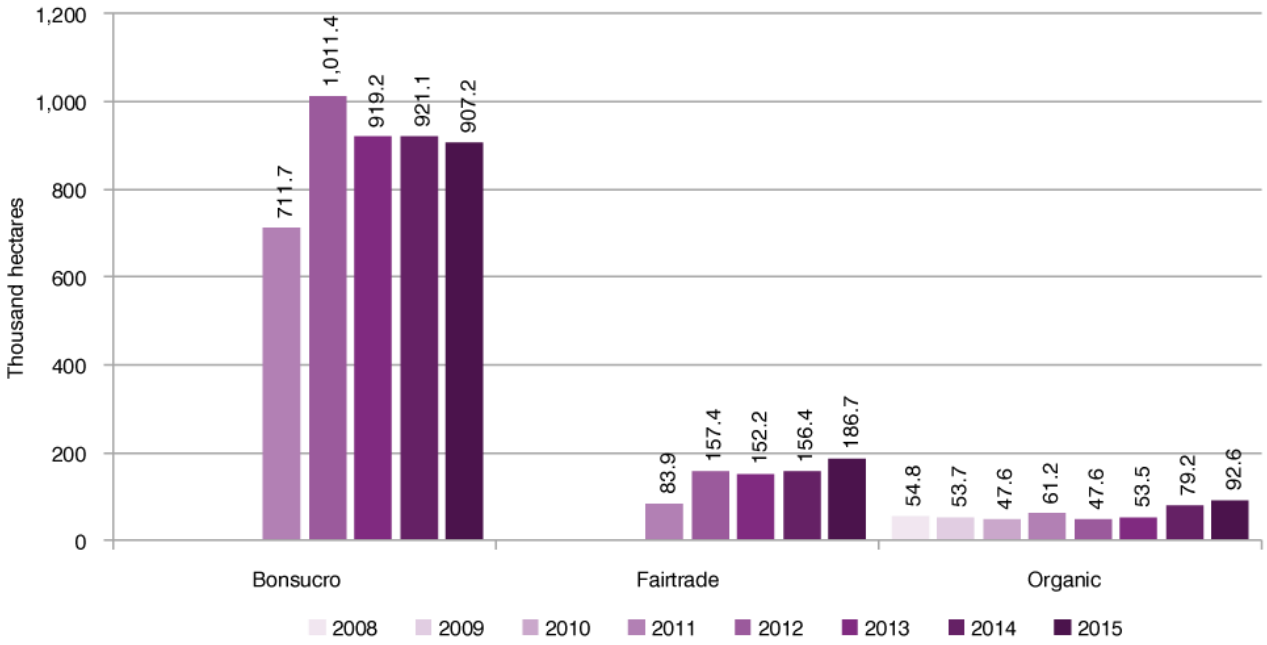
More than 92,000 hectares of sugarcane worldwide were **Organic-**certified in 2015 (estimated harvested area).[64] This represents 0.3% of the global sugarcane area and an estimated 0.2% of the global sugarcane production volume, or 4.6 million metric tons. The largest **Organic** sugarcane areas were in Paraguay (43,600 hectares), Brazil (11,400 hectares) and Argentina (9,950 hectares). Together, these countries accounted for 70% of the total **Organic** sugarcane area. Between 2011 and 2015, that area has increased by over 50%, and by almost 17% between 2014 and 2015 alone.

For tables of VSS-compliant sugarcane production, see the Appendix.

[63] Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area gives an estimate of the possible VSS area for a given product. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

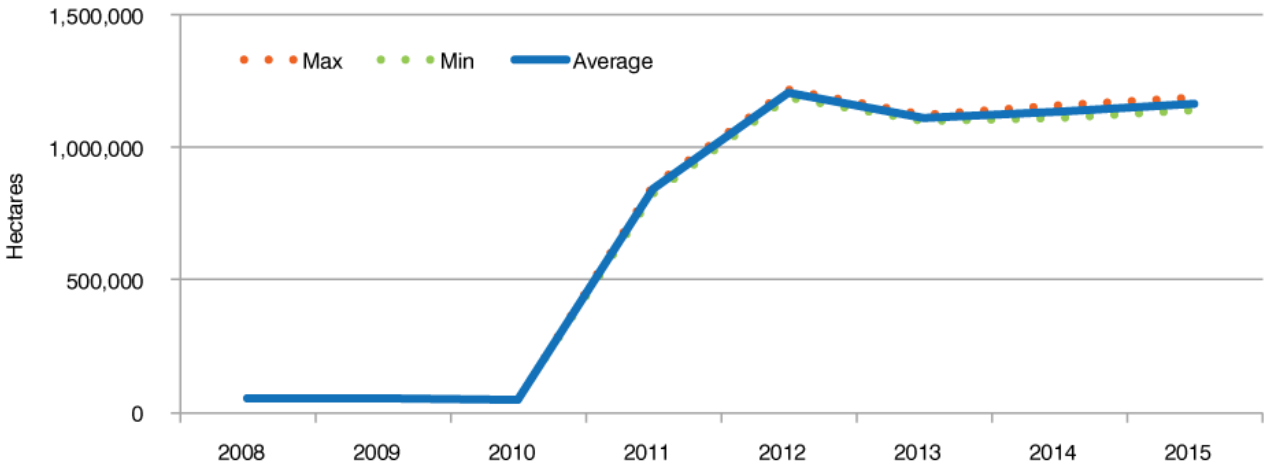
[64] In total, 91,734 hectares of organic sugarcane were certified in 2015 (including in-conversion areas), representing 0.3% of the global sugarcane area (Willer/Lernoud, 2017).

Figure 161: Sugarcane: Production area by standard, 2008–2015



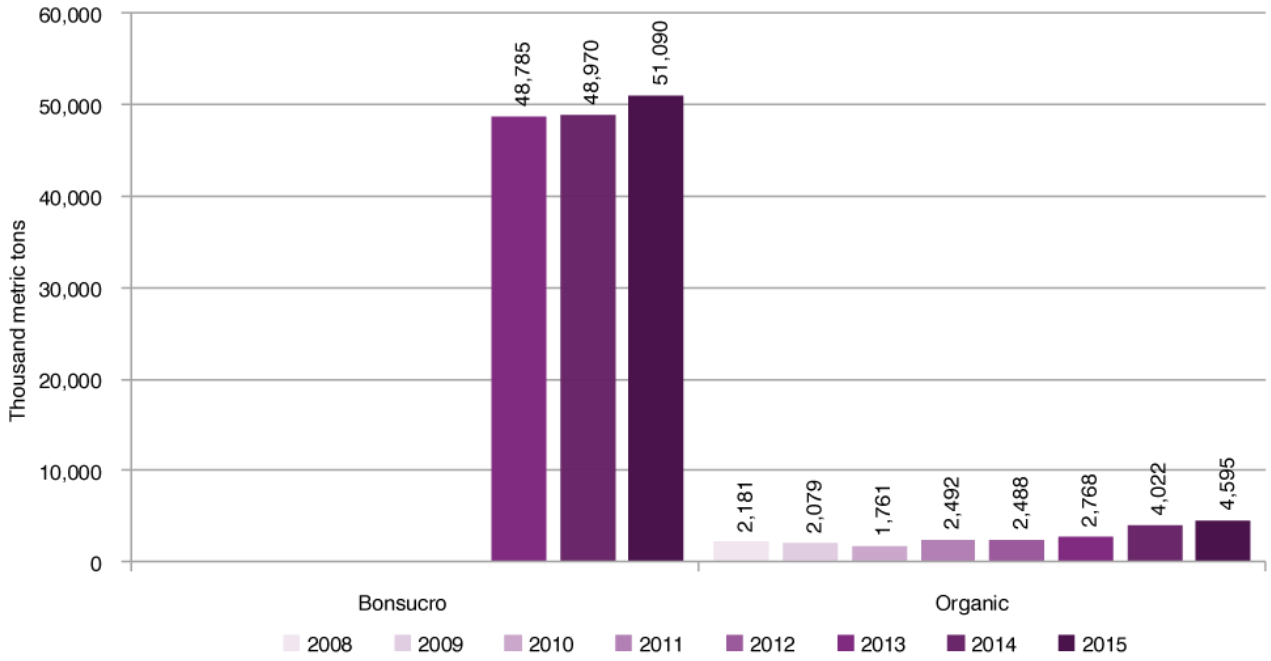
Note: The organic area is the area harvested as estimated by FiBL, assuming that 90% of the fully converted area is actually harvested.
Sources*:* Bonsucro, 2014, 2015, and 2017; Fairtrade International, 2017; FiBL, 2017.

Figure 162: Sugarcane: Average production area, 2008–2015



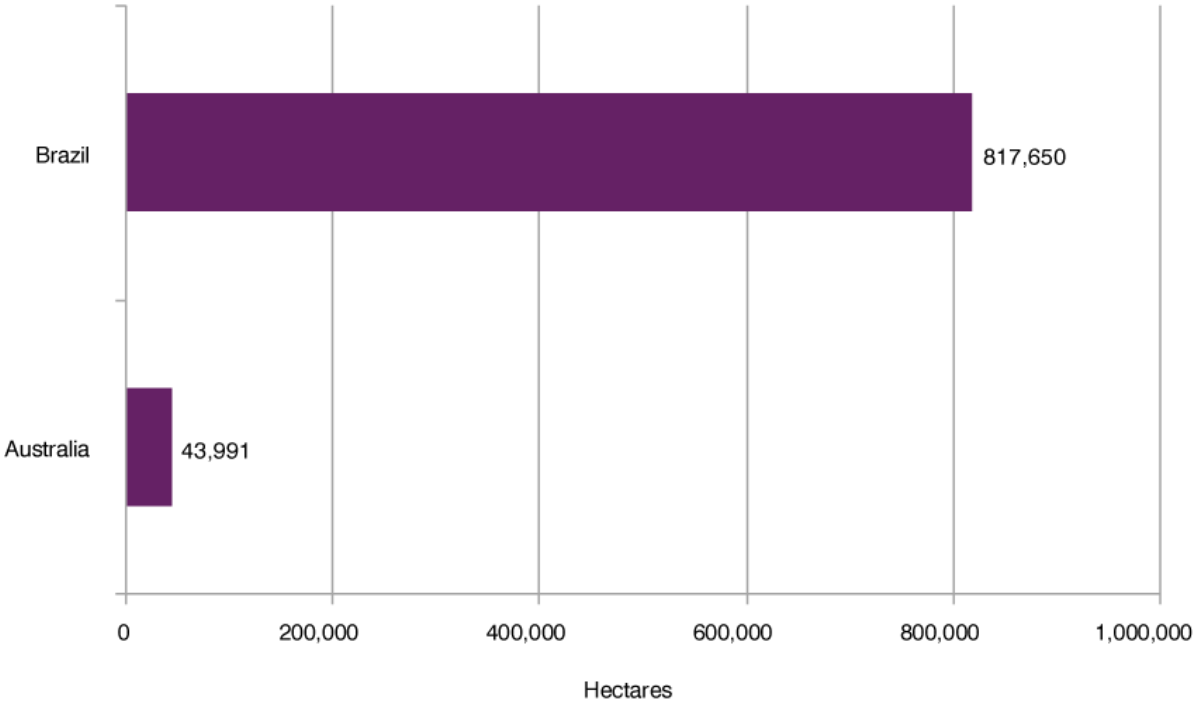
Note: For Bonsucro data has been available since 2011.
Source*:* FiBL-IISD-ITC survey, 2017. VSS: Bonsucro, Fairtrade International and organic.

Figure 163: Sugarcane: Production volume by standard, 2008–2015



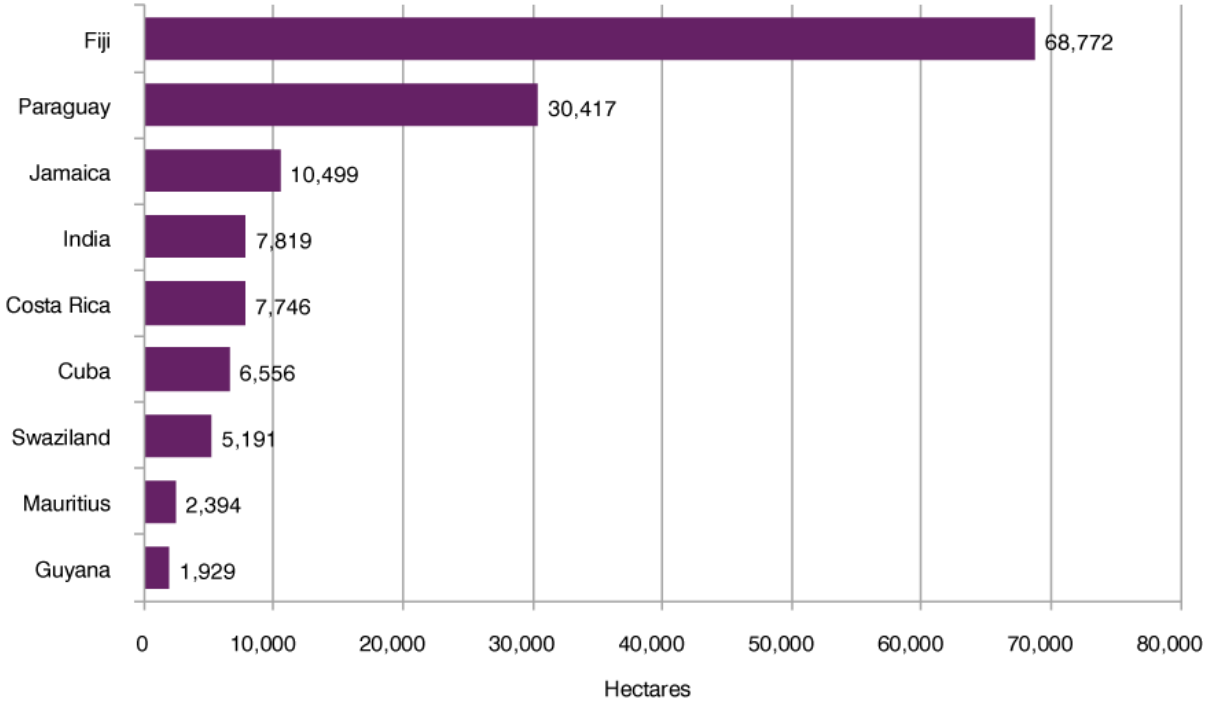
Note: The organic production volume was estimated by FiBL based on estimated yields, as actual data is not available for most of the countries.
Sources*:* Bonsucro, 2017 and 2016; FiBL, 2017.

