

Coffee Barometer



Content

1	Introduction	3
2	Market unrest	5
2.1	Roasters	5
2.2	Traders	8
2.3	Sustainability strategies	9
3	Stress factors	10
3.1	Production and value distribution	10
3.2	Wages and labour	12
3.3	Climate change and deforestation	13
4	Sustainability commitments	16
4.1	Investments in sustainability	16
4.2	Voluntary Sustainability Standards	17
4.3	Market demand	19
4.4	Sustainable Sourcing options	21
5	Coffee sector collaboration	26
5.1	A global vision	26
5.2	Multi-Stakeholder Initiatives	27
6	Conclusion	30
	Endnotes	33
	Sources	34
	Annex: Sustainable Sourcing	35
	Colophon	36

1 Introduction

Today's coffee trends include premiumisation, convenience, customisation, single-origin, and roast type. Consumers increasingly appreciate information about certified sustainable and ethically produced coffee.

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It is widely perceived that in the global value chain of coffee profits are made in industrialised countries, at the expense of environmental and social problems in the coffee producing countries. Coffee is a buyers-driven supply chain, where roasters, retailers and traders maintain a high level of opacity enabling them to capture most of the gains. In sharp contrast with the margins made by farmers in developing countries, the multinational food giants and investments funds in the USA and EU expect to capitalise on growing demand in the coming decade. Billions are spent in countless acquisitions and mergers, positioning famous coffee brands in new markets. As the global coffee industry consolidates, it cuts costs to optimise profits which causes additional downward pressure in the value chain, which is increasingly felt by the producers at the farm level.

Trouble is brewing in the sector. A wide variety of complex and systemic issues –environmental, social and economic– jeopardises the future of coffee production. Price volatility, climate change and recurring outbreaks of pests and diseases threaten a structurally increasing global supply of good quality coffee, while consumption and therefore demand is expected to increase.

In this new edition of the Coffee Barometer, we pinpoint some gaping holes in our collective knowledge that urgently need to be tackled. For example, coffee production has been growing by over 20% (+26 million bags) since 2010, but we do not know how much forested land has been converted into farm land used for coffee production.¹ Furthermore, it is assumed that 20–25 million smallholder farmers produce 70% of the coffee globally, an estimate that stands unchallenged in the last 15 years.² The coffee

harvest therefore depends on millions of farmworkers; an important but invisible group of stakeholders. They remain largely voiceless in the discussions about a sustainable coffee sector.

To cope with such issues, stakeholders supporting a sustainable coffee sector have been at the forefront of shifting towards the procurement of certified and verified coffee. Linking all stakeholders in the value chain with standards, training, certification, and seals of approval, the coffee sector is more advanced than any other commodity. Still, certification and verification systems appear unable to reach smallholder producers in Africa and Asia, and drive market uptake in consuming countries. Increasing demand also yields an opportunity for positive change. The growth of the specialty coffee sector leads to more direct sourcing initiatives. If executed properly, these can promote traceability and coffee quality, and provide a managed response to some sustainability challenges.

Moreover, there is growing support for non-competitive sector collaboration, blending public and private investments to address fundamental sustainability challenges at an impactful scale. Such initiatives to bring about sector-wide change, like the Global Coffee Platform (GCP), the Sustainable Coffee Challenge (SCC) and national sustainability platforms, share many of the sector's sustainability goals. However, steering collective investments in the coffee value chain towards the development and implementation of solutions to sustainability issues, remains a difficult yet pressing challenge.

In this Coffee Barometer, we examine the recent boom of acquisitions and mergers, and track the main trends. We investigate the power relations embedded in the global coffee value chain, and the root cause of the main sustainability stress factors. In view of these challenges, we will examine the sector's strategies for change, and individual and collective efforts to create a truly sustainable coffee sector.

2 Market unrest

The global coffee industry is consolidating, with countless mergers and acquisitions in the market. This could present an opportunity to mainstream sustainability efforts, but there is little evidence that this is happening within the newly formed conglomerates.

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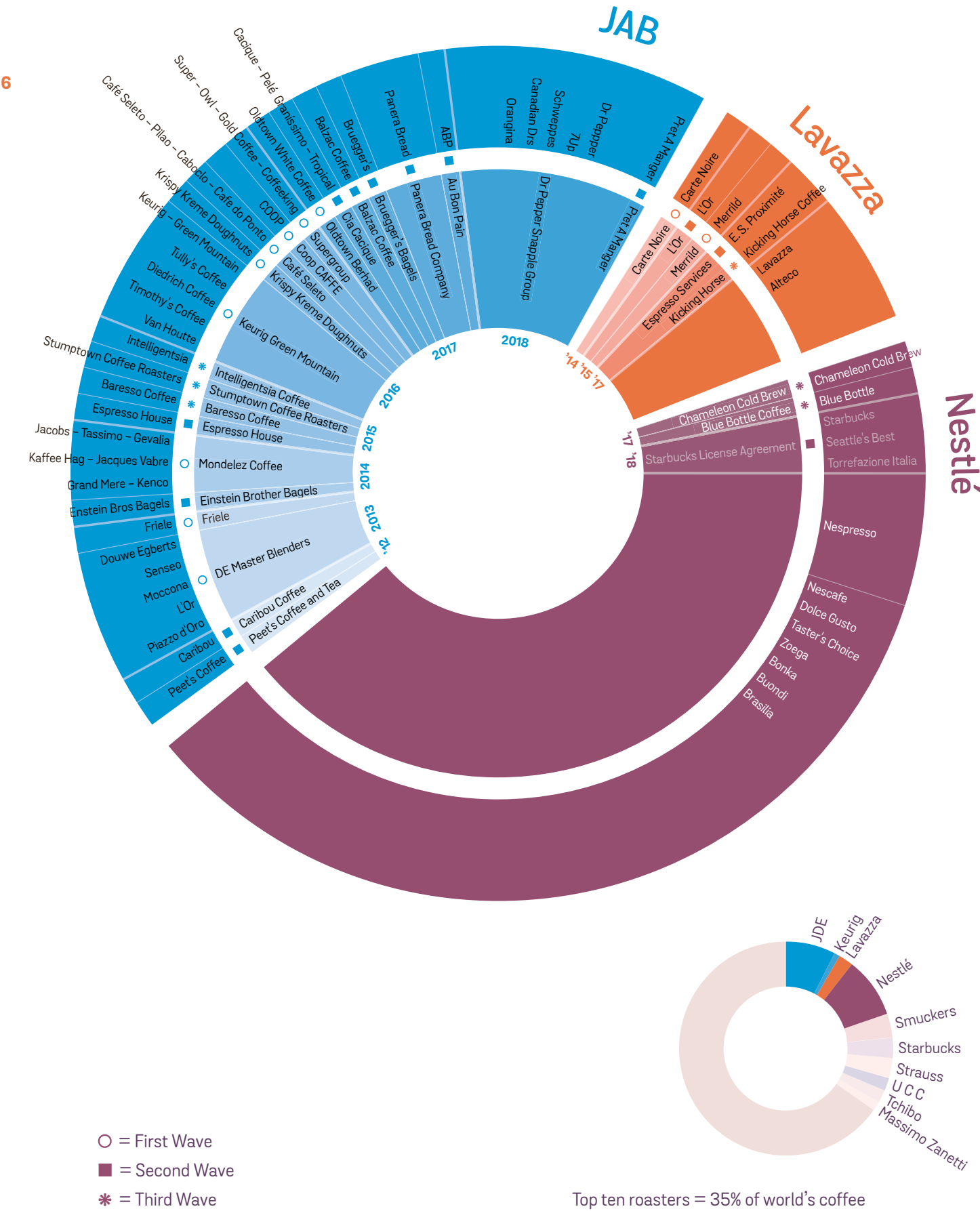
2.1 Roasters

To the casual observer, the coffee market is highly diversified. In the streets thousands of independent coffee bars exist alongside big retail chains such as Starbucks, Costa Coffee and Dunkin' Donuts. In the supermarkets, the shelves are stacked with ample coffee options. Beyond the traditional roast and ground products, shoppers can choose from a wide range of single-serve options, next to Italian espresso beans and low profile instant coffee. Lining the refrigerated shelves of grocery stores are bottled or canned Ready to Drink Coffees (RTD), the fastest growing market segment.

This wealth of choice veils the underlying structure of the global coffee industry, which is in the mature stage of its life cycle. As growth stagnates among larger players, they acquire smaller companies and diversify their portfolio to generate growth. Rapid consolidation is transforming the global coffee industry from its roast and ground leaders, like Nestlé and Jacobs Douwe Egberts, to retailers, such as Starbucks and McDonald's. Beyond the traditional first wave roast and ground market, there is fierce competition at brand level in various market sub sectors, especially in the second and third-wave coffee (Figure 1).

After years of unrivalled market leadership, Nestlé's global dominance of the coffee market is now being challenged by JAB Holding— a German investment firm owned by the Reimann billionaire family. In the past six years, JAB Coffee (part of JAB Holdings) has been building a global coffee empire, investing over \$50bn to acquire not only

Figure 1: Main acquisitions and brands 2012–2018



consumer coffee brands but also restaurant chains that sell large volumes of coffee. JAB Coffee is a holding company, with companies and brands managed independently by its subsidiaries. JAB's strategy is to buy into the most relevant sections of different global markets while keeping the brands and varieties fairly separate. It has invested in pods and third-wave in the US, roast and ground in Europe, and instant coffee in Asia.³

In January 2018, the JAB-owned coffee company Keurig Green Mountain acquired the softdrink company Dr. Pepper Snapple and named the merged entity Keurig Dr. Pepper. While this might seem an unusual target for a company that has been seeking deals to gain coffee market share against Nestlé, the acquisition fits in well with the strategy to transform coffee into a worthy soda alternative.⁴ This would make coffee an all-day consumption option. Among the firms exploring this, are some of the world's largest soda brands: Pepsi makes Starbucks' ready-to-drink coffees (RTD), and Coca-Cola owns Georgia, the biggest RTD coffee brand in the world. Recently, it started expanding RTD in Europe, along with announcing partnerships with Dunkin' Donuts and McDonald's in the US.³

The Swiss-based food giant Nestlé has identified coffee as one of its biggest growth opportunities. It seeks to establish itself firmly in the lucrative and increasingly competitive market for coffee specialties, by diversifying in terms of format, taste and price point.⁵ Renowned for its global Nescafé and Nespresso brands, Nestlé surprised the coffee sector in May 2018 by joining forces with Starbucks to jointly innovate and do market launches. This collaboration enables Nestlé to further gain market share in the US – after recent third-wave acquisitions in the US – and extend its global lead over JAB. Nestlé's \$7.1bn deal includes the sale of Starbucks products through supermarkets, as well as developing Starbucks branded capsules for Nestlé's single-serve brewers.⁶

Next to the coffee giants Nestlé and JAB Coffee, there is no clear number three in the global coffee sector, as the fragmentation of markets in geographical regions and sub-segments creates numerous and achievable paths to growth.³ The Lavazza Group could take this spot as the global number 3. It has a diverse portfolio of high-value brands throughout the roast and ground spectrum. Lavazza aims for transformation from a predominantly Italian company into a global brand capable to compete with Nestlé and JAB Coffee. Lavazza has been buying multiple brands in the EU and North America, including premium French coffee brand Carte Noire, trebling its turnover in France which subsequently became its second largest market after Italy. Recently, Lavazza branched out to North America, taking a majority stake in Kicking Horse, a Canadian company specialized in Fairtrade and organic certified coffee.

Also worth highlighting is Starbucks, the leader in retail coffee who has ambitions to expand globally. The chain added over 2,000 stores in 2016, bringing its global presence to over 25,000 locations in 75 countries. This is only the start, since Starbucks is planning to open 12,000 new stores globally. It is aiming to almost double its number of coffee shops in China, from 3,300 now, to 6,000 before the end of 2022.⁷ The company also develops 1000 premium Starbucks Reserve stores and roasters, a high-end line of tasting rooms that will sit alongside the group's existing global store concepts.

2.2 Traders

Roasters rely heavily on coffee trading houses to obtain their supply of green coffee. Information about the exact extent of concentration in the coffee commodity trade sector is hard to find. The dominant companies are privately-held and therefore not tied to any requirement to publicly share data and figures. This makes it hard to understand their true size and market influence. Still, it is obvious that the coffee trade industry is highly concentrated. A limited number of trade houses source coffee globally. Industry leaders are Neumann Kaffee Gruppe, ED&F Man Volcafe and ECOM. The family-owned Neumann group for instance, represents already the handling of 10% of the global green coffee trade. Equalling 15 million bags in 2017, Neumann itself handles more than the total coffee production of Colombia in 2017!

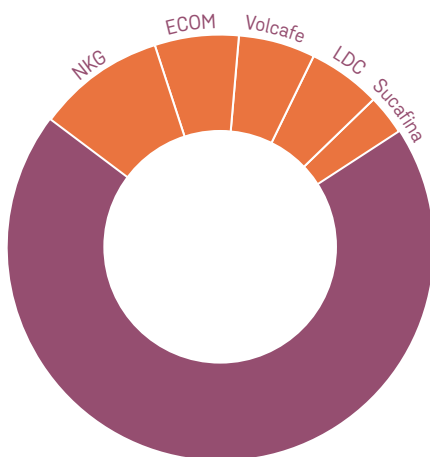


Figure 2: **Top five green coffee traders**

The trade houses mainly deal in bulk grades and thin margins. They derive their incomes by dealing in very large volumes, usually supplying the largest multinational coffee roasting companies.⁸ The smaller-sized international coffee trading companies often operate in specialty and niche markets, such as fair-trade or direct trade. Trading houses not only own a large part of the processing and storage facilities in most coffee producing countries, they also engage in farm management, export and import of bulk, specialty and instant coffee, logistics, storage, risk management and finance. The commodity trading houses are either vertically integrated in the coffee supply chain or they can use hedging instruments to manage the risk of price volatility. Neumann

Kaffee Gruppe and ED&F Man Volcafe have their own in-house options and futures brokerages (respectively TRX Futures and ED&F Man Commodity Advisors Limited). Smaller traders, particularly those dealing in specialty grades of coffee, either do not hedge or will hedge only a proportion of their traded volume. The main reason for this difference in hedging practices is the difference in the process of coffee trading and pricing for the bulk grades, compared to the specialty grades.⁸

In recent years, all trading houses strengthened their local presence and supply networks to stimulate sustainably produced coffee in the countries of origin. As the coffee industry consolidates, new services are required, including trade finance and related services. Based on their increased size and growing market influence, JAB Coffee now asks traders terms of payment ranging up to 300 days. This is a pre-financing about three times as long as Nestlé typically demands.⁹ Only the very large traders can provide such extensive financing. Increasing competition may lead to a concentration of traders, that can carry the risks of longer payment terms. Peaking interest rates or a sudden spike in futures prices could leave traders with losses or stretch their financing needs as hedging costs go up. It also leaves them with less funds to invest in farmers' training programmes. Despite its deep pockets, JAB Coffee can be confronted with banks that pull or tighten its credit lines in case its financial standing deteriorates.

2.3 Sustainability strategies

Completion of mergers and acquisitions and integration of new businesses are usually multi-year processes. This can lead to loss of focus on the development and implementation of sustainability commitments. The competitiveness at the roaster and retail level does not seem to value sustainability as a differentiator. The companies instead are trying to build families of specialty-brands that appeal to high-end consumers. In the race to position the brands individually, there does not seem to be a concerted effort among roasters to align or strengthen sustainability commitments at brand level, let alone at holding level.

Consolidation might yield an opportunity for a joint effort from different brands, if the brand owners truly make sustainability part of their ethos. If they use their scale to collaborate and develop ambitious and overarching sustainability strategies, this would create a strong force for positive change. Up to now however, quite the contrary seems to be happening. Apparently the manifold of recent mergers have a paralysing effect on the individual companies' sustainability agendas, and hence on the coffee sector at large. Besides the various CSR-activities of different companies, the real question is to what extent sustainable transformation and systemic change-thinking are part of companies' proactive sustainability strategies.

See page 22; summary of company's sustainability policies and practices.

3 Stress factors

A sustainable coffee sector more equally distributes proceeds to farmers. Currently the average green coffee export value is less than 10% of the \$200 billion revenues generated in the coffee retail market. This imbalance illustrates the pressing need for transparency of transactions in order to achieve re-distribution.