Figure 164: Sugarcane: Bonsucro – Top countries by area, 2015



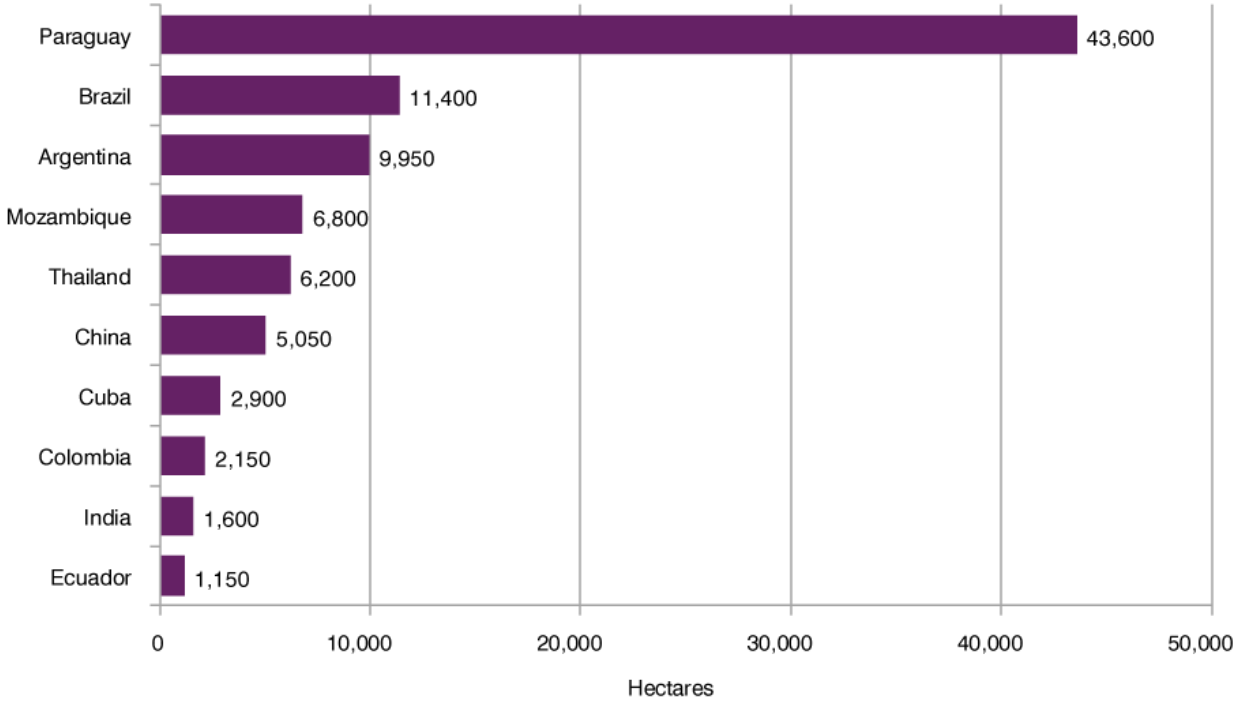
Source*:* Bonsucro, 2017.

Figure 165: Sugarcane: Fairtrade International – Top countries by area, 2015



***Source**:* Fairtrade International, 2017.

Figure 166: Sugarcane: Organic – Top 10 countries by area, 2015



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.
***Source**:* FiBL, 2017. Based on national data sources and data from certifiers.

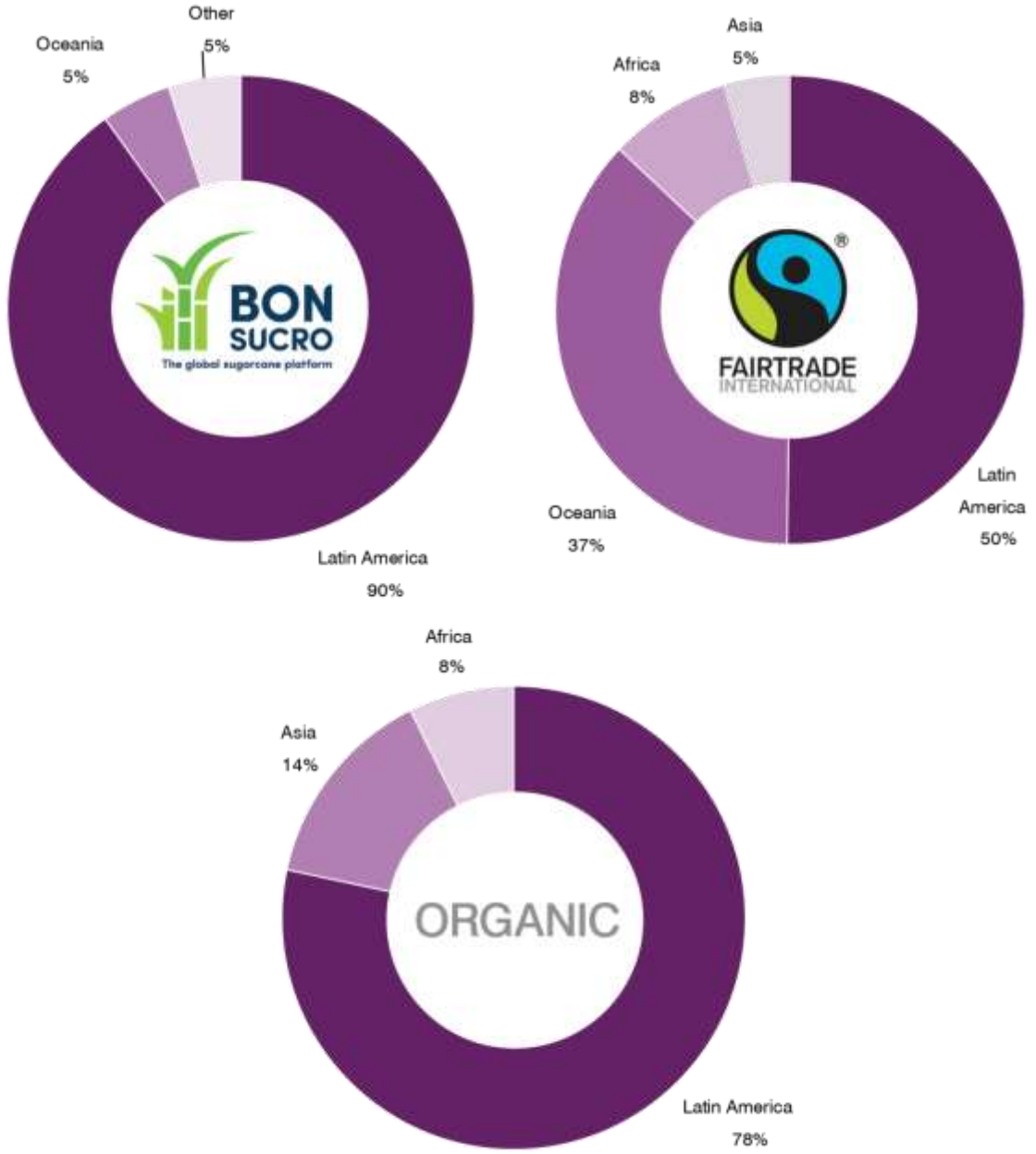


Figure 167: Sugarcane: Bonsucro certified area by region, 2015

***Source**:* Bonsucro, 2017

Figure 168: Sugarcane: Fairtrade certified area by region, 2015

***Source**:* Fairtrade International, 2017

Figure 169: Sugarcane: Organic certified area by region, 2015

Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

***Source**:* FiBL, 2017

Tea

Deforestation, soil erosion, chemical inputs and worker protection among concerns for tea market

Tea is the world's second most popular drink, after water. In 2014, 5.6 million tons of tea were produced, nearly three quarters of it in China (38%), India (22%), Kenya (8%), Sri Lanka (6%) and Viet Nam (FAO, 2016b). The tea trade was worth $6.3 billion in 2014, compared to $9.5 billion for cocoa and $20 billion for coffee (United Nations, 2016).

The tea area under cultivation is, however, notably compact, comprising 3.8 million hectares or 0.08% of the world's agricultural area under cultivation.[65] Notwithstanding the size of its footprint, tea is cultivated in areas of high biodiversity and has historically been associated with the removal of tropical forests, exacerbated by timber removal for the tea-drying process (Clay, 2004). Furthermore, the area under cultivation has expanded rapidly since the turn of the century, growing by 61% between 2000 and 2014; 76% of that growth occurred in China (FAOSTAT, 2017).

When combined with the effects of forest removal and monoculture production, the cultivation of tea on sloped land can cause high levels of soil erosion and decreased soil fertility (Wal, 2008). To compensate for this, the sector is heavily dependent on the use of synthetic inputs, which remain one of the principal ongoing environmental concerns associated with tea plantations (Gurusubramanian et al., 2008). As a perennial crop, conducive to agroforestry production, with a potential productive life of more than a century and relatively low water consumption, tea has great potential to be grown in a relatively sustainable manner.

Agrochemical use is both an environmental and social concern, particularly when agrochemicals are applied without proper protective equipment. Unlike cocoa production, tea is largely cultivated on estates, and rather than providing their own safety equipment, workers are dependent on estate managers for health care, facilities, and at times water and food, which are often inadequate. Child labour, excessive working hours and wages that fall below a living wage are also of concern (Deith & Rowlatt, 2015; Oxfam, 2013; U.S. Department of Labor, 2017).

The size of downstream buyers in the tea sector has helped volumes of compliant product reach mainstream levels with unprecedented speed. The Ethical Tea Partnership, which focuses on capacity-building for tea-growing operations to reach compliance with the sector's major international certification-based standards (e.g. Rainforest Alliance, Fairtrade, Organic and UTZ), has also played a role.

Growth in compliant markets has been driven by commitments from the two largest tea companies, Unilever and Tetley, which are aiming for 100% compliant sourcing by 2020 and 2016, respectively (Tetley, 2014). By 2015, Lipton, a Unilever brand, reached 100% compliant sourcing of its tea bags, enabling Unilever to achieve a 66% rate of total sourcing in compliance (Unilever, 2016).

14.2% of world's tea area is VSS-certified

Tea was grown on almost 3.8 million hectares worldwide in 2014 (FAOSTAT, 2017),[66] representing 0.08% of the global agricultural land. The countries with the largest tea area were China (almost 2 million hectares), followed by India (nearly 0.6 million hectares), Sri Lanka (almost 222,000 hectares), Kenya (over 200,000 hectares) and Indonesia (almost 119,000 hectares). Together, these countries accounted for over 82% of the total tea area. In 2014, more than 5.6 million metric tons of tea were produced worldwide (FAOSTAT, 2017).

Four of the voluntary standards covered in this report – **Fairtrade International**, **Organic**, **RA/SAN** and **UTZ** – certified tea production. Combined, they certified a minimum of more than 538,000 hectares and a

[65] The area committed to tea cultivation is particularly striking when compared with other tropical commodities, such as coffee (10.5 million ha) and cocoa (10.4 million ha) (FAOSTAT, 2017).

[66] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

maximum of 717,000 hectares in 2015 (average 628,000 hectares).[67] In terms of the proportion of the VSS-certified area of the global tea area, the minimum represents 14.2%, the maximum, 18.9%, and the average, 16.5%. **RA/SAN** has the largest VSS-certified tea area, almost 0.5 million hectares, and showed the largest area growth, a fourfold increase between 2011 and 2015.

Fairtrade International certified more than 122,000 hectares of tea in 2015, representing 3.2% of the global tea area. In 2015, almost 206,000 metric tons of its tea were reported, or 3.7% of global tea production volume. Kenya reported the largest **Fairtrade International** tea area (almost 57,000 hectares), followed by Uganda (almost 21,000), and India (almost 18,000 hectares). Together, these countries accounted for almost 80% of the total **Fairtrade International** tea area. That area has increased by 46% between 2011 and 2015, but dropped by nearly 10% between 2014 and 2015.

Organic tea represented 2% of the global tea area, almost 75,000 hectares.[68] FiBL estimates that more than 75,000 metric tons of **Organic** tea were registered in 2015, or 1.3% of the world's tea production volume. In 2015, the largest **Organic** harvested areas were in China (40,000 hectares) and India (more than 14,000 hectares). Together, these two countries accounted for almost 73% of the total **Organic** tea area. Between 2011 and 2015, that area has increased by 9%, and by almost 27% between 2014 and 2015 alone.

More than 472,000 hectares of tea were **RA/SAN**-certified worldwide in 2015, representing 12.4% of the global tea area. More than 1 million metric tons of **RA/SAN** tea were reported. The country with the biggest **RA/SAN** tea area was Kenya (over 186,000 hectares), followed by India (more than 114,000 hectares) and Sri Lanka (34,000 hectares). Together, these countries accounted for 71% of the total **RA/SAN** tea area. That area has increased fourfold between 2011 and 2015, and grew by almost 24% between 2014 and 2015 alone.

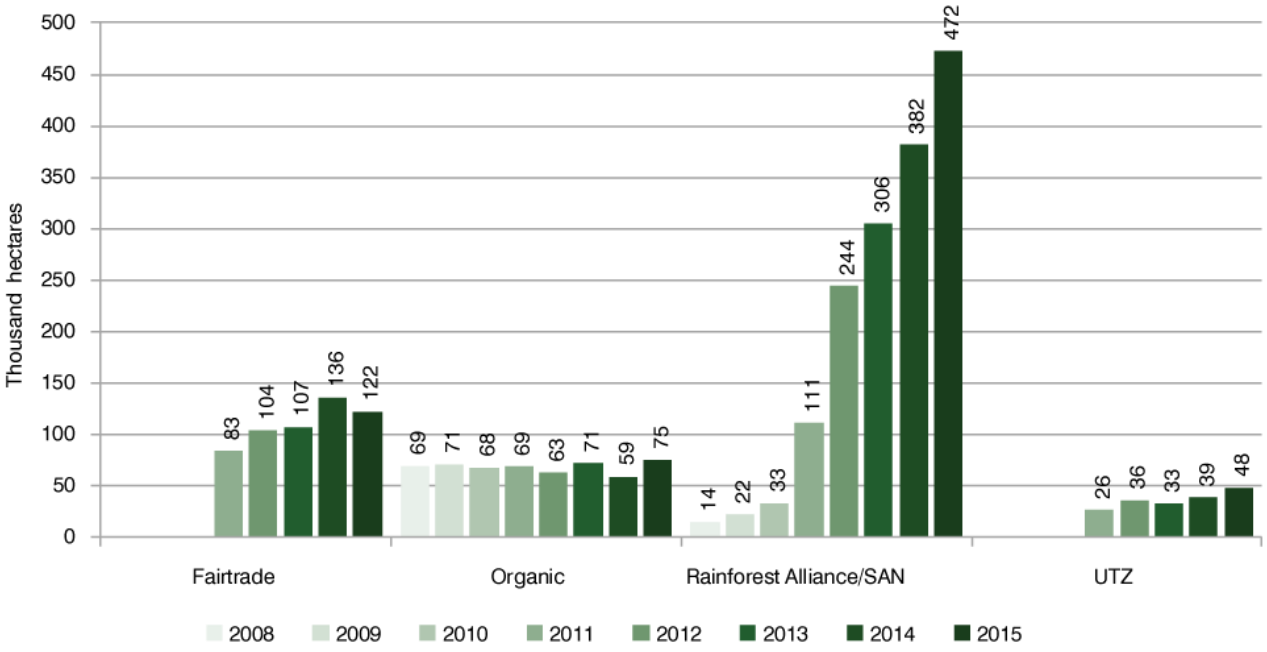
UTZ certified almost 48,000 hectares of tea in 2015, constituting almost 1.3% of the global tea area. An estimated 86,000 metric tons of tea were produced, representing 1.6% of the global tea production volume. The largest **UTZ** tea areas were in India (almost 14,000 hectares), South Africa (6,000 hectares) and Sri Lanka (almost 4,000 hectares), accounting for almost 50% of the total **UTZ** tea area. Between 2011 and 2015, that area has increased by 82 %, and grew by almost 24% between 2014 and 2015 alone.

For tables of VSS-compliant tea production, see the Appendix.

[67] Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area gives an estimate of the possible VSS area for a given product. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

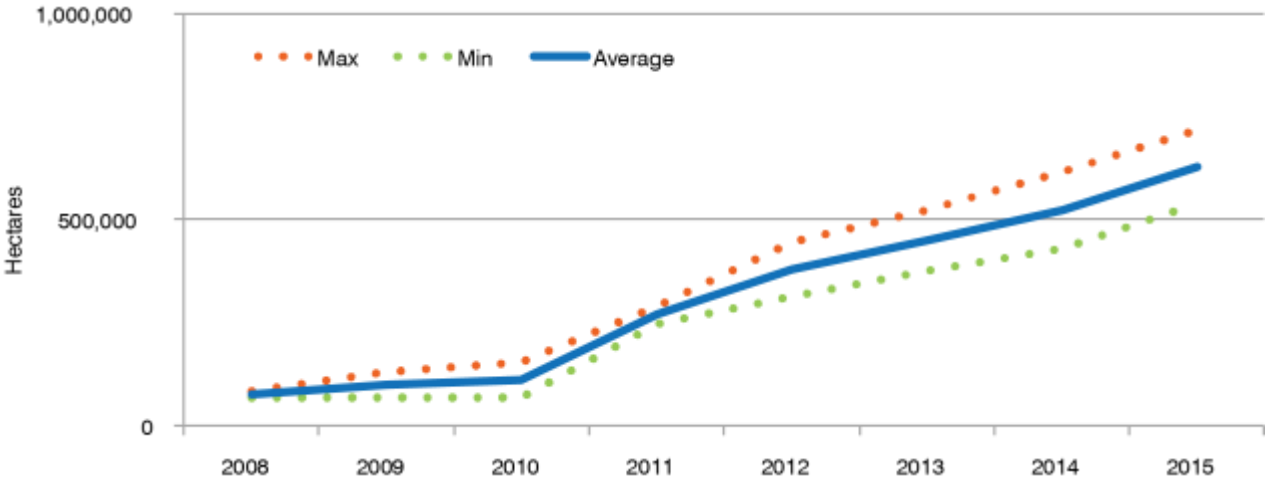
[68] In total, 80,725 hectares of organic tea were certified in 2015 (including in-conversion areas), representing 2.1% of the global tea area (Willer/Lernoud, 2017).

Figure 170: Tea: Production area by standard, 2008–2015



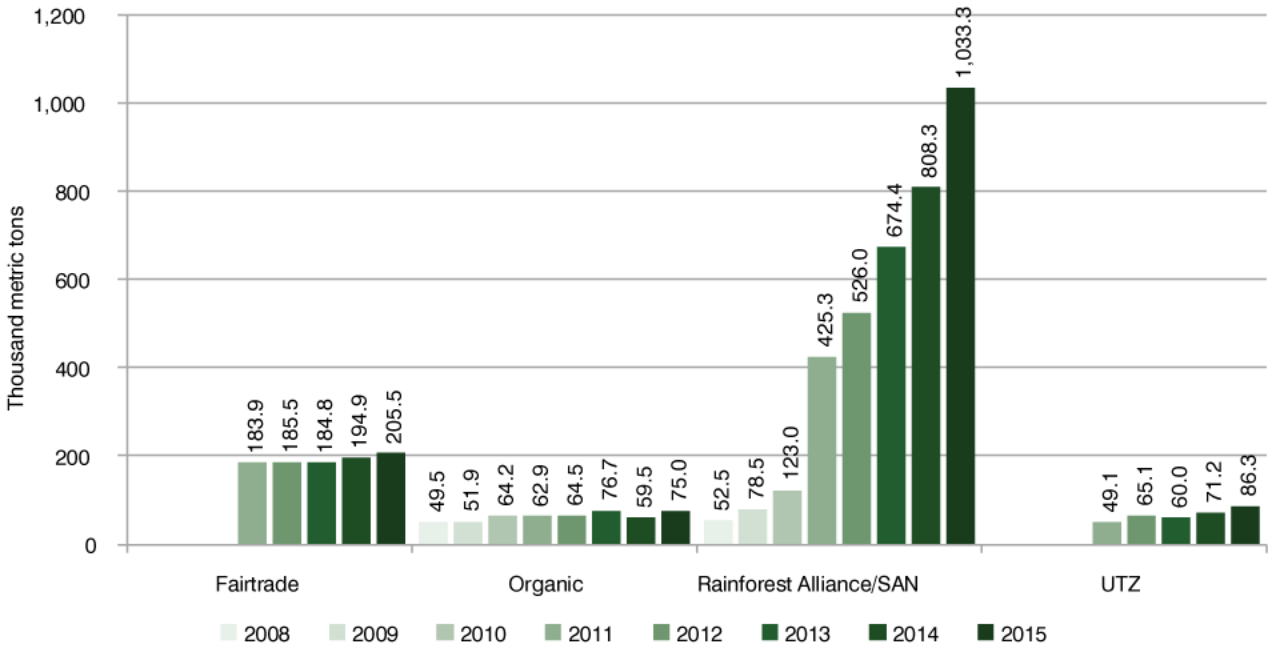
Note: The organic area is the area harvested estimated by FiBL, assuming that 90% of the fully converted area is actually harvested. For the Rainforest Alliance/SAN, the area cultivated is shown.
Sources*:* Fairtrade International, 2017; FiBL, 2017; Rainforest Alliance/SAN, 2014, 2015, and 2016; UTZ, 2014, 2015, and 2016.

Figure 171: Tea: Average production area, 2008–2015



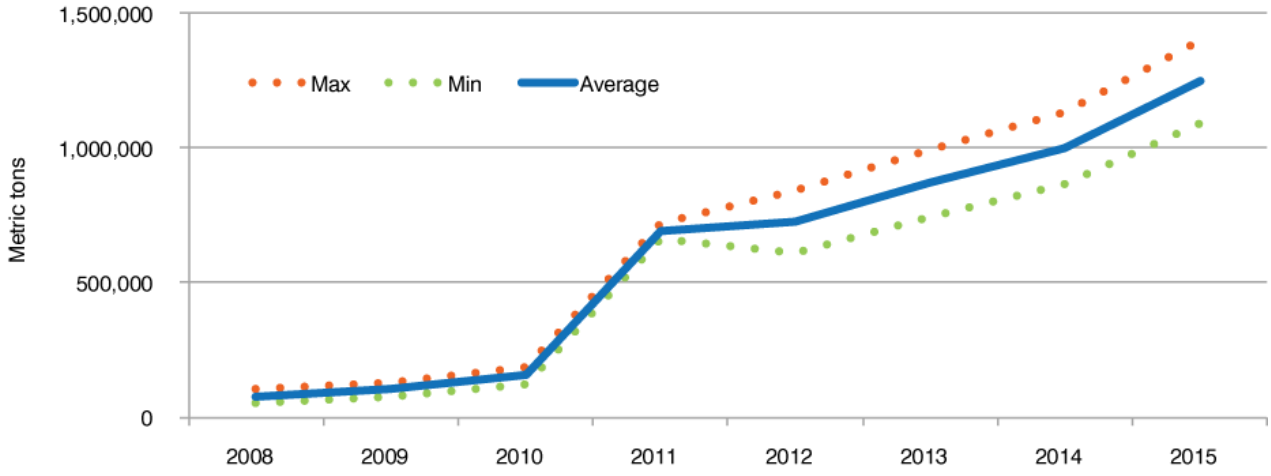
Source*:* FiBL-IISD-ITC survey, 2017. VSS: Fairtrade International, organic, Rainforest Alliance/SAN and UTZ.

Figure 172: Tea: Production volume by standard, 2008–2015



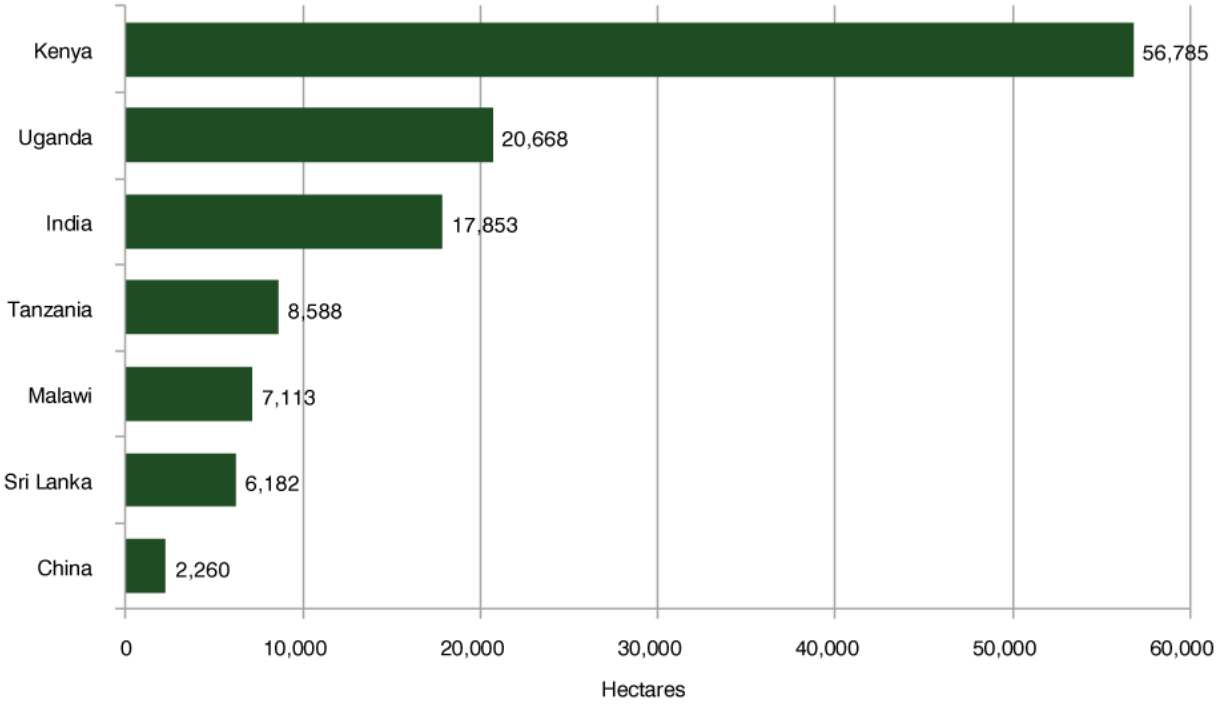
Note: The organic production volume was estimated by FiBL based on estimated yields, as actual data is not available for most of the countries. Please note that UTZ defines certified volume as the estimated production potential.
Sources*:* Fairtrade International, 2017; FiBL, 2017; Rainforest Alliance/SAN, 2014, 2015, and 2016; UTZ, 2014, 2015, and 2016.

Figure 173: Tea: Average production volume, 2008–2015



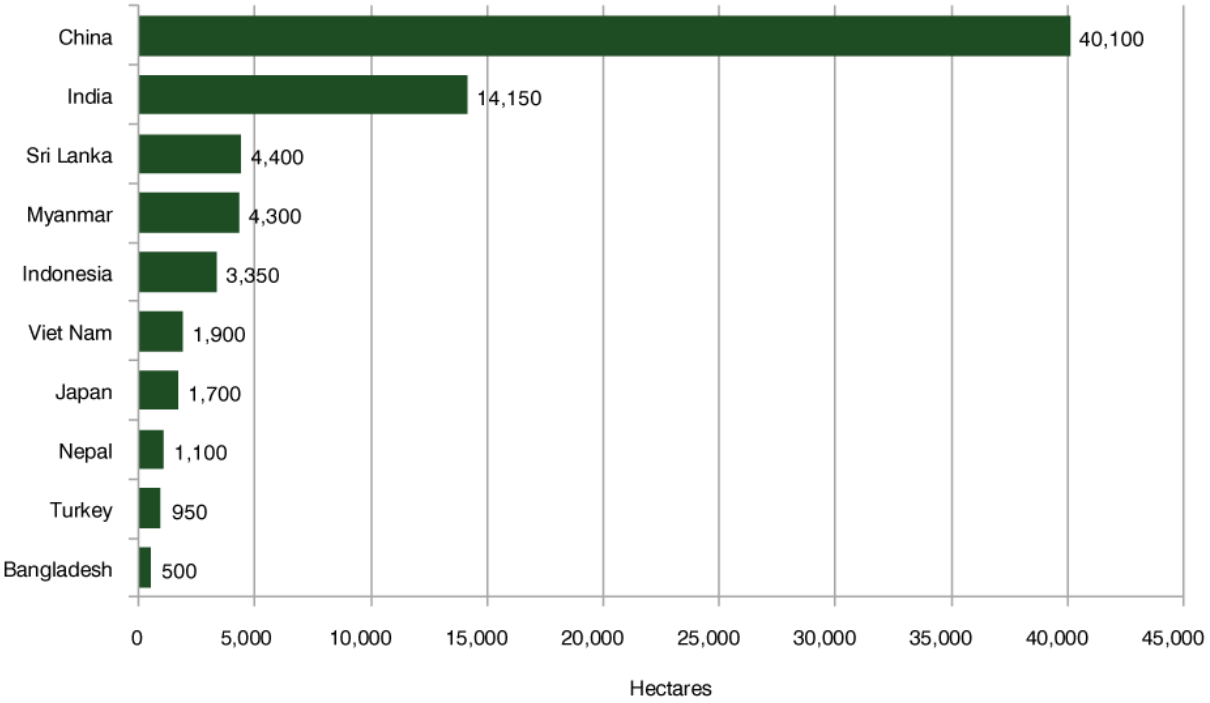
Source*:* FiBL-IISD-ITC survey, 2017. VSS: Fairtrade International, organic, Rainforest Alliance/SAN and UTZ.