3.1 Production and value distribution

In the period 2012 – 2017, coffee consumption and production increased by an average of 2% per year. Consumption levels are rising outside the traditional EU and USA markets, especially in Southeast Asia. If this pace of growth continues, the coffee sector will need 300 million bags of coffee by 2050, which means doubling or even tripling the current annual world production.^{10/11} The current system of coffee production will not be able to meet the increasing demand in the coming decades. The minimum gap will be 60 million bags (a deficit higher than Brazil's current annual production), and without major efforts to adapt coffee production to climate change, global production could even be lower in 2050 than it is today.¹⁰

In crop year 2016/17, coffee farmers produced a record crop of almost 160 million 60-kg bags.¹² Arabica and Robusta are the two main types of coffee. A high proportion of Arabica coffee is grown in Brazil, Colombia and Ethiopia (Figure 3). Arabica beans yield higher market prices compared to Robusta, which is grown in humid areas at low altitudes in Vietnam, Indonesia and Uganda. Compared to Arabica, Robusta is more resistant to diseases and the yield per tree is considerably higher. Robusta yields roughly one-third more beans per hectare than Arabica. Over the last decade, production of Robusta increased significantly to a level up to 40% of world production. Robusta production is likely to rise as global warming makes more land suitable for this variety, and less favourable for growing Arabica beans.¹³

Figure 3 **Top ten coffee producing countries**

Arabica vs Robusta



Around 75% of the total global production of Arabica and Robusta is exported, generating producing countries a total value of \$16 billion in 2016.¹⁴ Taking volatility of annual prices and volumes into account, the average annual export value is \$20.2 billion in the period 2010–2015. This figure comprises the income of farmers, exporters and government agencies involved in growing the beans and exporting them internationally. A shocking statistic is the fact that this figure represents only 10% of the total industry value, which was estimated in 2015 at around US\$200 billion. Only 10% of the aggregate wealth of coffee stays in the producing countries.¹⁵

Obviously, constrained supply of high quality Arabica coffee, combined with increasing demand, should lead to increasing prices. But this has not been the case. Lower-grade Arabica can be substituted with Robusta in coffee blends. This reduces the roaster's cost levels, and goes unnoticed, since most coffee consumers lack the sensory skills to recognize high quality coffee. They are therefore more likely to rely on external cues, such as price, packaging and advertising, that may or may not reflect the intrinsic quality of the product.¹⁶ A survey of ground roast coffee samples labelled as 100% Arabica found that 10% contained significant levels of Robusta coffee.¹⁷

World coffee prices have fallen by two-thirds in real terms since the early 1980s, and the real earnings of coffee farmers have halved in that time.¹⁸ Farmers earning too little to secure decent living conditions, won't invest in their farms. Earnings can vary

widely, due to inefficiencies in the supply chain. Farmers in Latin America can receive up to 87% of the export price, whereas this in East Africa this could be as low as 61% due to variations in farmer organizations, policy environment and competitive markets. The answer to the question if making a decent living income is actually feasible in the current coffee market, strongly depends on the local context.

For a sound picture of value distribution along the coffee chain, insight is needed in earnings as well as costs of production at the various links of the supply chain. Record keeping at farm level is required, as well as a need for the companies in the chain to be transparent about their costs. (Box 1. Example of true pricing)

Box 1: **True Pricing**

The costs of environmental and social externalities to produce coffee are often overlooked. True pricing incorporates burdens to society, such as soil and water pollution, farmers and workers social security and a decent wage level, in the total costs of coffee. This methodology is based on an approach driven by a cost-benefit equation, rather than on compliance. This should in turn improve the effectiveness of investments in sustainability. An example from research in Mexico estimates the true price of conventional coffee at \$11.10, while the market price is only \$3.30. If we compare this to climate-smart coffee (CSA), its true price is estimated around \$3.90, while the market price of this CSA-coffee is around \$2.90. This research concludes that investments in climate-smart coffee have a higher return on investment. Thanks to yield increases, but also to environmental gains in natural capital and higher carbon sequestration. This is both cost-effective and profitable, although support to farmers to make this transition is required. Incorporation of external costs and benefits allows for benchmarking different production systems, and it lowers the bar to decide to investment in coffee produced with lower external costs.¹⁹

3.2 Wages and labour

Low prices, excessive volatility and low yields not only affect farmers' income, it also reduces interest of farmers and future generations to engage with coffee farming, and it causes labour shortages during harvest time.

When coffee commodity prices are low, while global competition is intense, producers are under constant pressure to cut costs, including those relating to labour. The review of farm profitability in four major coffee producing countries by the ICO in 2016 confirms that coffee farmers have often been operating at a loss between 2006 and 2016, and that coffee does not provide a viable livelihood.²⁰ This leads to a negative spiral as subsequently there is no or little funding for investment in good agricultural practices and farm sustainability, resulting in decreasing quality and yields, meaning lower income and the cycle continues. Despite mechanisation efforts in a few producing countries, coffee production is highly labour intensive, involving a large and diverse work force. Labour is the biggest component in the total cost of coffee production. The

estimates of the total number of farmers and farmworkers varies (Box 2), besides the obvious reason – the data in many coffee-producing countries is unreliable – there are other factors that play a role:

- To many smallholder producers, coffee is no longer their main business or income. They switch to other crops or play multiple roles to supplement their income;
- In countries where economic development creates opportunities for higher-paying employment, many male farmers migrate to urban areas or abroad. The farm is often left to their spouses and children, who are not registered as coffee farmers;
- Coffee is considered a men's crop. Whereas women often play a pivotal role in much of the production activities, they tend to remain an invisible work force. They earn less income, own less land, are less organised and have fewer training and leadership opportunities;
- There is a tendency among farmers to stop growing coffee due to decreased income per smallholder farm unit, due to a combination of low market prices, lower productivity, higher labour costs and pests and diseases;
- To many young farmers coffee equals a poverty crop with no future. Access to education provides opportunities for employment outside the coffee sector.

Box 2: **Coffee farmer population**

The coffee sector lacks a deep understanding of farmers and workers. Where they come from, what their working conditions are, and how much they earn. Better data are direly needed on the figure of 20–25 million smallholder coffee farmers and the vaguely defined 100 million people in the producing and processing of green coffee. As global data on the number and size of coffee farms is not conclusive, accurate data on the number of farmers and (seasonal) farm workers is even harder to find. A detailed study and statistical modelling of farmer production dynamics across 20 major coffee origins is now taking place. This will provide new information, including a revised global estimate of the total coffee farmer population, as well as insights into farm size and yield distributions within the countries included.²¹

3.3 Climate change and deforestation

Given the changes in climate, it is paramount the coffee sector encourages an integrated coffee production system with lower environmental impact at landscape level, to meet both economic and environmental goals while creating resilience to current and future climate change.

In the equatorial belt where coffee cultivation takes place, climate change is significantly impacting yields and quality. The combination of higher temperatures, prolonged droughts, and heavy rains and frosts influence coffee production in many ways: from decreasing areas suitable for growing coffee to increasing pressure from pests and diseases.²² For instance, the coffee berry borer and roya, the coffee rust disease that struck farmers in Central America, Colombia and Peru. Countries like

Brazil, India and Uganda are predicted to lose more than 60% of their suitable coffee areas by 2050, and even the countries expected to see the least losses – like Colombia and Ethiopia – are predicted to lose up to 30% of their land fit for coffee cultivation.¹³

At the same time new crop land is created for coffee production. This leads to additional environmental concerns, especially when coffee cultivation reaches more remote areas. Deforestation is of particular concern when it comes to land-transformation within coffee growing regions. Given that many coffee lands are home to some of the world's most delicate ecosystems, expanding coffee cultivation threatens irreplaceable habitats of particularly high biodiversity value and may damage critical ecosystem functions. The total area dedicated to coffee production is estimated by FAOSTAT at some 10,5 million hectares. FAOSTAT figures show a decline compared to a decade ago, even though during this period global production has increased substantially. It is therefore likely that the national reporting of total coffee land area is inaccurate and that the total land-flux of coffee (estimated area entering and leaving coffee production) is rising due to abandonment of coffee production at low altitudes due to global warming, and converting new land to coffee crop land to supply increasing demand.^{1/23}

Efforts to meet the growing demand for coffee, could by 2050 potentially cause doubling – and perhaps even tripling – the current 10,5 million hectares of land used for coffee production.^{10/11} However, 60% of the land suitable for coffee production in 2050 is currently forested. In addition, only 20% of this is under any formal protection. Meeting future demand for coffee could come at the expense of forests.¹¹ Data on coffee land use change suggests that apart from Brazil, where increases in production are driven by technology, in nearly all countries where coffee production is expanding rapidly – e.g. Vietnam, Indonesia, Ethiopia and Peru– new coffee crop lands are mostly created by deforestation. Forests are converted into lightly shaded or full-sun coffee production systems with few or no trees. The annual increase is likely to be well over 100,000 ha equalling an area of 548 (!) football pitches deforested per day. The exact figure is impossible to assess, because data is inaccurate or lacking.^{1/24}

This transformation is driven by the perceived higher economic performance of intensified systems, aiming at increasing short-term income. The idea to intensify coffee production started in the 1970s and has become the dominant model: it promotes to reduce or eliminate shade trees, plant high densities of new coffee varieties in a monoculture and add synthetic fertilisers and pesticides.²⁵ Consequently, a large share of coffee production area worldwide is being managed without shade, and only less than a quarter of coffee plantations has multi-layered, diversified shade.^{26/27} Revitalising of shade management in a coffee agroforestry system can provide a multitude of environmental services, including carbon sequestration, watershed protection, and biodiversity conservation.²⁵ While sun-grown systems can have higher yields, profitability and cost-efficiency are higher for small-scale shaded systems. The long-term value of trees, the lower costs per area and higher price per kilogram of coffee make a clear business case for promoting integrated farm management.²⁸

Forest conservation in combination with coffee agroforestry can reconcile economic and environmental goals. Since coffee is a perennial plant that lasts for 20 to 30 years, this is about long-term planning and investing. However, as smallholder coffee farmers are struggling to survive due to small farms plots and low productivity, a short-term approach often prevails. For instance, structural renovation (replanting) and rehabilitation (heavy pruning) of coffee farms is crucial to increase and maintain productivity levels. A new industry guidebook highlights that globally 4 million hectares of smallholder coffee lands are in need of renovation and rehabilitation (R&R), which is the equivalent to the entire harvested area of Brazil, Vietnam, Colombia and Ethiopia.²⁹

Overview of the social, economic and environmental issues at the producer level⁴¹

	Smallholder level	Estate level
Social issues	Food insecurity Malnutrition Poor access to education and healthcare Gender inequality Ageing farmer communities Migration & young people leaving coffee farming	Labour abuse Limited access to clean water Poor living conditions Discrimination Gender inequality Sexual harassment
Economical issues	Green bean prize volatility Low productivity Lack of farm credit Lack of market information Lack of direct market access Rising cost of living Ageing coffee trees Land tenure uncertainty Limited access to insurance instruments Poor services through farmer organisations No living income Taxation	Green bean prize volatility High casualization of labour Un- and under-employment Low formal minimum wages No living wage Lack of income diversification (especially for temporary workers) Taxation Partial freedom of association Limited collective bargaining
Environmental	Conversion of primary forest habitat – deforestation – loss of biodiversity and habitat destruction – soil erosion and degradation – agrochemical use and runoff – degradation of water quality and supply – limited waste water management – eutrophication – coffee pests and tree diseases – mono-culture sun cropping	

4 Sustainability commitments

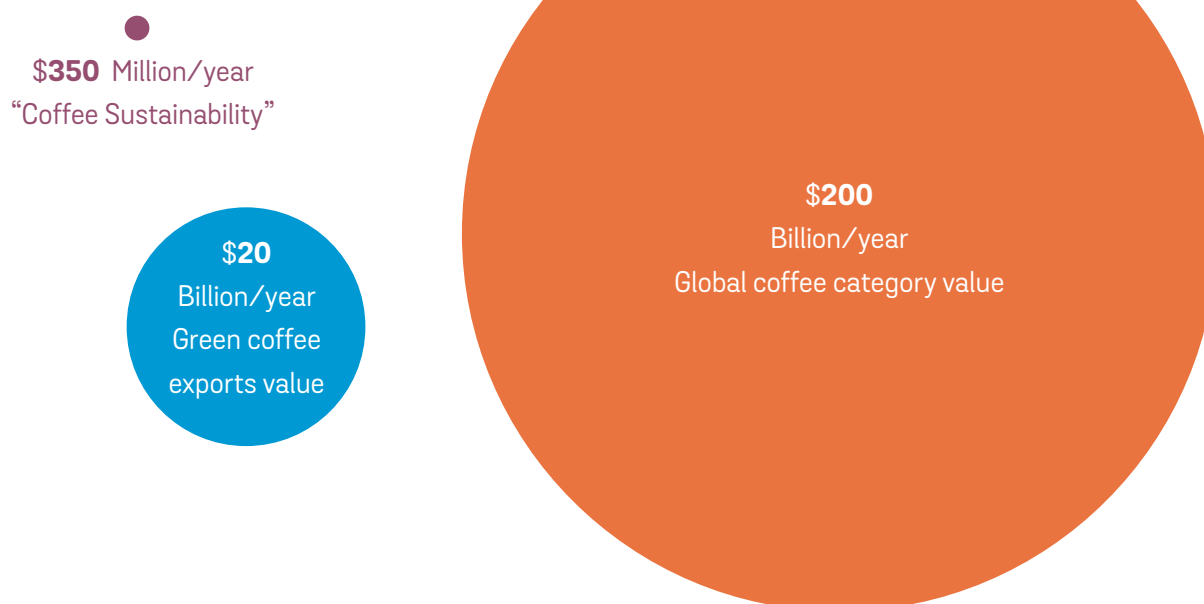
The focus on short-term profitability seems to undermine the level of ambition, investment and impact of companies' sustainability commitments. Companies shy away from incorporating externalities, which hampers a more fundamental shift in the industry's business model.

4.1 Investments in sustainability

Sustainability stress factors like poverty, labour shortages and climate change, will bring shocks and surprises. To avoid the potentially far reaching impact – a complete collapse of the coffee sector – stakeholders must be proactive and define responses to deal with these challenges. Coffee corporations have the leverage in resources, global presence, and business incentives to significantly contribute to mitigating the coffee sectors' main global risks. In this industry, whose annual value is currently \$200 billion, the total investment in sustainability efforts is an estimated annual budget of \$350 million.^{15/30}

Taking a closer look at this figure explains that at least 50% of this funding is generated through premiums for certified coffee. Around 20% is direct investment of the private sector, which matches an equivalent of 20% foreign donor funding. Another 10% is available from undefined sources of funding.³⁰ It goes without saying there is critical underinvestment, since almost zero percent of profits are re-invested in increasing sustainability of the production side of the coffee value chain.

Figure 4: **Inequality in the coffee value chain**



17

4.2 Voluntary Sustainability Standards

As a high-profile product, coffee has long been the leading agricultural commodity to try and test innovative sustainability solutions in search of transforming the sector. Particularly, coffee certification and verification systems have emerged as an increasingly popular strategy to guarantee sustainability in the coffee value chain. In the absence of effective public regulations in many coffee-producing countries, Voluntary Sustainability Standards (VSS) have emerged as promising regulatory tools to improve the economic, environmental and social sustainability of coffee production.³¹

Independent monitoring and certification are central to the major coffee production standards: Organic (IFOAM 1995), Fairtrade (FLO 1997), Rainforest Alliance (RA 1995) and UTZ Certified (UTZ 2002). Nestlé's Nespresso follows its private AAA guidelines (AAA 2003), whereas Starbucks developed its own private standards C.A.F.E. Practices (CAFE 2004). Compliance with the 4C Common Code for the Coffee Community (4C 2007) can be demonstrated through the 4C Verification System.

Whether and which initiatives are having the desired impact and where is hotly debated. There are many doubts if these VSS will really translate into an efficient system that economically benefits coffee producers, guarantees workers' rights and addresses adaptation to climate change. There is a wealth of literature, data, reports and analyses on the role of VSS in improving the economic, social and environmental conditions of farmers and their communities. Numerous studies have examined the effects of Fairtrade and organic coffee certification on smallholder farmer livelihoods. Many others have explored the consequences of the mainstreaming of third-party sustainable coffee standards, particularly RA and UTZ certification.