Figure 174: Tea: Fairtrade International – Top countries by area, 2015



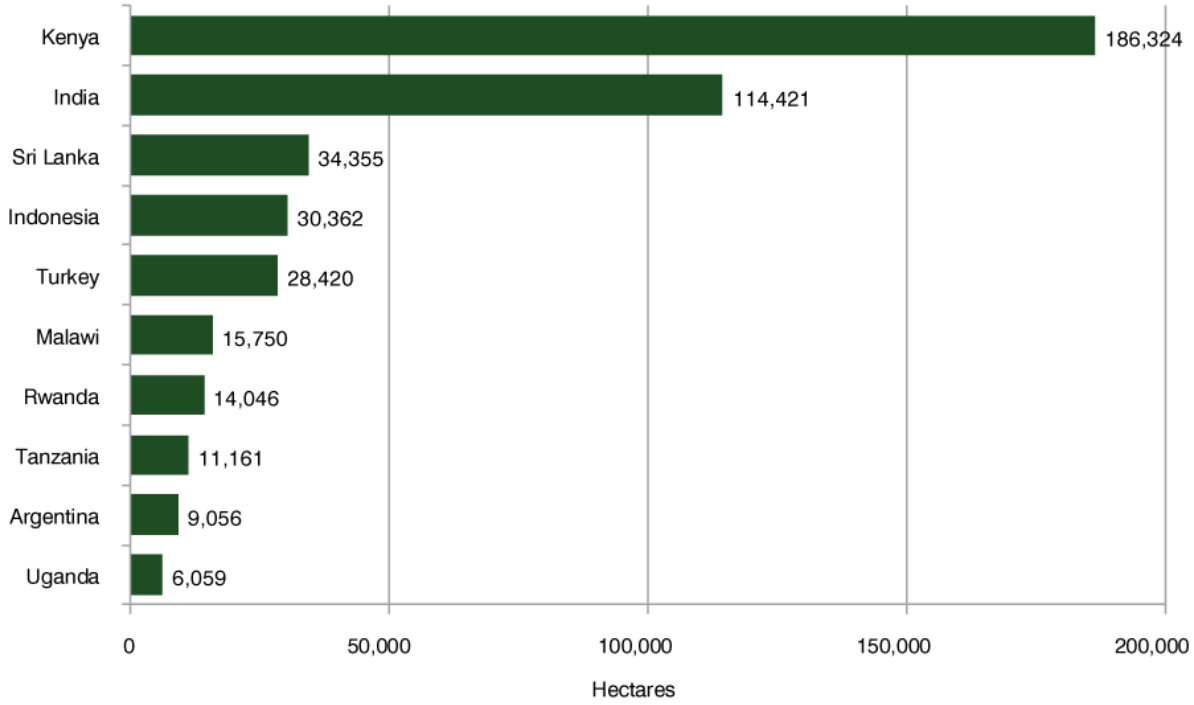
***Source**:* Fairtrade International, 2017.

Figure 175: Tea: Organic – Top 10 countries by area, 2015



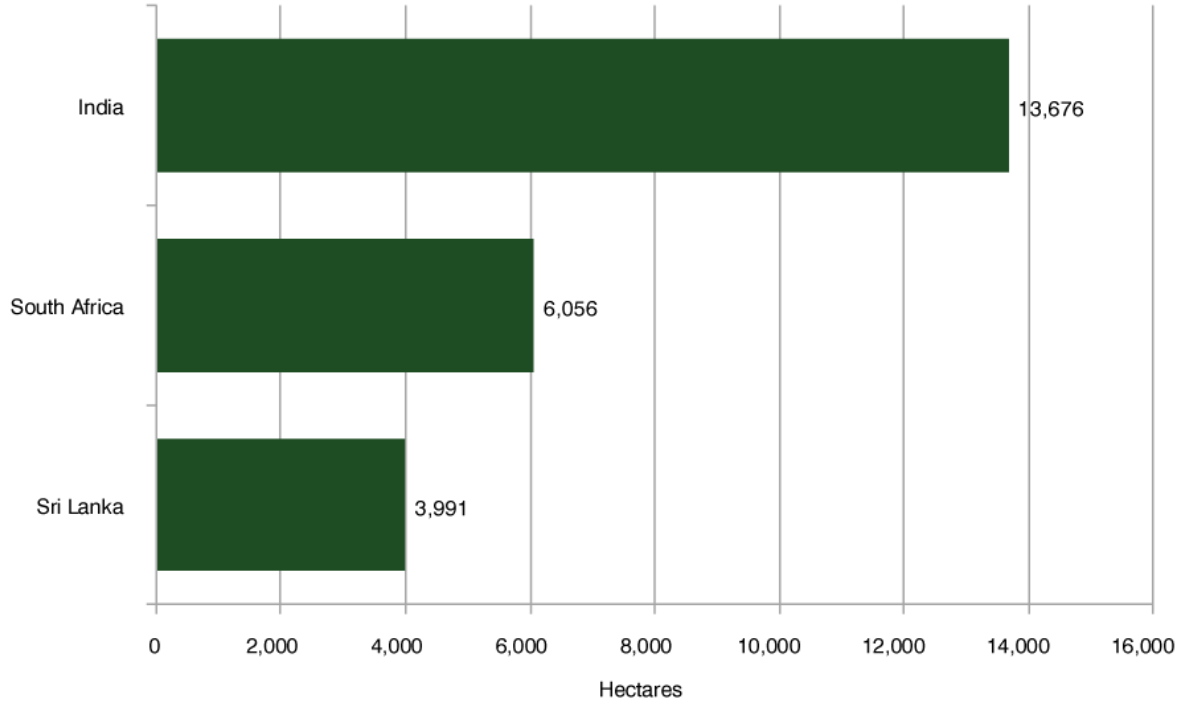
Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.
***Source**:* FiBL, 2017. Based on national data sources and data from certifiers.

Figure 176: Tea: Rainforest Alliance/Sustainable Agriculture Network – Top 10 countries by area, 2015



***Source**:* Rainforest Alliance/SAN, 2016.

Figure 177: Tea: UTZ – Top countries by area, 2015



***Source**:* UTZ, 2016.

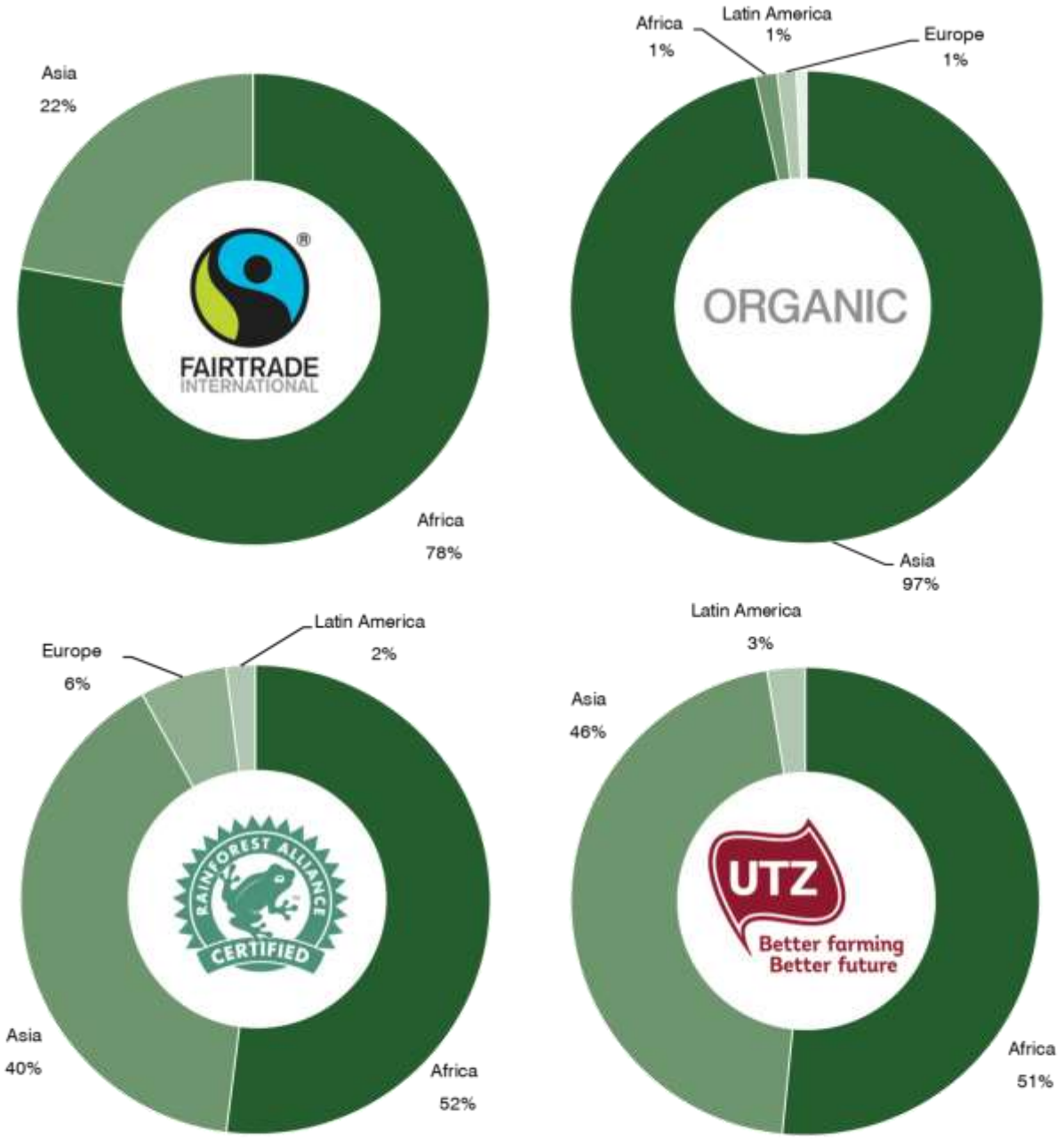


Figure 178: Tea: Fairtrade certified area by region, 2015

***Source**:* Fairtrade International, 2017.

Figure 179: Tea: Organic certified area by region, 2015

Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

***Source**:* FiBL, 2017.

Figure 180: Tea: Rainforest Alliance/Sustainable Agriculture Network certified area by region, 2015

***Source**:* Rainforest Alliance/SAN, 2016.

Figure 181: Tea: UTZ certified area by region, 2015

***Source**:* UTZ, 2016.

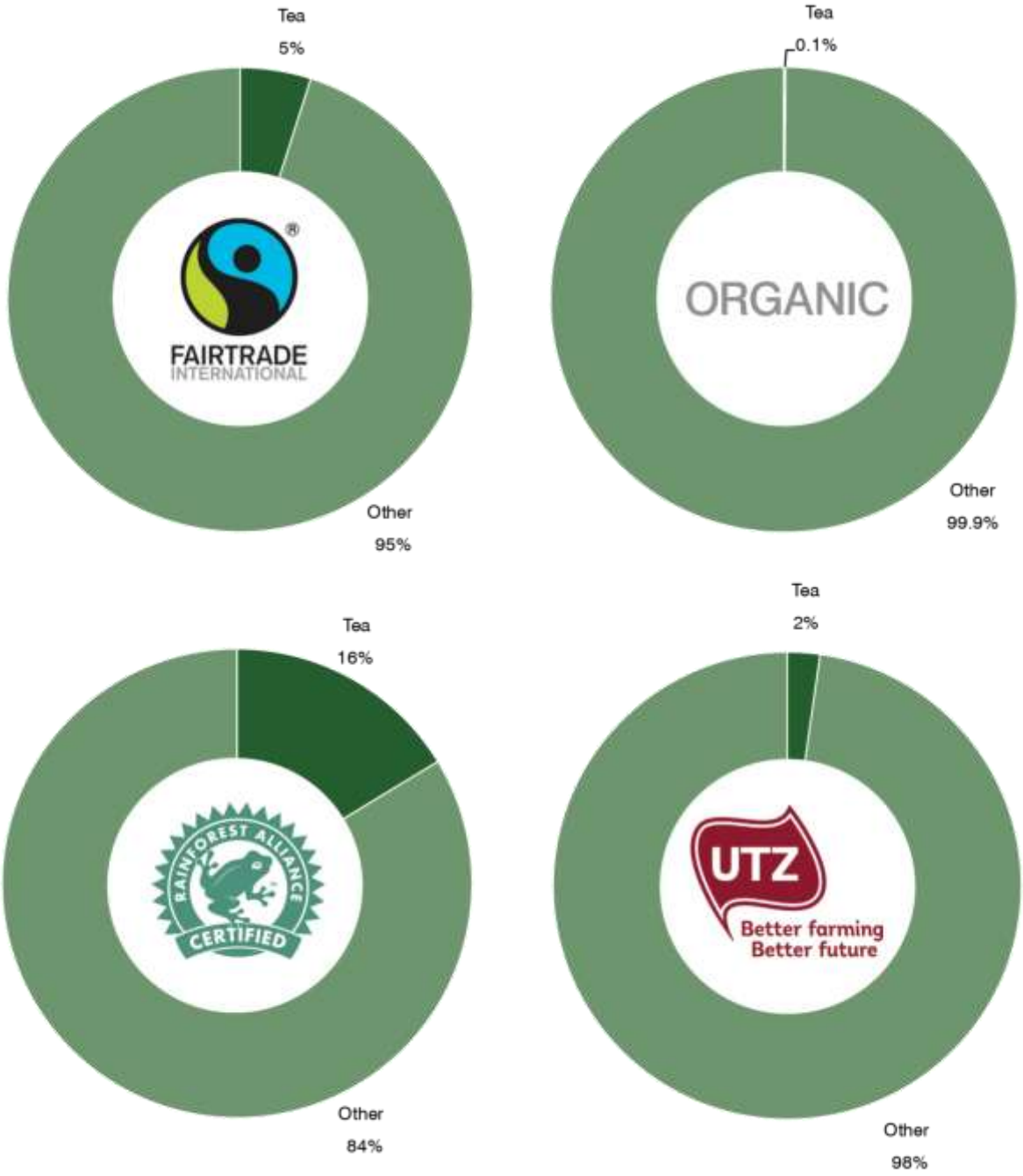


Figure 182: Tea: Share of Fairtrade area, 2015
***Source**:* Fairtrade International, 2017.

Figure 183: Tea: Share of Organic area, 2015
***Source**:* FiBL, 2017.

Figure 184: Tea: Share of Rainforest Alliance/Sustainable Agriculture Network area, 2015
***Source**:* Rainforest Alliance/SAN, 2016.

Figure 185: Tea: Share of UTZ area, 2015
***Source**:* UTZ, 2016.

Forestry

Forestry sector, worth 1% of global GDP, paves the way for sustainable forest management

Forests cover 31% of Earth's land area, account for the employment of nearly 14 million people in more than 160 countries, and contribute to revenues equivalent to 1% of the world's gross domestic product (GDP) (roughly $700 billion) (FAO, 2016). Moreover, 1.8 billion people from native and forest communities live in or depend on forests. Unsustainable forest management can result in biodiversity reduction, destruction of watersheds, soil erosion and climate change, as well as the degradation or elimination of habitats (IIED, 2013).

Between 2000 and 2010, large-scale commercial agriculture accounted for 40% of deforestation in tropical countries; subsistence farming, 33% (FAO, 2016a). While forest management is in principle largely regulated by national legislation and law enforcement, limited human resources and monitoring mechanisms often lead to a lack of effectiveness in implementation (FAO, 2016a).

The forest product trade is valued at over $225 billion in 2015, and over one quarter of pulp and paper production is traded on international markets (which themselves account for over half the value of traded forest products (FAO, 2016b)). Unsurprisingly, then, international policy initiatives and trade laws have long been an important factor in managing deforestation on a global scale, along with shifting demands in consumer markets.

Specific attention to the roles and responsibilities of manufacturers and consumers grew out of NGO campaigns in the 1980s but were then linked to international efforts, and led to the development of several initiatives that were the precursors of modern VSS for forest management (Potts et al., 2014).

Most notably, the negotiation of the forest principles at the 1992 United Nations Conference on Environment and Development provided a framework from which the major international forest management strategies were developed. These include the FSC and PEFC standards as well as the 2008 amendment to the United States Lacey Act and the EU's Forest Law Enforcement, Governance and Trade Action Plan (FLEGT) and Timber Regulation, which prohibit the trade of illegally harvested timber (Potts et al., 2014).

Reflecting their history, forest management standards have played an important role in supporting the implementation of major international norms and treaties (Overdevest and Zeitlin, 2014). Standards in the forest sector were the first to be proactively used in this way, and have paved the way for similar use of standards in the biofuels and fisheries sectors.