On the one hand, there is evidence of higher returns, better access to credit and stronger farmer organisations, and increased adoption of environmentally friendly coffee farming practices. On the other hand, VSS tend to exclude the poorest and most marginalised producers. These are unable to meet the strict production requirements and their situation grows even worse due to increased costs passed down to them by buyers. It remains difficult to compare and independently benchmark the different VSS and their impact, since next to the standards, this must assess the mechanisms and principles for implementation, monitoring and process of continuous improvement. Paramount in this discussion is the minimum sustainability standard of the sector, but the implementation, monitoring and impact of the industry's inclusive 4C baseline verification system has hardly been investigated. For example, the theory behind the 4C stepwise approach – an incentive for continuous improvement of the good agricultural and management practices – has not yet been put into practice at scale.

The consolidation in the coffee market is challenging the co-existence of comparable standards. Although 4C is reporting the largest volume of verified coffee (equal to half of total volume of certified and verified coffee), the minimum industry standard went through a turbulent period. Since the formation of the Global Coffee Platform in 2016 (see chapter 5), the 4C scheme was independently operated by a newly created entity called Coffee Assurance Services (CAS). In 2018, the 4C standard and verification system has been acquired by MEO Carbon Solutions, which will promote the robustness of the 4C Verification System. This company aims to modernise the standards' transparency and accountability protocol.³²

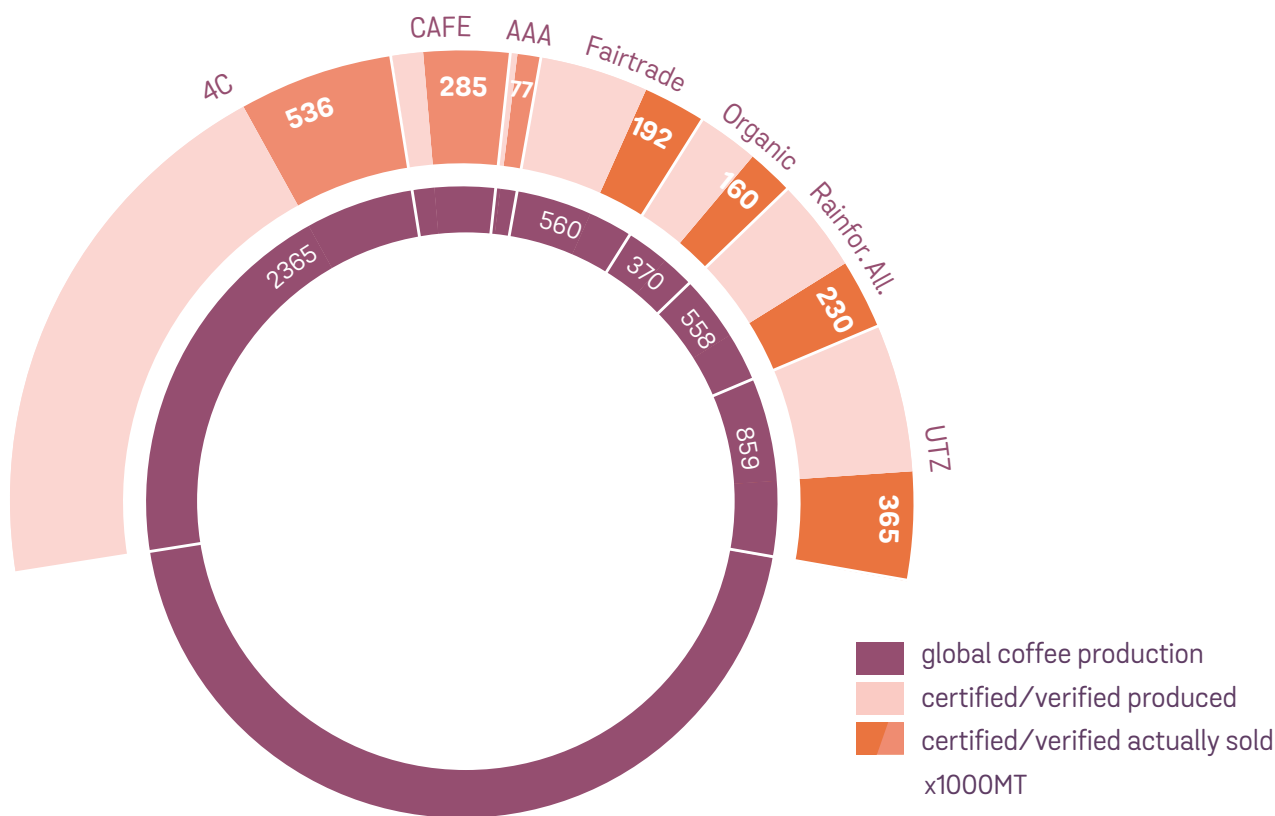
In June 2017, UTZ and RA announced to merge, creating a new organisation that continues using Rainforest Alliance as its name. In 2019, UTZ and RA will have finalised a public consultation and present a new single standard. Combining their market shares in the coffee sector will strengthen their position considerably (over 30%). The new Rainforest Alliance has a bold and ambitious goal: “to accelerate and scale up our work to tackle today's most urgent challenges: climate change, social inequity, rural poverty, and biodiversity loss”.³³ It remains to be seen if this aligns, for example, with the sustainability strategy of JDE (Box 3).

Box 3: **Mergers and sustainability**

In 2013/14, Mondelez was the main client of RA coffee, whereas Sara Lee (which became D.E. Master Blenders 1753) became the largest buyer of UTZ, procuring 25% of UTZ Certified across all its markets and product segments.⁴¹ In 2014, Jacobs Douwe Egberts (JDE) was created by JAB Coffee, merging Mondelez's International coffee division with DE Master Blenders. Another sizeable coffee company is the coffee division of Kraft, which became Kraft-Heinz in 2015, focusing on mass market coffee in the USA. While recognizing the challenges that mergers and acquisitions imply for the stability of sustainability strategies, it is remarkable that since these mergers became effective, both JDE and Kraft-Heinz have yet to announce any concrete commitments towards their sustainable coffee sourcing or supportive investments.

Figure 5, illustrates that all VSS have managed to grow their volumes of certified and verified coffee at farm level. The volume in 2016/17 covers 55% of global coffee production, of which 20% is procured as standard-compliant coffee by the industry. The gap between the volume available at producer level and the volume buyers actually procured as standard-compliant, has widened since 2013/14.⁴¹ The conditions under which certification will be a viable option for farmers remain highly context-specific, as is the question whether there is a market for their certified coffee.

Figure 5: **Global market share and demand VSS in 2017**

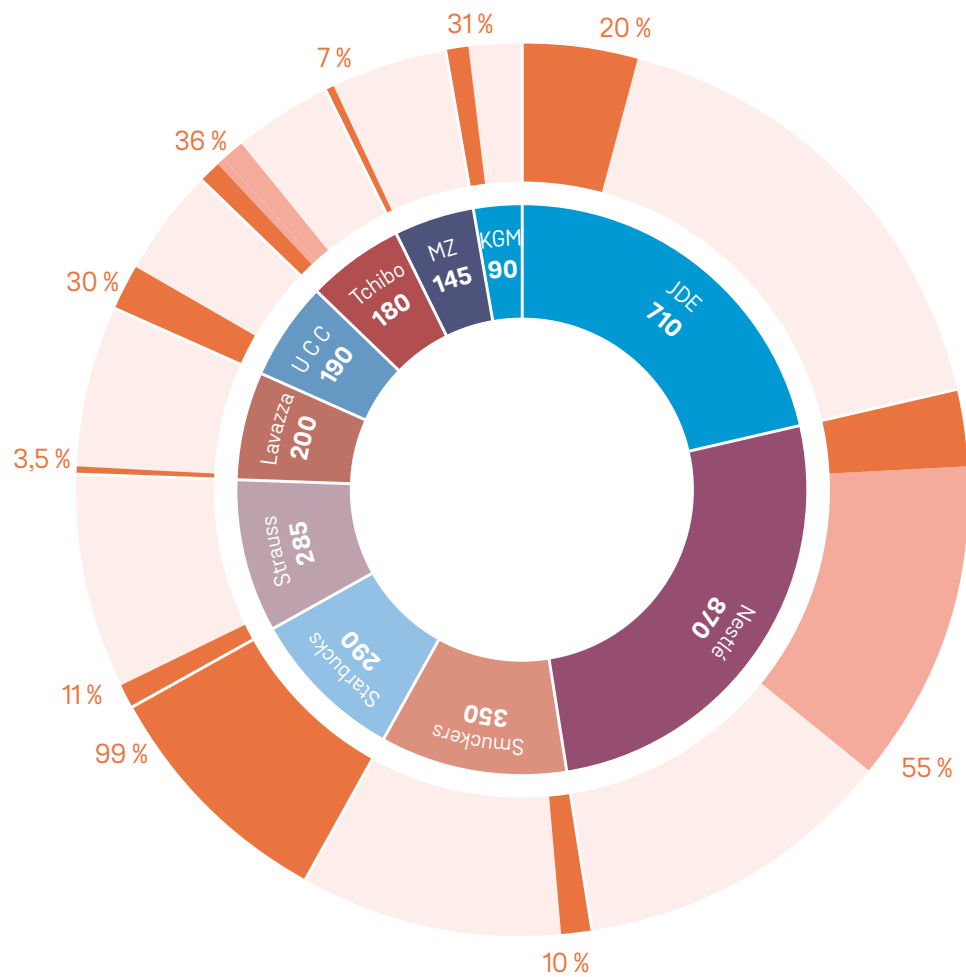


4.3 Market demand

Today’s coffee trends include premiumisation, convenience, customisation, single-origin, and wide-ranging roast types. Market research has indicated that consumers – particularly in North America and Western Europe – look for aspects like ethical sourcing, sustainability and certification. While it remains difficult to quantify, especially millennials are increasingly sensitive about sustainability issues related to coffee production.³⁴ The fragmentation and dynamics of the sustainability market contributes to high levels of confusion among ethical consumers, who are confronted with various seals and labels and different sustainability claims.

Nowadays, all multinational coffee roasters engage in a debate on sourcing and selling their coffee ‘sustainably’. Ethical and environmental concerns were the initial drivers of this debate, which now expanded to topics like brand reputation and consumer trust as

Figure 6: **Top ten coffee roasters; market share and demand VSS in 2017**



Inner circle: Volume of green coffee in 2016/17

Outer circle: percentage of volume purchased as certified or verified

Orange = volume certified

Light orange = volume verified

x1000MT

well as enhancing quality and profitability. The labels of Fairtrade, Organic, Rainforest Alliance and UTZ have been instrumental for companies to distinguish their brands and demonstrate their Corporate Social Responsibility (CSR) commitments. However, outperforming the competition on sustainability merits has become increasingly difficult, as most corporations and retailers offer an array of certified products to their environmentally and ethically conscious consumers.

Caused by the mergers and acquisitions discussed in chapter 2, our 2018 top ten coffee roasters differs significantly from the ranking of 2014's Coffee Barometer⁴¹. Also, the volumes of certified and verified coffee purchased by the top ten roaster companies tends to differ. This is driven partly by the interests of coffee companies in preserving their autonomy and identity, and partly by different opinions on what a sustainability standard should entail. Because of their voluntary nature, the long-term buy-in (market acceptance) of companies is an essential factor for the growth of any VSS. Where Nestlé and Tchibo consolidate their volumes, both companies procure larger

shares of certified RA and verified 4C coffee. Despite that Starbucks' total volume has grown significantly, it has been able to source 99% of its coffee according to its C.A.F.E. Practices guidelines. UCC increased its procurement of VSS coffee for the European market, a strategy also followed by Strauss. The Italian companies Lavazza and Massimo Zanetti procure certified coffee for specific markets. J.M. Smuckers states that 10% of its volume is certified. The coffee volume of Keurig Green Mountain slightly decreased, while its procurement of VSS-compliant coffees remained one third. Jacobs Douwe Egberts (JDE), the other company under the JAB Coffee Holding umbrella in this top ten, indicates to source 20% VSS compliant coffee of its global volume.

4.4 Sustainable Sourcing options

Obviously, standards and certification are by no means a silver bullet and require a commitment to ongoing capacity building and long-term investment.³⁵ While the VSS are useful for differentiating a product in the end market, they do little to alter the power dynamics that maintains an unsustainable situation where farmers bear most of the cost while getting the least of the benefit. Certified and verified coffee procurement can be governed in a hands-off way by roasters, who just need to specify which kind of coffee and certification they procure from traders.

VSS sustainability requirements often only apply at farm level, whereas retailers prefer a chain of custody certification for all links in the supply chain, comprising all traders and processors, or a sophisticated traceability system that can verify if a labelled coffee product comes from a specified source. In recent years, several retailers, roasters, and green bean suppliers started to develop their own in-house Sustainable Sourcing programs, often partnering with existing VSS organisations.

An increasing number of companies make their own additions to certification or bypass it altogether while moving towards a direct relationship approach. These programs operate with different names such as Responsible Sourcing, Direct Trade, and Ethically Sourced. As with any privately developed scheme, there is a concern that these may not offer much benefit to producers or may only poorly mimic effective sustainability practices.

However, when well executed, Sustainable Sourcing programs can offer substantial value. Better ones tend to align with this general definition: **A known relationship with producers that goes beyond the transactional to include a sense of equity manifest in mutual and transparent processes that promote best practices in coffee production and processing, to safeguard the rights and well-being of producers, workers, the community and the environment.** This outlines a more balanced relationship between buyers, sellers, and service providers that transparently seeks mutual benefit. While buyers optimally follow this definition, many of such schemes lack transparency, some lack real producer input or voice in the matter, and some focus mostly on specific aspects and not all required aspects listed (See the Keys for a Successful Sustainable Sourcing Program, Annex page 35).

Overview of 10 Roasters and 5 traders

Many coffee roasters and traders publish annual reports addressing the three pillars of sustainability. Most reports however, are lacking the context of the limits and demands placed on economic, environmental and social resources in the coffee sector. There is no consensus on the approach of CSR-reporting, nor on the format or required level of detail. Some coffee companies follow the guidelines of the Global Reporting Initiative (GRI), which provides a common framework and promotes comparability between reports. The coffee sector direly needs consensus on a valid system to measure sustainability progress and report this consistently. A balanced approach which enables companies to benchmark their performance with their peers and the sector at large, and which allows for flexibility to meet specific information needs of different stakeholders. In reviewing the sustainability policies, priorities and actions of companies, reporting frameworks and methodologies are required to provide transparency and credibility (see Chapter 5).

Nestlé

Nestlé considers verified and certified VSS as its main Responsible Sourcing tool for green coffee. Nescafé is creating shared value by buying Responsibly Sourced coffee, complying at least to the 4C standard, as well as creating positive impact to coffee farmers, their communities and landscapes. In 2017, there were agri-services programs in 17 coffee producing countries across Latin America, Asia and Africa, reaching more than 100,000 farmers every year. Nescafé has the objective to Responsibly Source 70% of its green coffee supplies by 2020.

The Nespresso AAA Sustainable Quality™ Program, established in 2003 in collaboration with Rainforest Alliance, builds on long standing partnership with farmers, coffee suppliers, coops and NGOs and supports a vision for regenerative agriculture. Verified and certified VSS practices as well as quality and productivity are at the core of this responsible sourcing program. Since 2014, the program also aims at solutions for broader systemic challenges faced by farming communities such as climate

change and social security. It offers: technical assistance, training, premium on quality and inclusion in co-financed projects such as retirement savings plan, agroforestry, water treatment solutions. Thanks to the network of more than 450 agronomists, the program covers more than 75,000 producers in 12 countries, resulting in USD 35 million investment per year.

JDE

In 2017, JDE initiated the 'JDE Supplier Initiative', a program to identify and address priority issues in the coffee supply chain. It is an effort to include the large group of unorganised farmers that are not part of the current VSS projects. Based upon the sustainability assessment research work of its Suppliers, UTZ and NGOs like Enveritas, Verite, and others, JDE is pursuing continuous improvement in the sustainability practices of its suppliers and their farmers. The Supplier Initiative will include a tool to efficiently assess the sustainability risks in the supply chain, enabling remediation of identified social and environmental issues.

Today, over 20% of JDE's coffee portfolio contains certified or verified green coffee in an increasing variety of premium offerings through their out-of-home division. Since the privatization of Douwe Egberts (2013) and the more recent merger with Jacobs (2015) the company has continued to invest in supporting farmer livelihoods in origin countries. Over the last 20 years over \$40 million across 12 countries was invested in farmer training and directly impacted over 216,000 smallholder coffee farmers. Going forward the company plans to continue to explore new certification and verification product lines in response to shifting consumer trends.