While initially experimental in nature and perceived as a niche market, forest certification has entered into mainstream channels over the past decade, driven by both legislation and commitments from major multinationals, including Ikea, Home Depot and Lowes (Potts et al., 2014).

Canada boasts world's largest managed forest area

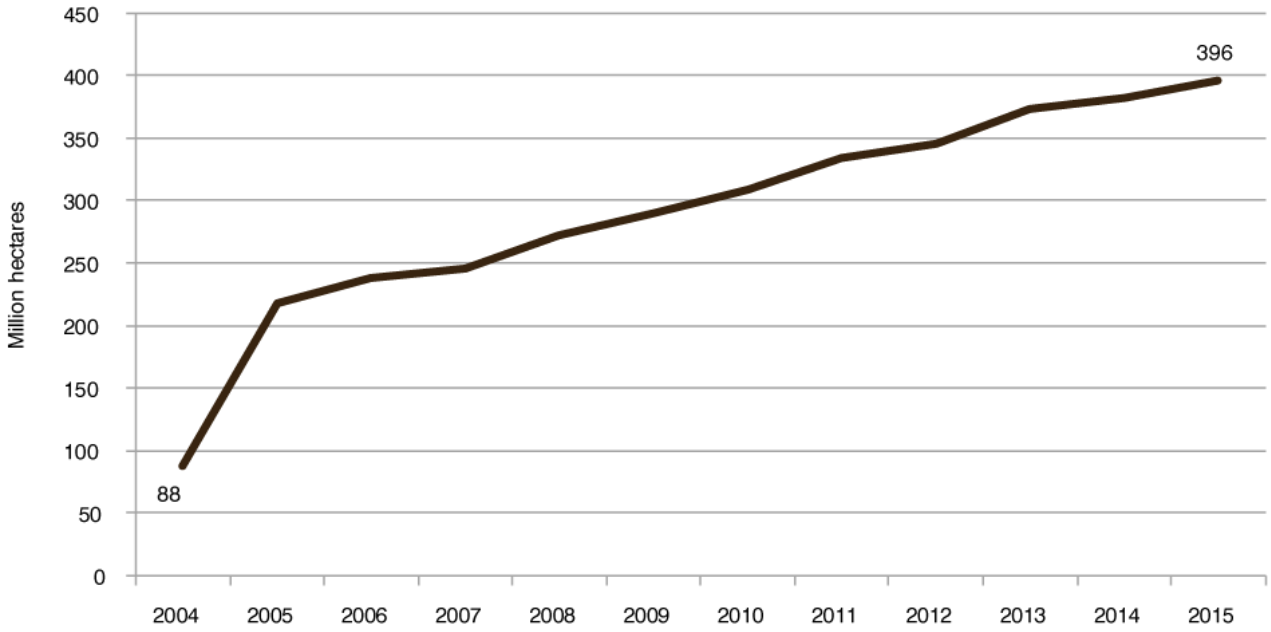
There are more than 4 billion hectares of forest worldwide (FAOSTAT, 2017). The two most important sustainable forestry labels are FSC) (186 million hectares) and PEFC (272 million hectares). Together, they accounted for 396 million hectares in 2015, which is almost 10% of the global total forest area (including non-productive forest areas).[69]

Most of the managed certified forest area was in North America (49%), followed by Europe (40%). Canada had the largest area of managed forest (almost 154 million hectares), followed by Russian Federation (nearly 41 million hectares) and United States of America (almost 40 million hectares).

For tables of VSS-compliant forestry, see the Appendix.

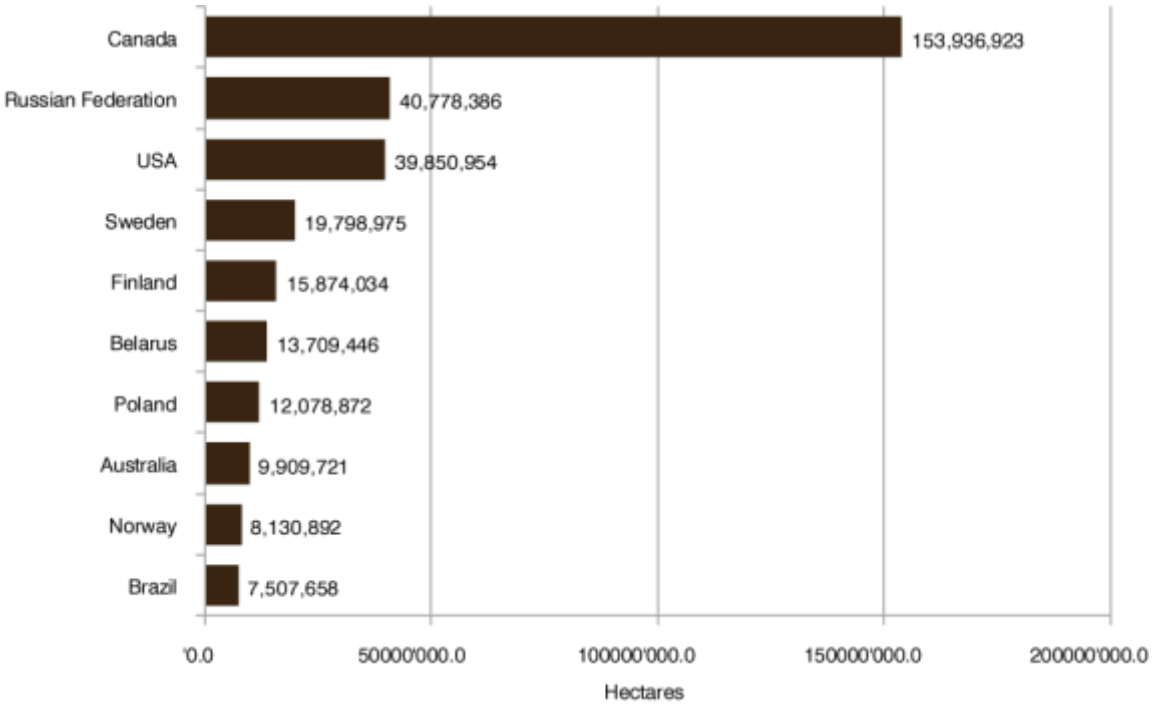
[69] Multiple certification was taken into account assuming that 15% of the certified area is double-certified.

Figure 186: Forestry: Certified area, 2004–2015



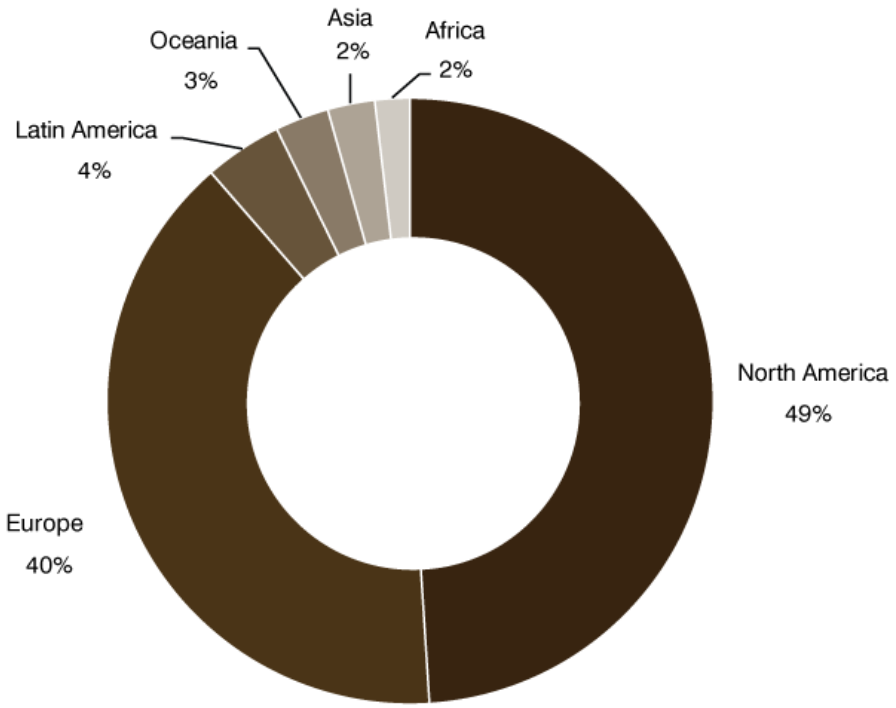
Note: The totals were adjusted to multiple certification, assuming that 15% is double-certified, based on FSC and PEFC assumptions.
Sources*:* Forest Stewardship Council (FSC), 2004–2016; Programme for the Endorsement of Forest Certification (PEFC), 2004-2016.

Figure 187: Forestry: Top 10 countries by area, 2015



Note: The totals were adjusted to multiple certification, assuming that 15% is double-certified, based on FSC and PEFC assumptions.
Sources*:* Forest Stewardship Council (FSC), 2004-2016; Programme for the Endorsement of Forest Certification (PEFC), 2015 and 2016.

Figure 188: Forestry: Certified area by region, 2015



Note: The totals were adjusted to multiple certification, assuming that 15% is double-certified, based on FSC and PEFC assumptions.
Sources: Forest Stewardship Council (FSC), 2004-2016; Programme for the Endorsement of Forest Certification (PEFC), 2015 and 2016.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Step 2
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End
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CHAPTER 4

METHODOLOGY AND DATA SOURCES

CHAPTER 4 METHODOLOGY AND DATA SOURCES

Methodology

Building on IISD's experience in producing *The State of Sustainability Initiatives Review* in 2014 (Potts et al., 2014) and 2010 (Potts et al., 2010), FiBL, IISD and ITC conducted a second market data survey on voluntary sustainability standards.[70]

The data presented in this report were obtained either directly from the standard-setting organizations or indirectly through published annual reports and other literature. For organic agriculture, data was gathered from private-sector organizations, governments and certification bodies as part of FiBL's annual survey on organic agriculture worldwide (Willer/Lernoud, 2017). The data collection process, VSS, indicators and commodities covered, as well as the quality checks carried out, are described below.

In July 2016, a standardized questionnaire developed by FiBL and IISD was sent to all the standards. All of them returned data, but not consistently across all the indicators requested.

Focus on commodities

The focus was on the same crops as those presented in *The State of Sustainability Initiatives Review 2014* (Potts et al., 2014, and Lernoud et al., 2015): bananas, cocoa, coffee, cotton, oil palm, soy, sugarcane and tea, as well as forestry. However, the VSS were also asked to provide data on additional crops covered by their standard, as well as the total certified area.

Standards[71]

The following voluntary standards were analysed:

- 4C (previously 4C Association)
- Better Cotton Initiative (BCI)
- Bonsucro
- Cotton made in Africa (CmiA)
- Fairtrade International
- Forest Stewardship Council (FSC)
- GLOBALG.A.P.
- IFOAM – Organics International[72]
- Programme for the Endorsement of Forest Certification (PEFC)
- ProTerra Foundation
- Rainforest Alliance/Sustainable Agriculture Network (RA/SAN)
- Roundtable on Sustainable Palm Oil (RSPO)
- Round Table on Responsible Soy (RTRS)
- UTZ.

[70] The survey was conducted between July 2016 and March 2017.

[71] For more information on the different standards, see the ITC Standards Map website, www.standardsmap.org.

[72] Not all production considered organic is actually compliant with IFOAM standards. IFOAM – Organic International is nevertheless the leading global reference for defining organic standards. Market data on organic production and trade include all recognized organic production independent of whether the production complies with IFOAM criteria per se.

List of indicators

The standards surveyed for this report were asked to provide data on the indicators below.

Indicator	Definition	Unit of measure
	Area	
Area	Area certified (fully converted plus under conversion)	hectares
Area cultivated	Area that was cultivated	hectares
Harvested area	Area actually harvested	hectares
	Production	
Production value	Value of production volume that is VSS-compliant, even if not sold as compliant at the first point of sale	$ million
Production volume	Production volume that is VSS-compliant, even if not sold as compliant at the first point of sale	metric tons
Production volume sold under a VSS label	Volume of VSS-compliant product that is sold as compliant at the first point of sale (e.g. from cooperative to trader)	metric tons
	Operators	
Certificate holders	Total number of current valid certificates and in process	n/a
Processor	Operator who preserves and/or processes agricultural or forestry products (including slaughtering and butchering) and aquaculture products. Packaging and labelling as VSS-compliant is also considered as processing.	n/a
Producer	Production unit operated under a single management for the purpose of producing agricultural products (including processing, packaging and initial labelling of own crop and livestock products on the farm). This includes the producers organized under a group, resource manager, community or cooperative certificate, and/or those producing, collecting or gathering for a supply chain covered by a standard.	n/a
	Domestic sales	
Domestic sales value	Domestic sales in million $	$ million
Domestic sales volume	Domestic sales in metric tons	metric tons
	International trade	
Export value	Value of VSS-compliant product that is exported	$ million
Export volume	Volume of VSS-compliant product that is exported	metric tons
Import value	Value of VSS-compliant product that is imported	$ million
Import volume	Volume of VSS-compliant product that is imported	metric tons
	Multiple certifications	
Multiple Certification – Area Harvested	Percentage of VSS-compliant area harvested that is compliant under more than one VSS certification	%

This publication focuses on those indicators for which data were provided by all VSS: area, area harvested, production volume, producers/operators.

Quality checks

The data received from the standards were validated using the following quality checks:

- Area and production data were compared with the data from the previous year, as provided by the standards themselves or as available in the IISD database (data as published by Potts et al., 2014).
- Area and production data were compared with the total area and production as provided by the Food and Agriculture Organization of the United Nations (FAO).
- Yields provided by FAO were compared with the VSS yields calculated on the basis of the area and production data provided by the standards.

Pivot tables were used to analyse the data, which enabled the identification of data anomalies. The VSS were asked to provide explanations for suspicious data, which led either to plausible explanations or to data revisions.

For countries and areas, the Standard Country and Area Classifications as defined by the United Nations Statistics Division were applied to most countries/areas.[73] Where the designation "country" appears in this report, it covers countries or areas. To calculate the share of the total VSS-certified area and commodity area, per country and worldwide, total country and world data was taken from the FAOSTAT database.[74]

Data year

Data collected and reported as crop year spanning over two adjoining years were relabelled as, and attributed to, the latter year. For instance, data reported in 2014/2015 were labelled as 2015 in the report to allow data-handling consistency. Because there are inconsistencies across the VSS in terms of how they report their data, this assumption was necessary to allow comparisons across the standards.

Multiple certification

Reporting a global total of certain commodities remains difficult, as many producers are certified by more than one VSS, and there are not enough reliable data on the share of multiple certification. Taking this into account, FiBL, IISD and ITC decided that the best approach was to provide a range that encompasses the minimum and the maximum amounts possible, along with the average of the two at the country level.

To calculate the maximum amount, the total production of all standards in the country was determined. For the minimum, the standard with the largest area or largest production volume in the country was used as the reference. An average of the maximum and minimum was then calculated. These figures must be taken with caution, however, as they are estimations that indicate a trend.