The J.M. Smucker Company

Since 2015, the J.M. Smucker Company purchases 10% of its green coffee from UTZ and RA. It is planning to continue procuring 10% of its total retail coffee according to certified VSS. In addition, Smucker's Smallholder Support and Integrated Environmental Efforts program improves farmer livelihood via responsible sourcing, smallholder support, and integrated environmental efforts. In partnership with various development organisations, the company supports the development of processes to increase production yields in a manner that also protects natural resources (CSR report 2017).

Starbucks

Starbucks regards sustainability as an integral part of its business model and not as a separate cost. Its ethical sourcing practices are formalised in its company sustainability standard (C.A.F.E) Practices, which covers 99% of its green coffee volume. To move beyond its 100% ethically sourced commitment, Starbucks invests in the Sustainable Coffee Challenge (SCC), to make coffee the first sustainable agricultural product. Next to the training facilities of Starbucks Farmer Support

Centers – established to provide training to 200,000 coffee farmers by 2020 and improve the long-term sustainability of their crops and livelihoods– the company facilitates loans to smallholders (to meet the standards) and promotes reforestation activities. It provides 100 million trees to farmers by 2025, part of a commitment to one billion coffee trees through the SCC.

In 2017, Starbucks launched the world's first sustainability bond, a \$1 billion debt financing instrument to improve social and environmental performance and grow the business.

Strauss Coffee

In 2016, Strauss Coffee established its "More than a Cup" program – supporting women coffee growers to support gender equity in coffee growing communities. In 2017 the program included 6 partnerships and in the long run, the aim is to work with several women cooperatives and farms worldwide. Strauss expects this sustainability approach to potentially create more tangible and visible benefits in coffee producing communities, as well as more engagement by employees. Since demand for certified coffee remains a niche in Strauss' markets, in 2017 the company procured 11% 4C verified coffee for the European market.

Lavazza

Lavazza has begun a process to raise awareness about sustainability among its main suppliers, to encourage also a tangible commitment on their part to social and environmental issues. Lavazza does not see much added value of VSS for its suppliers and only procures small amounts of certified coffee for specific markets. Lavazza's stated focus on climate change, through applying a Life Cycle Assessment methodology, can be assessed in its CSR report 2016. The company

has a leading role in the Coffee & Climate multistakeholder initiative and CSR projects in 14 countries support the integration of sustainable practices in the business model. Since 2017, a new project is focusing on training of coffee producers and young people on green coffee quality and “barismo”, the art of making good coffee beverages, transferring the companies know-how in the field of coffee.

KraftHeinz

The owner of large brands like Maxwell House and Gevalia publishes no information about its coffee sustainability policies and practices.

Tchibo

Tchibo’s medium-term goal is to offer only coffees that meets ecological, as well as, social and economic requirements. An exact timeframe has not been defined. In 2016, more than 36% of the sourced coffees were verified or certified. Of this volume, 56% was 4C verified coffee. Since 2016, Tchibo changed its approach towards 4C verified coffee. In its view, the validation system of 4C is insufficient to foster the necessary sustainable improvements. Consequently, the procurement of 4C will be reduced, by a total of 8% in 2020. Instead, Tchibo will invest more in its own Tchibo Joint Forces! Smallholder Qualification program and its ‘Mainstreaming Sustainable Coffee Production’.

UCC

The Ueshima Coffee Company (UCC), is a global coffee organisation active mainly across Europe, Japan and Asian markets and manufactures both private and branded coffees. The company purchased nearly 30,000 MT of certified green coffee (UTZ/RFA/FT/Organic); because of the demand

of mainly EU retail clients. The company expects that the share of certified coffee will continue to increase as more stakeholders adopt sustainability in their core business activity. UCC has not published a specific future commitment on sourcing sustainable coffee.

Massimo Zanetti Beverage Group

Traceability of supply is an important part of the group’s organisation and management model. The monitoring and assessment of supplier performance in relation to quality, sustainability, traceability and the protection of human rights in the supply chain is the responsibility of the individual companies in the group. The group as a whole has not set a specific target for sourcing of certified coffee, but group companies might do so. Meira Oy Ltd, 9% of the Group’s overall volume, has set a target to increase its percentage of certified coffee from 25% by 2018 to 100% by 2022.

Keurig Green Mountain

In 2020, the company is planning to source 100% of its green coffee according to the Keurig Green Mountain Responsible Sourcing Guidelines. Furthermore, Keurig is committed to engage 1 million people in its supply chains to significantly improve their livelihoods, including water security and climate resilience. In 2016, Keurig purchased 23,000 MT of certified coffee, mainly Fairtrade, with a small quantity of RA and Organic, which is 25% of its total quantity of coffee, down from 31% in 2013. In 2017, the company was back on track at 31% of the total.

Neumann Kaffee Gruppe (NKG)

The company supports the expansion of farmer training programs and collaborates with its clients to develop alternatives beyond the sourcing of certified coffee –

which is only a first step of many. By means of strategic partnerships on both sides of the supply chain, the company promotes a sustainable coffee economy through various sustainability initiatives: In 2001, NKG established the initiative International Coffee Partners (ICP) together with Europe's leading coffee roasters to promote sustainability in the coffee sector. ICP's mission is to develop, run and scale up best practice projects in partnership with smallholder farmers worldwide. In 2005, the Neumann family founded the independent NGO, the Hanns. R. Neumann Stiftung (HRNS). This organization promotes a more sustainable coffee economy by executing coffee-based development projects. In 2010, NKG joined forces within the industry and governmental organizations to establish the precompetitive initiative Coffee & Climate (c&c). This initiative fosters climate change mitigation and adaption practices in key producing areas worldwide.

Louis Dreyfus Company

The company's target is to increase the percentage of certified coffee sold to 17% by 2020. The strategy of Louis Dreyfus Company (LDC) is built on two main pillars, namely the expansion of VSS coffee production and the implementation of sustainability initiatives at origins to support coffee farming communities. Here, LDC involves partners such as roasters, NGOs, external donors, local programs, etc. In 2016, Dreyfus launched farmer training projects in Colombia and Vietnam, with strong involvement of JDE and IDH.

ECOM Agroindustrial Corporation Ltd.

For ECOM sustainability means improving farmer productivity and quality, leading to lower cost and higher incomes. The goal is for farmers to produce more and better product and for coffee farming to be a dignified and profitable profession for years to come. ECOM prides itself at being integrated in coffee growing

origins, supporting their producer clients via the agronomy services of Sustainable Management Services (SMS) and responding to their roaster clients sustainable agendas. ECOM intends to promote a more sustainable production with the in-house tool of SMS, uniting cultivation technology with information technology. This provides technical assistance, new planting material and best practices for improved productivity and quality. It intends to improve the economic, social, environmental, and health conditions of coffee growers and their families. In 2006, ECOM started the ECOM Foundation that executes projects in coffee producing countries.

Volcafe Ltd

Volcafe prefers not to disclose its market share and trade volumes of certified/verified coffee. We estimate their market share close to that of ECOM. The company policy towards VSS compliant coffee depends on market demand. In 2014, Volcafe started its sustainable sourcing strategy the 'Volcafe Way', a farmer support organisation to provide direct technical assistance to farmers. In addition, Volcafe is implementing community projects in most origins, among others building schools, supporting coffee nurseries, encouraging mitigation to climate change and fighting child labour.

Sucafina S.A.

Sucafina's policy with respect to certified coffee is to meet client demand. The company reinvests at least 1% of its annual profit into coffee communities and engages in a wide spectrum of sustainable development programs (poverty reduction, inclusiveness, environmental/landscape protection and climate change adaptation/resilience, human rights). Sucafina collaborates with multiple stakeholders in coffee producing and consuming countries to offer sustainable coffee.

5 Coffee sector collaboration

To fully transform coffee into a sustainable sector and tackle the complex challenges facing coffee producers, individual companies need to disregard competitive differences and genuinely engage and invest in collaborative investments at grassroots level.