The survey asked for the extent of multiple certification by country and for the VSS in question. Only two standards provided data on multiple certification, which made it impossible to calculate the actual share of multiple-certified. FiBL, IISD and ITC agreed on implementing the method explained above so as to be able to report a development trend for each of the selected commodities in this report. Nevertheless, the three organizations remain committed to providing more accurate global figures in subsequent publications as data on multi-certification become available. FiBL and ISEAL are currently working to improve the availability of data on multiple certification from ISEAL members.

Data publication and revisions

Data going back to 2008 have been stored in the ITC Trade for Sustainable Development database, and will be made available as a module of the Sustainability Map portal in September 2017. Data revisions and corrections will be communicated at http://www.vss.fibl.org/de/vss-report/data-revisions.html.

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[73] For the composition of macro-geographical (continental) regions, geographical subregions, and selected economic and other groupings, see the UNSTAT homepage at http://unstats.un.org/unsd/methods/m49/m49regin.htm.

[74] FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

Data sources

- **4C**: For 2008–2012, 4C data as quoted by Potts et al., 2014. For 2013–2015, data provided by Juan Carlos Isaza, Standards Manager, and George Watane, 4C, Bonn, Germany, www.globalcoffeeplatform.org and www.cas-veri.com.
- **Better Cotton Initiative**: For 2008–2012, BCI data as quoted by Potts et al., 2014. For 2013–2015, data provided by Kendra Pasztor, Monitoring and Evaluation Manager, and Shannon Avison, Data Analyst, BCI, Geneva, Switzerland, www.bettercotton.org.
- **Bonsucro**: For 2008–2012, Bonsucro data as quoted by Potts et al., 2014. For 2013–2015, data provided by Nicolas Viart, Head of Sustainability, and Nahuel Tuñon, Insights Analyst, Bonsucro, United Kingdom, www.bonsucro.com.
- **Cotton made in Africa**: For 2008–2011, CmiA data as quoted by Potts et al., 2014. For 2012–2015, data provided by Carole Romero-Vargas, Project Manager, and Maria-Verena Spohler-Kouoh, Project Manager, CmiA, Hamburg, Germany, www.cottonmadeinafrica.org.
- **Fairtrade International**: For 2011–2015, data provided by Jannik Kaiser, Technical Assistant, Fairtrade International, Bonn, Germany, www.fairtrade.net. Market data based on Fairtrade International Annual Reports 2005–2016, available at https://www.fairtrade.net/about-fairtrade/annual-reports.html. Fairtrade data have been updated, and the figures reported here might differ from previous Fairtrade International reports.
- **Forest Stewardship Council International**: Data provided by Marion Karman, Monitoring and Evaluation Program Manager, FSC International, Bonn, Germany. FSC Annual Reports 2004–2016.
- **GLOBALG.A.P.:** Data provided by Yannic Grewe, Data Mining and Statistic Support, GLOBALG.A.P, Köln, Germany. Data from 2012–2015.
- **Organic**: FiBL surveys among national data sources and FiBL estimates for the area harvested and the production volume. For full list of original data sources, see www.organic-world.net/yearbook. Contact: Julia Lernoud and Helga Willer, Research Institute of Organic Agriculture (FiBL), Frick, Switzerland, julia.lernoud@fibl.org and helga.willer@fibl.org. Organic cotton data provided by Liesl Truscott and Evonne Tan, Textile Exchange, United Kingdom, http://farmhub.textileexchange.org/.
- **Programme for the Endorsement of Forest Certification**: Data provided by Thorsten Arndt, PEFC International, Geneva, Switzerland, www.pefc.org ; PEFC annual reports from 2005–2016.
- **ProTerra Foundation**: For 2008–2012, ProTerra Foundation data as quoted by Potts et al., 2014. For 2013–2015, data provided by Augusto Freire, President, and Graham Mitchell, Executive Director, ProTerra Foundation, www.proterrafoundation.org.
- **Rainforest Alliance/Sustainable Agriculture Network**: For 2008–2012, RA/SAN data as quoted by Potts et al., 2014. For 2013 and 2014, data provided by Joseph Booth, Assistant Market Transformation, Rainforest Alliance, London, United Kingdom, www.rainforest-alliance.org. For 2015, data provided by Andrea Valenzuela, Operations Specialist, Sustainable Agriculture Network, San José, Costa Rica, www.san.ag/web.
- **Roundtable on Sustainable Palm Oil**: For 2008–2012, RSPO data as quoted by Potts et al., 2014. For 2013–2015, data provided by Jan van Driel, RSPO Head of Certification, Roundtable on Sustainable Palm Oil, Kuala Lumpur, Malaysia, www.rspo.org.
- **Round Table on Responsible Soy**: For 2008–2012, RTRS data as quoted by Potts et al., 2014. For 2013–2015, data provided by Laura Villegas, Communications Officer, Round Table on Responsible Soy, Ciudad Autónoma de Buenos Aires, Argentina, www.responsiblesoy.org.

- **UTZ**: For 2008–2012, UTZ data as quoted by Potts et al., 2014. For 2013–2015, data provided by Elisa Trepp, Data Analyst, and Anne Dullemeijer, Data Analyst, UTZ, Amsterdam, Netherlands, www.utz.org.

Key issues and suggestions in data collection

In a context where access to sustainable markets tends to be concentrated in more developed economies, policymakers, producers and businesses need better-quality information to facilitate strategic planning. Areas where better quality and transparent data are both deeply needed and also feasible include the following:

Prices and markets: Pricing, particularly at the producer level, is extremely variable and poorly documented. Better pricing information could help producers make the right investments at the right time and/or determine the appropriate timing for bringing goods to market.

Trade data: Trade statistics are a critical reference point in the development of international trade policy and trade-dependent industrial policy. The absence of trade data on certified products renders the relevant standards (and the practices they embody) effectively invisible within the policy-planning context. As a result, the global community misses out on critical opportunities to proactively promote better practices through more strategic planning and policies related to certified products and their effectiveness.

Consumption data: A better understanding of the distribution of consumption as well as consumer demographics could facilitate public planning for expanding the market presence of products employing preferred practices. However, retail-level data are typically held closely by companies, thereby limiting the potential of complementary public or development policy to match consumer preferences appropriately. Global retail data are currently available for Organic and Fairtrade products.

Better data on these and other parameters are unlikely to become available without a dedicated political and financial commitment. A shortlist of some of the more promising avenues for action would include:

Expansion of reporting and transparency requirements for certified producers: Adoption of a coordinated approach to the specification and collection of data related to key data parameters among standard-setterswould be a major step towards computing accurate regional and global production levels.

Expansion of Harmonized System (HS) coding system to include HS codes for certified goods: The International Convention on the Harmonized System (HS), which establishes a harmonized nomenclature for products so that trade statistics can be gathered and compiled at the global level, currently offers no means for differentiating between certified and uncertified products. As a result, national trade statistics remain unavailable for certified products. The elaboration of certification-specific HS codes could rely on internationally agreed norms of good practice as a basis for determining where such codes are warranted and where they are not. The elaboration of HS codes for certified products would substantially enhance market and trade data related to such products.

Expanded corporate reporting: Retail data are typically held closely by individual companies and are therefore often inaccessible to the public or policymakers. Standards initiatives, governments and/or companies themselves could establish rules (tied to licensing, sales or voluntary precompetitive agreements) requiring companies to make certain data available on an anonymous basis for use in statistical analyses.

National statistics on sustainable consumption: Countries could use their national statistics bureaus to conduct surveys enabling a deeper understanding of consumer preferences related to sustainable consumption. Harmonizing survey methods and mapping national consumer preferences onto actual sales could provide an important reference point for market actors seeking to leverage consumer preference for their respective green growth strategies.

APPENDIX

GEOGRAPHIC OVERVIEW BY PRODUCT AND STANDARD

APPENDIX

GEOGRAPHIC OVERVIEW BY PRODUCT AND STANDARD

Bananas

Table 16: Bananas: Fairtrade International 2015

Country	Area [ha]	Share of total banana area [%]	Production volume [MT]	Producers [no.]
Costa Rica	812	1.9%	3,090	58
Colombia	5,451	7.4%	167,727	400
Dominican Republic	14,698	56.9%	214,848	1,825
Ecuador	6,752	3.7%	115,495	722
Ghana	1,339	16.8%	52,862	-
Mexico	500	0.7%	25,285	-
Peru	6,931	88.9%	168,391	6,534
Sri Lanka	1,030	-	118	846
Other Latin American countries	3,111	-		2,228
World	**40,624**	**0.8%**	**807,524**	**14,400**

***Source**:* Fairtrade International, 2017. Note: n.a means data not available. The totals include data from other countries.

Table 17: Bananas: GLOBALG.A.P. 2015

Country	Area [ha]	Share of total banana area [%]	Producers [no.]
Brazil	2,335	0.5%	13
Cameroon*	n.a	-	3
Colombia	45,629	56.4%	565
Costa Rica	24,724	57.7%	100
Côte d'Ivoire	2,891	34.0%	10
Dominican Republic	14,480	61.2%	1,052
Ecuador	64,862	34.4%	884
France	553	-	21
Ghana*	n.a	-	4
Guadeloupe (France)*	n.a	-	6
Guatemala	25,862	37.2%	22
Honduras	6,720	29.3%	16
India*	n.a	-	3
Kenya*	n.a	-	1
Lebanon*	n.a	-	3
Martinique (France)	852	11.8%	20
Mexico	2,414	3.3%	16
Mozambique*	n.a	-	1
Nicaragua*	n.a	-	3
Panama*	n.a	-	2
Peru	6,911	98.1%	6,523

Country	Area [ha]	Share of total banana area [%]	Producers [no.]
Philippines*	n.a	-	6
Puerto Rico*	n.a	-	1
Saint Lucia*	n.a	-	300
Saint Vincent/Grenadines*	n.a	-	33
Senegal*	n.a	-	203
South Africa	3,229	45.9%	12
Spain*	n.a	-	316
Sri Lanka*	n.a	-	1
Suriname*	n.a	-	1
Swaziland*	n.a	-	2
Thailand*	n.a	-	2
United Arab Emirates*	n.a	-	1
United Kingdom*	n.a	-	20
Zimbabwe*	n.a	-	1
World	**248,293**	**4.6%**	**10,174**

Note: n.a means data not available. The totals include data from other countries. *For countries with less than 5 producers or less than two certificate holders, data is not published due to data confidentiatity***.**
Source: GLOBALG.A.P., 2017.

Table 18: Bananas: Organic 2015

Country	Estimated area harvested [ha]	Share of total banana area [%]	Estimated production volume [MT]
Argentina	10	0.1%	200
Cameroon	10	0.01%	200
China	115	0.03%	3,050
Colombia	800	1.0%	21,400
Costa Rica	1,900	4.4%	96,450
Côte d'Ivoire	20	0.2%	700
Dominican Republic	22,800	-	456,000
Ecuador	11,850	6.3%	138,800
French Guiana (France)	15	2.4%	100
Ghana	100	1.3%	1,100
Greece	5	3.8%	100
Guatemala	30	0.04%	1,300
Indonesia	30	0.03%	1,600
Israel	20	0.7%	950
Kenya	50	0.1%	1,150
Madagascar	250	0.4%	1,350
Mexico	450	0.6%	12,400
Peru	4,900	69.5%	166,400
Philippines	8,900	2.0%	172,550
Réunion (France)	5	0.3%	50
Senegal	250	17.3%	5,500
Turkey	20	0.4%	900
World	**52,530**	**1.0%**	**1,082,250**

***Source*:** FiBL, 2017. Estimates based on national data sources and data from certifiers

Table 19: Bananas: Rainforest Alliance/Sustainable Agriculture Network 2015

Country	Area [ha]	Production volume [MT]	Producers [no.]
Belize	2,004	16,100	13
Brazil	5	92	17
Colombia	21,120	889,137	200
Costa Rica	28,906	1,491,946	101
Côte d'Ivoire	319	15,000	1
Ecuador	9,556	421,710	65
Guatemala	24,378	1,698,635	89
Honduras	11,616	625,180	18
Malawi	23	4,980	2
Nicaragua	1,751	89,030	9
Panama	6,066	245,725	29
Peru	35	1,524	1,277
Philippines	3,666	159,157	15
World	**109,660**	**5,658,216**	**1,836**

***Source**:* Rainforest Alliance/SAN, 2016

Cocoa

Table 20: Cocoa: Fairtrade International 2015

Country	Area [ha]	Share of total cocoa area [%]	Production volume [MT]	Producers [no.]
Bolivia	n.a.	-	n.a.	n.a.
Colombia	962	0.9%	309	351
Côte d'Ivoire	173,102	6.9%	111,300	32,494
Dominican Republic	70,070	46.4%	23,700	12,584
Ecuador	17,490	4.3%	3,605	2,652
Ghana	241,249	15.1%	79,678	109,229
India	1,206	1.8%	855	n.a.
Peru	39,274	40.2%	29,506	14,657
Sierra Leone	6,134	14.6%	588	6,519
Other African countries	4,863	-	1,231	6,361
Other Asian countries	1,744	-	314	3,320
Other Latin American countries	14,034	-	1,049	8,723
World	**570,128**	**5.5%**	**252,136**	**196,890**

***Source**:* Fairtrade International, 2017. Note: n.a means data not available.

Table 21: Cocoa: Organic 2015

Country	Estimated area harvested [ha]	Share of total cocoa area [%]	Estimated production volume [MT]
Belize	700	-	70
Bolivia	3,600	40.7%	1,400
Brazil	7,100	1.0%	1,850
Colombia	350	0.3%	100
Costa Rica	120	2.6%	20
Côte d'Ivoire	100	0.004%	50
Congo, D.R.	27,550	-	1,950
Dominican Republic	108,300	71.7%	100,000
Ecuador	11,400	2.8%	2,550
Ghana	9,000	0.6%	3,300
Grenada	60	4.7%	50
Haiti	2,900	13.2%	900
Honduras	700	41.2%	300
Indonesia	20	0.01%	5
Madagascar	5,150	49.0%	3,100
Mexico	15,300	13.1%	7,500
Nicaragua	1,350	20.8%	400
Nigeria	450	0.04%	100
Panama	3,800	-	800
Peru	23,050	23.6%	14,750
Philippines	10	0.1%	5

Country	Estimated area harvested [ha]	Share of total cocoa area [%]	Estimated production volume [MT]
Sao Tome and Principe	5,750	23.5%	650
Sierra Leone	13,750	32.7%	4,800
Tanzania	17,750	-	6,850
Togo	1,550	1.9%	300
Uganda	3,400	7.1%	1,000
Vanuatu	2,500	-	1,900
Viet Nam	2,050	-	1,050
World	**267,760**	**2.6%**	**155,750**

Source: FiBL, 2017. Estimates based on national data sources and data from certifiers.

Table 22: Cocoa: Rainforest Alliance/Sustainable Agriculture Network 2015

Country	Area [ha]	Production volume [MT]	Producers [no.]
Brazil	821	337	19
Cameroon	13,949	5,658	6,335
Costa Rica	122	110	1
Côte d'Ivoire	453,429	297,325	96,448
Dominican Republic	24,367	20,702	5,083
Ecuador	19,202	17,184	2,974
Ghana	138,168	103,954	57,825
India	1,350	168	842
Indonesia	46,765	44,869	43,494
Nigeria	20,662	12,605	11,056
Papua New Guinea	1,854	1,011	5,421
Peru	4,099	5,888	1,364
Philippines	198	180	118
Tanzania, United Rep. of	12,565	13,165	23,311
World	**737,551**	**523,157**	**254,291**

Source: Rainforest Alliance/SAN, 2016.

Table 23: Cocoa: UTZ 2015

Country	Area harvested [ha]	Share of total cocoa area [%]	Estimated production volume [MT]	Producers [no.]
Brazil	4,982	0.7%	2,057	39
Colombia	2,104	2.0%	1,218	422
Côte d'Ivoire	827,473	33.1%	486,842	193,444
Ecuador	35,279	8.8%	31,789	4,781
Ghana	297,639	18.6%	169,057	92,671
Indonesia	63,240	3.6%	52,852	43,050
Nicaragua	1,764	27.1%	929	961
Peru	33,989	34.8%	32,115	10,094
Viet Nam	1,925	-	2,163	2,163
Other world*	261,742	-	138,580	118,006
World	**1,530,137**	**14.7%**	**917,603**	**465,631**

*Others include Cameroon, DR of Congo, Dominican Republic, Mexico, Nigeria, Panama, Sierra Leone, United Republic of Tanzania, Togo and Uganda. ***Source:*** UTZ, 2016

Coffee

Table 24: Coffee: 4C 2015

Country	Area [ha]	Share of total coffee area [%]	Production volume [MT]	Producers [no.]
Brazil	659,325	31.6%	1,248,646	27,329
Burundi	1,376	3.1%	988	9,219
Cameroon	4,903	2.3%	4,251	2,922
China	21,769	43.9%	42,919	4,737
Colombia	333,262	43.2%	368,818	128,116
Côte d'Ivoire	50,337	22.9%	27,802	17,822
El Salvador	3,339	2.4%	1,927	159
Ethiopia	11,655	2.2%	6,333	6
Guatemala	4,877	1.9%	5,680	537
Honduras	49,443	17.9%	78,579	9,271
India	6,804	1.8%	6,172	265
Indonesia	73,367	5.9%	82,991	50,459
Kenya	7,980	7.3%	6,303	35,987
Lao P.D.R.	1,409	2.5%	1,360	348
Mexico	58,809	8.4%	38,079	25,002
Nicaragua	2,784	2.6%	3,744	165
Papua New Guinea	8,025	11.5%	6,377	9,134
Peru	66,749	16.7%	67,370	18,836
Philippines	14,785	12.7%	5,457	9,497
Rwanda	2,736	6.1%	2,428	14,204
Tanzania, United Rep. of	3,548	-	640	12,116
Thailand	15,774	30.9%	14,259	4,050
Uganda	23,953	7.7%	1,004	24,528
Viet Nam	167,396	28.6%	598,213	100,111
World	**1,594,405**	**15.2%**	**2,629,339**	**504,820**

Source: 4C, 2016

Table 25: Coffee: Fairtrade International 2015

Country	Area [ha]	Share of total coffee area [%]	Production volume [MT]	Producers [no.]
Bolivia	8,057	26.8%	2,577	2,298
Brazil	65,547	3.1%	87,484	9,571
Colombia	213,382	26.8%	164,676	66,497
Costa Rica	28,794	30.7%	30,653	9,656
Côte d'Ivoire	10,802	4.9%	50	n.a.
Congo, D.R.	n.a.	-	n.a.	14,020
El Salvador	n.a.	-	n.a.	896
Ethiopia	207,975	40.0%	18,025	145,963
Guatemala	24,512	9.8%	12,677	13,969

Honduras	19,019	6.9%	22,242	6,215
India	4,482	1.2%	6,610	21,488
Indonesia	27,712	2.2%	20,344	26,399
Kenya	50,626	46.0%	23,943	171,650
Mexico	117,608	16.8%	30,042	36,974
Nicaragua	59,431	55.0%	29,592	27,508
Papua New Guinea	3,485	5.0%	1,272	2,835
Peru	159,953	40.0%	87,473	45,710
Rwanda	4,540	10.1%	2,670	12,162
Tanzania	167,072	71.7%	4,447	141,799
Uganda	64,369	20.6%	4,755	44,692
Viet Nam	1,137	0.2%	4,730	652
Other African countries	18,694	-	1,747	9,028
Other Asian countries	27,334	-	3,769	23,491
Other Latin American countries	12,675	-	1,123	10,838
World	**1297,206**	**13.5%**	**560,902**	**844,311**

Source: Fairtrade International, 2017. Note: n.a means data not available.

Table 26: Coffee: Organic 2015

Country	Estimated area harvested [ha]	Share of total coffee area [%]	Estimated production volume [MT]
Bolivia	8,750	29.2%	6,600
Brazil	12,000	0.6%	13,750
Cameroon	65	0.03%	10
Cape Verde	450	-	75
Colombia	7,200	0.9%	4,900
Costa Rica	650	0.7%	450
Congo, D.R.	20,350	23.9%	5,850
Dominican Republic	1,600	2.1%	350
Ecuador	2,450	4.0%	300
El Salvador	12,200	8.7%	2,350
Ethiopia	143,900	27.7%	59,850
Guatemala	6,250	2.5%	5,050
Honduras	21,150	7.7%	16,750
India	2,000	0.5%	1,350
Indonesia	74,300	6.0%	41,600
Kenya	250	0.2%	100
Lao, P.D.R.	250	0.4%	300
Madagascar	550	0.4%	250
Malawi	50	1.9%	100
Mexico	252,850	36.1%	83,450
Myanmar	50	0.4%	30
Nepal	700	40.0%	150
Nicaragua	9,400	8.7%	5,850

Country	Estimated area harvested [ha]	Share of total coffee area [%]	Estimated production volume [MT]
Panama	200	0.9%	100
Papua New Guinea	9,750	13.9%	6,700
Peru	99,050	24.8%	50,700
Rwanda	70	0.2%	50
Sao Tome and Principe	200	20.0%	50
South Africa	15	-	15
Sri Lanka	50	0.6%	50
Tanzania, United Rep. of	71,350	30.6%	22,100
Thailand	1,400	2.7%	1,100
Timor-Leste	22,700	40.5%	4,100
Uganda	15,950	5.1%	7,800
World	**798,150**	**7.6%**	**342,230**

Source: FiBL, 2017. Estimates based on national data sources and data from certifiers.

Table 27: Coffee: Rainforest Alliance/Sustainable Agriculture Network 2015

Country	Area cultivated [ha]	Production volume [MT]	Producers [no.]
Brazil	82,451	157,868	295
Burundi	46	64	595
China	416	709	6
Colombia	39,438	64,823	10,002
Costa Rica	22,217	32,793	3,328
El Salvador	19,890	12,730	704
Ethiopia	43,691	20,458	23,325
Guatemala	22,888	27,644	2,488
Honduras	14,087	32,872	1,808
India	18,144	16,866	1,295
Indonesia	16,244	17,280	13,490
Jamaica	22	20	1
Kenya	14,449	18,159	69,461
Malawi	808	810	-
Mexico	10,208	8,507	1,655
Nicaragua	12,021	14,010	135
Panama	221	328	2
Papua New Guinea	3,839	2,454	4,244
Peru	35,651	27,331	8,755
Rwanda	3,406	2,862	13,725
Tanzania, United Rep. of	19,208	3,968	28,631
Thailand	15	4	46
Uganda	14,082	14,866	27,589
Viet Nam	11,644	44,909	7,027
World	**405,083**	**522,336**	**218,610**

Source: Rainforest Alliance/SAN, 2016

Table 28: Coffee: UTZ 2015

Country	Area harvested [ha]	Share of total coffee area [%]	Estimated production volume [MT]	Producers [no.]
Brazil	134,441	6.4%	249,126	957
Colombia	49,952	6.5%	81,379	6,411
Ethiopia	25,643	4.9%	12,739	3,623
Guatemala	8,347	3.3%	11,382	1,881
Honduras	45,105	16.3%	72,652	8,246
India	34,835	9.3%	38,812	694
Indonesia	16,445	1.3%	10,654	8,062
Kenya	9,437	8.6%	7,077	13,882
Mexico	35,560	5.1%	18,040	11,450
Nicaragua	21,200	19.6%	25,352	1,617
Peru	42,064	10.5%	36,370	11,832
Uganda	44,555	14.3%	20,912	55,541
Viet Nam	65,770	11.3%	224,579	42,284
Other world*	15,675	-	12,325	22,147
World	**549,030**	**5.2%**	**821,399**	**188,627**

* Others include Burundi, China, Costa Rica, DR of Congo, Dominican Republic, El Salvador, Panama, Papua New Guinea, Rwanda and the United Republic of Tanzania.
Source: UTZ, 2017.

Cotton

Table 29: Cotton: Better Cotton Initiative 2015

Country	Seed cotton Area [ha]	Seed cotton Share of total seed cotton area [%]	Seed cotton Production volume [MT]	Cotton lint Production volume [MT]	Seed cotton Producers Participating in Better Cotton Projects [no.]
Australia	12,000	2.7%	77,000	32,000	26
Brazil	556,000	58.9%	1,694,000	762,000	232
China	246,000	5.7%	1,038,000	415,000	97,939
India	638,000	5.5%	1,014,000	373,000	424,664
Israel	10,000	100.0%	56,000	19,000	91
Mali	138,000	28.5%	129,000	56,000	51,124
Mozambique	63,000	40.6%	21,000	8,000	93,336
Pakistan	498,000	17.7%	1,151,000	352,000	139,957
Senegal	6,000	18.8%	3,000	1,000	5,511
Tajikistan	12,000	6.5%	31,000	11,000	820
Turkey	13,000	2.9%	61,000	23,000	561
United States of America	25,000	0.8%	91,000	34,000	76
World	**2,217,000**	**6.4%**	**5,366,000**	**2,086,000**	**814,337**

Source: Better Cotton Initiative (BCI), 2017

Table 30: Cotton: Cotton made in Africa 2015

Country	Seed cotton Area [ha]	Seed cotton Share of total seed cotton area [%]	Seed cotton Producers [no.]	Cotton Lint Production volume [MT]
Cameroon	209,930	100.0%	204,302	117,300
Côte d'Ivoire	367,231	88.6%	106,672	160,091
Ethiopia	13,775	16.2%	14,630	5,235
Ghana	1,866	11.7%	3,176	666
Malawi	8,238	4.5%	10,795	1,109
Mozambique	40,073	25.9%	46,397	4,624
Tanzania, United Rep. of	64,071	14.2%	50,364	7,715
Uganda	2,800	5.4%	4,586	852
Zambia	225,052	80.0%*	207,199	35,129
Zimbabwe	42,300	10.7%	22,473	8,815
World	**975,336**	**2.8%**	**670,594**	**341,536**

Note: The CmiA seed cotton share for Zambia was estimated based on the cotton lint production volume share, as the total seed cotton area data for the country is incomplete.

Source: Cotton Made in Africa (CmiA), 2016.

Table 31: Cotton: Fairtrade International 2015

Country	Area [ha]	Share of total seed cotton area [%]	Production volume [MT]	Produces [no.]
India	32,825	0.3%	33,733	28,483
Senegal	3,094	12.3%	2,990	5,417
Other world	9,112	-	6,970	10,338
World	**45,031**	**0.1%**	**43,693**	**44,238**

Source: Fairtrade International, 2017.

Table 32: Cotton: Organic 2015

Country	Seed cotton Area [ha]	Seed cotton Share of total seed cotton area [%]	Seed cotton Production volume [MT]	Seed cotton Producers [no.]	Cotton lint Production volume [MT]
Benin	2,065	0.6%	936	2,682	377
Brazil	160	0.0%	66	112	22
Burkina Faso	4,928	0.8%	2,668	8,382	1,067
China	6,742	0.2%	30,394	2,862	13,145
Colombia	18	0.1%	2	4	1
Egypt	1,222	0.9%	5,513	570	2,150
Ethiopia	11,000	12.9%	308		145
India	276,736	2.4%	212,692	157,721	75,251
Israel	100	1.1%	44	1	14
Kyrgyzstan	5,136	21.9%	16,287	711	5,543
Madagascar	27	0.2%	12	12	5
Mali	2,691	0.6%	1,537	2,057	526
Peru	661	2.1%	1,470	221	553
Senegal	92	0.3%	33	258	13
Tajikistan	3,800	2.1%	4,000	1,200	1,000
Tanzania, United Rep. of	16,816	3.7%	5,691	4,214	2,146
Turkey	3,718	0.8%	18,348	295	7,304
Uganda	6,187	11.9%	1,750	12,500	795
United States of America	7,936	0.3%	6,948	38	2,432
World	**350,033**	**1.0%**	**308,699**	**193,840**	**112,488**

Source: Textile Exchange, 2017.

Oil palm

Table 33: Oil palm: Organic 2015

Country	Estimated area harvested [ha]	Share of total oil palm area [%]	Estimated production volume [MT]
Ecuador	10	0.005%	50
Colombia	1,200	0.5%	16,750
Côte d'Ivoire	350	0.1%	2,250
Ghana	1,400	0.4%	8,150
Madagascar	1,100	59.5%	8,800
Sierra Leone	65	0.2%	500
World	**4,125**	**0.02%**	**36,500**

Source: FiBL, 2017. Estimates based on national data sources and data from certifiers

Table 34: Oil palm: Rainforest Alliance/Sustainable Agriculture Network 2015

Country	Area cultivated [ha]	Production volume [MT]	Producers [no.]
Colombia	5,169	109,366	6
Guatemala	28,443	451,437	71
Honduras	10,191	191,932	31
Indonesia	6,042	103,370	1
World	**49,844**	**856,105**	**109**

Source: Rainforest Alliance/SAN, 2016.

Table 35: Oil palm: Roundtable on Sustainable Palm Oil 2015

Country	Oil palm cultivated area [ha]	Oil palm Share of total oil palm area [%]	Oil palm Production volume [MT]*	Palm oil Production volume [MT]	Palm kernel Production volume [MT]
Brazil	48,855	45.0%	968,881	180,891	37,564
Cambodia	11,811	-	137,850	25,861	5,914
Colombia	25,231	10.1%	471,352	98,882	14,983
Costa Rica	43,192	58.0%	737,198	170,668	38,678
Côte d'Ivoire	9,323	3.5%	66,130	4,486	1,090
Ecuador	3,916	1.8%	1,820	7,000	3,500
Ghana	12,101	3.4%	123,636	26,878	6,095
Guatemala	18,892	29.1%	539,583	107,252	10,778
Honduras	11,130	8.9%	138,376	29,030	6,385
Indonesia	1,227,004	17.3%	26,496,088	6,074,357	1,369,998
Madagascar	1,227	66.3%	4,233	850	440
Malaysia	1,190,989	26.2%	25,641,027	5,398,291	1,316,202
Papua New Guinea	143,298	95.5%	2,830,612	665,521	159,584
Solomon Islands	7,475	46.7%	141,571	31,853	7,786
Thailand	19,555	3.1%	336,946	64,250	17,577
World	**2,774,000**	**14.8%**	**58,635,303**	**12,886,070**	**2,996,574**

Source: Roundtable on Sustainable Palm Oil (RSPO), 2016.
*Note: Fresh Fruit Bunches (FFB) volume in metric tons. The totals include data from other countries.

Soy

Table 36: Soybeans: Organic 2015

Country	Estimated area harvested [ha]	Share of total soybean area [%]	Estimated production volume [MT]
Argentina	10,300	0.1%	18,300
Australia	50	0.1%	100
Austria	11,950	28.4%	16,500
Benin	250	1.3%	200
Bosnia and Herzegovina	75	1.7%	150
Brazil	5,400	0.02%	14,200
Bulgaria	25	8.3%	10
Burkina Faso	1,000	6.2%	1,350
Canada	15,200	0.8%	30,450
China	251,150	3.7%	442,000
Côte d'Ivoire	10	1.1%	10
Croatia	1,300	2.8%	5,850
Czech Republic	75	1.2%	150
France	12,650	29.4%	22,650
Germany	2,250	-	4,500
Greece	120	6.0%	150
Hungary	850	2.0%	1,300
India	117,000	1.0%	114,650
Italy	4,850	2.6%	17,600
Japan	800	0.6%	1,450
Kazakhstan	5,900	5.7%	11,600
Lithuania	2,200	-	1,600
Mali	75	2.7%	50
Mexico	10	0.01%	20
Moldova	1,300	3.3%	700
Poland	100	-	60
Romania	8,950	13.3%	22,000
Russian Federation	6,400	0.5%	14,850
Serbia	350	0.2%	1,150
Slovakia	450	1.5%	500
South Africa	20	0.004%	40
Switzerland	250	-	450
Togo	10,050	-	3,500
Turkey	150	0.3%	700
Ukraine	5,650	0.4%	8,100
United States of America	51,100	0.2%	104,100
Zambia	65	0.1%	150
World	**528,325**	**0.4%**	**861,140**

Source: FiBL, 2017. Estimates based on national data sources and data from certifiers.

Table 37: Soybeans: ProTerra Foundation 2015

Country	Area [ha]	Share of total soybean area [%]	Production volume [MT]
Brazil	1,780,000	6.4%	3,760,000
Canada	2,500	0.1%	20,000
France	2,500	5.8%	5,000
Russian Federation	15,000	1.2%	80,000
United States of America	10,000	0.03%	20,000
World	**1,810,000**	**1.5%**	**3,885,000**

Source: ProTerra Foundation, 2016.

Table 38: Soybeans: Round Table on Responsible Soy 2015

Country	Area [ha]	Share of total soybean area [%]	Production volume [MT]	Producers [no.]
Argentina	211,600	1.1%	711,801	59
Brazil	431,238	1.5%	1,413,576	70
China	19,298	0.3%	50,656	8
India	27,542	0.2%	49,864	10,638
Paraguay	19,647	0.6%	41,506	2
United States of America	5,881	0.02%	19,431	8
Uruguay	710	0.1%	1,775	4
World	**734,977**	**0.6%**	**2,341,609**	**10,788**

Source: Round Table on Responsible Soy (RTRS), 2016.

Sugarcane

Table 39: Sugarcane: Bonsucro 2015

Country	Area [ha]	Share of total sugarcane area [%]	Cane sugar: Production volume [MT]	Producers [no.]
Australia	43,991	11.7%	335,330	5
Brazil	817,650	7.9%	2,910,000	41
World	**907,207**	**3.4%**	**3,320,000**	**48**

Source: Bonsucro, 2016. The totals include data from other countries.

Table 40: Sugarcane: Fairtrade International 2015

Country	Area [ha]	Share of total sugarcane area [%]	Cane sugar: Production volume [MT]	Producers [no.]
Costa Rica	7,746	12.2%	67,984	12,596
Cuba	6,556	1.6%	5,948	448
Fiji	68,772	-	183,852	17,811
Guyana	1,929	4.2%	9,229	553
India	7,819	0.2%	72,414	5,298
Jamaica	10,499	36.0%	34,254	4,564
Mauritius	2,394	4.4%	14,796	5,169
Paraguay	30,417	26.2%	107,495	6,159
Swaziland	5,191	9.3%	45,505	2,321
Other African countries	8,094	-	78,267	-
Other Asian countries	725	-	4,156	-
Other Latin American countries	36,594	-	147,017	-
Other world	-	-	-	7,421
World	**186,736**	**0.7%**	**770,917**	**63,340**

Source: Fairtrade International, 2017. Note: n.a means data not available.

Table 41: Sugarcane: Organic 2015

Country	Estimated area harvested [ha]	Share of total sugarcane area [%]	Estimated production volume [MT]
Argentina	9,950	2.7%	509,850
Brazil	11,400	0.1%	687,100
China	5,050	0.3%	285,200
Colombia	2,150	0.5%	153,650
Costa Rica	400	0.6%	25,300
Cuba	2,900	0.7%	115,900
Ecuador	1,150	1.1%	46,150
French Polynesia	5	12.5%	150
Guatemala	160	0.1%	9,500
India	1,600	0.03%	90,800
Mexico	800	0.1%	48,700
Mozambique	6,800	14.2%	272,000
Paraguay	43,600	37.6%	2,084,100
Philippines	400	0.1%	18,350
Thailand	6,200	0.5%	248,000
World	**92,565**	**0.3%**	**4,594,750**

Source: FiBL, 2017. Estimates based on national data sources and data from certifiers.

Tea

Table 42: Tea: Fairtrade International 2015

Country	Area [ha]	Share of total tea area [%]	Production volume [MT]	Producers [no.]
China	2,260	0.1%	3,948	2,630
India	17,853	3.0%	36,706	525
Kenya	56,785	28.0%	101,485	172,791
Malawi	7,113	42.0%	13,759	14,481
Sri Lanka	6,182	2.8%	5,705	2,761
Tanzania, United Rep. of	8,588	40.2%	11,525	15,699
Uganda	20,668	71.3%	16,006	16,714
Other world	2,677	-	16,414	5,118
World	**122,126**	**3.2%**	**205,547**	**230,719**

Source: Fairtrade International, 2017.

Table 43: Tea: Organic 2015

Country	Estimated area harvested [ha]	Share of total tea area [%]	Estimated production volume [MT]
Argentina	35	0.1%	50
Azerbaijan	20	4.2%	20
Bangladesh	500	0.9%	550
Bolivia	150	-	450
China	40,100	2.3%	44,100
Georgia	10	0.3%	10
Guatemala	350	-	350
India	14,150	2.5%	11,000
Indonesia	3,350	2.7%	4,050
Iran	20	0.1%	100
Japan	1,700	3.7%	1,900
Kenya	500	0.3%	650
Lao, P.D.R.	250	9.2%	50
Myanmar	4,300	5.4%	1,700
Nepal	1,100	5.8%	1,200
Russian Federation	30	6.6%	10
Rwanda	400	2.6%	600
Sri Lanka	4,400	2.0%	4,050
Taiwan	300	2.2%	200
Tanzania, United Rep. of	200	0.9%	200
Thailand	100	0.5%	200
Turkey	950	1.2%	1,600
Viet Nam	1,900	1.6%	2,000
World	**74,815**	**2.0%**	**75,040**

Source: FiBL, 2017. Estimates based on national data sources and data from certifiers.

Table 44: Tea: Rainforest Alliance/Sustainable Agriculture Network 2015

Country	Area cultivated [ha]	Production volume [MT]	Producers [no.]
Argentina	9,056	32,041	384
Bangladesh	397	450	1
Burundi	4,380	4,571	25,982
China	5,976	10,073	4,352
Ecuador	430	3,900	1
Ethiopia	2,116	6,771	2
India	114,421	203,920	3,704
Indonesia	30,362	61,290	36
Japan	134	368	468
Kenya	186,324	417,884	628,592
Malawi	15,750	37,039	14,055
Rwanda	14,046	37,165	27,135
Sri Lanka	34,355	57,256	136
Tanzania, United Rep. of	11,161	23,797	14,189
Turkey	28,420	93,337	39,830
Uganda	6,059	19,119	261
Viet Nam	3,274	10,893	2,283
Zimbabwe	5,838	13,436	1,058
World	**472,499**	**1,033,311**	**762,469**

Source: Rainforest Alliance/SAN, 2016

Table 45: Tea: UTZ 2015

Country	Area harvested [ha]	Share of total tea area [%]	Estimated production volume [MT]	Producers [no.]
India	13,676	2.4%	19,244	1,695
South Africa	6,056	-	1,264	8
Sri Lanka	3,991	1.8%	7,727	352
Other world*	24,106		58,061	10,720
World	**47,828**	**1.3%**	**86,294**	**12,775**

Source: UTZ, 2017

* Others include Argentina, China, Colombia, Indonesia, Japan, Kenya, Malawi, Viet Nam and Zimbabwe

Forestry

Table 46: Forestry: Forest Stewardship Council 2015

Country	Area [ha]	Share of total country forest area [%]	Forest management certificate holders [no.]
Argentina	461'986	1.7%	12
Australia	1'258'495	1.0%	14
Austria	587	0.02%	2
Belarus	7'310'261	84.9%	39
Belgium	23'259	3.4%	2
Belize	197'122	14.4%	2
Bolivia	890'529	1.6%	8
Bosnia and Herzegovina	1'495'526	68.4%	4
Brazil	6'035'378	1.2%	106
Bulgaria	807'834	21.2%	19
Cambodia	12'746	0.1%	1
Cameroon	940'945	4.9%	4
Canada	52'340'620	15.1%	70
Chile	2'370'254	13.6%	24
China	1'157'369	0.6%	66
Colombia	136'626	0.2%	9
Congo, D.R.	2'443'176	1.6%	3
Costa Rica	51'465	1.9%	15
Croatia	2'039'123	-	3
Czech Republic	49'921	1.9%	4
Denmark	205'647	33.9%	5
Ecuador	55'544	0.4%	4
Estonia	1'262'037	56.5%	6
Fiji	85'385	8.4%	1
Finland	1'092'442	4.9%	6
France	29'308	0.2%	8
Gabon	2'062'494	9.0%	3
Germany	1'069'862	9.4%	58
Ghana	3'367	0.04%	1
Guatemala	482'259	13.5%	7
Honduras	20'164	0.4%	1
Hungary	308'413	14.9%	6
India	754'944	1.1%	11
Indonesia	2'186'422	2.4%	32
Ireland	448'301	59.9%	2
Italy	52'245	0.6%	16
Japan	393'243	1.6%	33
Lao, P.D.R.	539	0.003%	2
Latvia	1'701'826	50.7%	15
Lithuania	1'083'485	49.7%	43
Luxembourg	21'521	24.8%	3

Country	Area [ha]	Share of total country forest area [%]	Forest management certificate holders [no.]
Malaysia	673'334	3.0%	12
Mexico	867'043	1.3%	57
Mozambique	59'905	0.2%	3
Namibia	156'488	2.2%	4
Netherlands	136'820	36.4%	3
New Zealand	1'260'546	12.4%	19
Nicaragua	24'240	0.8%	7
Norway	423'054	3.5%	6
Panama	42'184	0.9%	9
Papua New Guinea	39'633	0.1%	4
Paraguay	25'022	0.2%	3
Peru	580'522	0.8%	9
Poland	6'932'733	73.6%	18
Portugal	363'112	11.4%	22
Republic of Korea	390'333	6.3%	8
Romania	2'523'929	37.2%	16
Russian Federation	40'778'386	5.0%	129
Serbia	1'001'943	36.9%	3
Slovakia	149'387	7.7%	8
Slovenia	260'291	20.9%	2
Solomon Islands	39'401	1.8%	1
South Africa	1'411'809	15.3%	21
Spain	215'468	1.2%	31
Sri Lanka	14'634	0.7%	3
Suriname	386'200	2.5%	4
Swaziland	124'794	21.5%	4
Sweden	11'938'058	42.5%	24
Switzerland	624'586	50.0%	8
Taiwan	597	-	2
Tanzania, United Rep. of	142'731	0.3%	3
Thailand	60'684	0.4%	15
Turkey	2'359'473	20.3%	8
Uganda	38'974	1.8%	3
Ukraine	2'605'827	27.0%	35
United Kingdom	1'593'835	51.0%	38
United States of America	13'831'300	4.5%	116
Uruguay	680'302	37.3%	21
Venezuela	150'140	0.3%	2
Viet Nam	159'988	1.1%	14
World	**186'410'374**	**4.7%**	**1'365**

Source: Forestry Forest Stewardship Council (FSC), 2016

Table 47: Forestry: Programme for the Endorsement of Forest Certification 2015

Country	Area [ha]	Share of total country forest area [%]	Certificate holders [no.]
Argentina	-	-	9
Australia	10'400'000	8.4%	237
Austria	2'936'144	75.9%	456
Bahrain	-	-	1
Belarus	8'818'500	-	41
Belgium	298'500	43.7%	294
Bosnia and Herzegovina	-	-	3
Brazil	2'797'161	0.6%	70
British Virgin Islands	-	-	1
Bulgaria	-	-	4
Canada	128'761'642	37.1%	180
Chile	1'926'997	11.1%	68
China	5'620'093	2.7%	263
Colombia	-	-	2
Croatia	-	-	1
Czech Republic	1'771'299	66.5%	185
Denmark	257'777	42.5%	86
Egypt	-	-	2
Estonia	1'028'712	46.1%	40
Finland	17'582'892	79.1%	206
France	8'034'570	47.6%	2'045
Germany	7'321'376	64.1%	1'639
Hungary	-	-	15
India	-	-	11
Indonesia	727'078	0.8%	22
Ireland	376'108	50.3%	41
Israel	-	-	7
Italy	824'863	8.9%	715
Japan	-	-	191
Latvia	1'683'604	50.2%	38
Lebanon	-	-	1
Lithuania	-	-	8
Luxembourg	32'859	37.9%	16
Macao	-	-	2
Malaysia	4'662'967	21.0%	350
Mexico	-	-	4
Monaco	-	-	2
Morocco	-	-	1
Netherlands	-	-	467
New Zealand	-	-	23
Norway	9'142'702	75.5%	61
Oman	-	-	2
Papua New Guinea	-	-	1

Country	Area [ha]	Share of total country forest area [%]	Certificate holders [no.]
Peru	-	-	9
Philippines	-	-	1
Poland	7'277'704	77.3%	152
Portugal	255'335	8.0%	96
Republic of Korea	-	-	5
Romania	-	-	22
Russian Federation	-	-	15
Saudi Arabia	-	-	3
Singapore	-	-	22
Slovakia	1'251'266	64.5%	60
Slovenia	31'220	2.5%	31
South Africa	-	-	1
Spain	1'890'706	10.3%	786
Sri Lanka	-	-	2
Sweden	11'354'853	40.4%	212
Switzerland	224'887	18.0%	61
Taiwan	-	-	8
Thailand	-	-	8
Tunisia	-	-	1
Turkey	-	-	17
Ukraine	-	-	1
United Arab Emirates	-	-	27
United Kingdom	1'351'505	43.2%	1'127
United States of America	33'052'175	10.7%	263
Uruguay	367'438	20.2%	1
Viet Nam	-	-	2
World	**272'062'933**	**6.8%**	**10'744**

Source: Programme for the Endorsement of Forest Certification (PEFC), 2016


CUSTOMER
PAYMENT
BUSINESS
PRODUCT
CORPORATE
ENTERPRISE
765678563 - 65345654
8765747 - 7644234146

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