5.1 A global vision

In 2014, sector leaders jointly developed a vision for coffee sustainability which resulted in Vision 2020, a call for improved alignment of sustainability efforts in the coffee sector: “A collaborative approach between public and private parties to foster resilient coffee farmers, improve livelihoods and create strong farming communities”.³⁶ By the end of 2017, the same leaders restated their collaboration under the banner of Vision 2030, underlining the public–private collaboration between the International Coffee Organisation (ICO) and the Global Coffee Platform (GCP).³⁷ The only real new part being a specific reference to the Sustainable Development Goals (SDGs), the stakeholders drafting Vision 2030 prolonged the deadline with another 10 years.

The positive element of emerging global frameworks such as the SDGs and the Paris Climate Agreement, is that they are providing a common agenda and language for stakeholders. Companies can use the SDGs as an overarching framework to shape, steer, communicate and report on their strategies, goals and activities, allowing them to capitalise on a range of benefits such as identifying future business opportunities; enhancing the value of corporate sustainability; strengthening stakeholder relations and keeping pace with policy developments; stabilising societies and markets; and using a common language and shared purpose with stakeholders.³⁸ To demonstrate the coffee sector’s effectivity in achieving sustainability gains, it is necessary to define key performance indicators (KPIs) to measure sector level progress. Identifying those specific KPIs, and their relative importance, is a continuing debate. It is one of the many topics in the discussions taking place in a myriad of Multi-Stakeholder Initiatives (MSIs) both in and outside the coffee sector.

Box 4: **Role of government**

To maintain a level of realism of what can be achieved in working on a sustainable coffee sector it is important to clarify we have deliberately left out the role of producing and consuming governments. Giving a general understanding of the governance context, power dynamics, policies and laws, at national and international level is beyond the scope of this paper.

A recent example is the United States Government withdrawal of the International Coffee Organization (ICO, April 2018). This will not benefit the effectiveness of intergovernmental collaboration and global Multi-Stakeholder Initiatives. The ICO will have to find innovative and effective ways to promote a more sustainable, less volatile sector that benefits everyone involved in the coffee trade.

27

5.2 Multi-Stakeholder Initiatives

These MSIs come in a diversity of sizes, thematic focus or geographic representation. Here, we will look at the main initiatives focusing on sector-wide sustainable transformation. The largest platforms are the Global Coffee Platform (GCP) and the Sustainable Coffee Challenge (SCC). Smaller platforms concentrating on specific thematic or geographical areas and research include coffee&climate (c&c), the Sustainable Agriculture, Food and Environment Platform (SAFE), the Specialty Coffee Association (SCA) and World Coffee Research (WCR). National platforms such as SCOPI in Indonesia, the Sustainable Trade Platform in Colombia and the National Advisory Board and Working Group in Brazil, are addressing critical sustainability issues at country level. A newly launched platform to organise and give voice to coffee producers at a global level is the World Coffee Producer Forum (WCPF).

All these partnerships allow companies and organisations to pool their resources, share knowledge and develop joint strategies to address complex sustainability issues. Contrary to earlier multi-stakeholder initiatives in the coffee sector, like the 4C Association and the IDH Sustainable Trade Initiative, the new collaborations don't intend to transform the sector by promoting VSS. Rather, by sharing experiences and creating a better understanding of collective multi-stakeholder action, these initiatives seek to overcome different interests of coffee sector stakeholders and spark more collaborative actions and investments. The goals and membership-base of these different initiatives are for a large part similar. It is therefore not surprising to see a high degree of collaboration among these, trying to assure alignment of their efforts and agendas.

A potential benefit of these MSI's is that they can help stakeholders to better understanding the challenges of others in the sector and identify opportunities to acknowledge successes and share best practices via collaboration. Ideally, the MSI's reduce the sector's fragmentation of sustainability efforts and enhance transparency and accountability. One of the biggest drawbacks of these initiatives is that their multitude slows down the pace of decision-making, while the urgency to act is high. Decisions have to be embraced on a voluntary basis by a wide spectrum of

stakeholders. An example is the Sustainability Progress Framework, which was jointly developed by the SCC and GCP. Although these two MSI's are aligned on the goals and the overall framework, the process in practice plays out differently. While the SCC led the development of 15 'intervention pathways' to guide future investments to improve livelihoods, preserve nature, strengthen market demand and improve productivity and sustain supply, GCP focuses on measuring individual and collective performance against standard indicators (and how to define these). The struggle to measure impact of collective work and attribute changes in the industry to their interventions, correlates to the complexity of issues and the number of stakeholders involved.

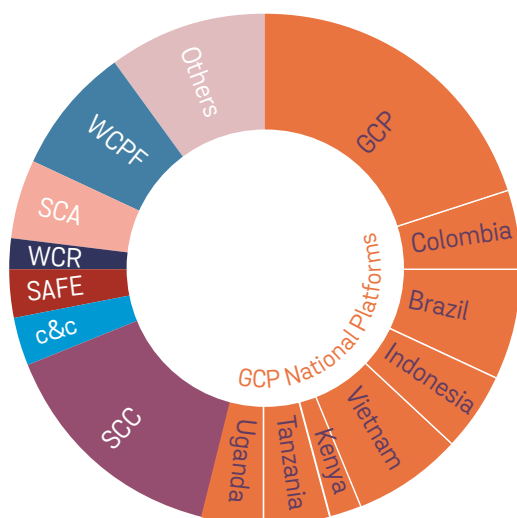
In a time of rapid sector consolidation, there will be no straightforward translation of voluntary intentions into actions. The faster the pace, the more likely serious gaps will appear between sector-wide commitments and actual individual sustainability performance. MSI's will have to deal with this and find solutions to produce compliance with any agreement at sector level. Thus, the effective contribution to market transformation and sustainability of these international platforms remains to be assessed.³⁹ The true impact of these initiatives will depend on how their approaches are being implemented in the coffee supply chain, by leveraging tools, developing clear and ambitious targets and having public monitoring and transparent accountability in place. There is an urgency to move from meetings to collective action. Action backed by collective investments could take many forms, such as research, demonstration of sector-driven projects, testing innovations to address systemic issues at scale, or testing joint monitoring of progress against common indicators (Box 5).

Box 5: **Measure and report**

In 2017, the GCP and SCC jointly developed and launched a 'Sustainability Framework' for the sector, intended to develop a new and common language to navigate coffee sustainability.⁴⁰ In its current version 15, priority sustainability topics were identified as key investment pathways for the sector to ensure long-term viability of the sector (see: <https://www.sustaincoffee.org/framework>). Through this process, a set of common metrics have been proposed, which could facilitate collective progress measurement and reporting.

The GCP is currently identifying a set of indicators for mandatory reporting by its members, which allow for measuring and reporting progress. The refinement and adoption of a consistent approach by the sector depends on the engagement of a broad base of stakeholders.

Figure 7: **Multi-Stakeholder Initiatives**



Global Coffee Platform

The GCP is a member-driven global platform which facilitates public-private dialogue, the alignment of investments, collective actions, and the scaling of successful sustainability activities across the sector.

GCP directly supports national sustainability platforms in several producing countries, including Brazil, Vietnam and Indonesia. – **Since: 2016**

Sustainable Coffee Challenge

The Challenge seeks to spark greater demand for sustainability across the sector. With its vision to make coffee the world's first sustainable agricultural product, it promotes transparency around sustainability efforts by facilitating its members to publicly stating and tracking of commitments. The Challenge also serves as a catalyst and incubator for new ideas, collective action and innovation. – **Since: December 2015**

coffee & climate

c&c is a development partnership aimed at enabling all coffee-farming families worldwide to effectively respond to climate change. The c&c-approach is currently implemented in pilot projects in Brazil, Tanzania, Trifinio (Guatemala, Honduras, El Salvador), Uganda and Vietnam. These regions have been chosen mainly because of their strategic relevance as key coffee producing areas, representing Arabica and Robusta. – **Since: 2010**

SAFE Platform

The SAFE Platform is a knowledge platform of members' projects that seeks to transform coffee- and cocoa-landscapes in Latin America. Members aim to scale up innovative approaches through the adoption of inclusive and sustainable climate-smart agricultural practices. – **Since: 2016**

Sustainable Trade Platform (National Platform Colombia)

The Sustainable Trade Platform (STP) consists of stakeholders that produce or manage 85% of coffee volumes in Colombia. Its aim is to address critical sustainability issues affecting the performance of coffee production. The platform has increased transparency at national level using a non-competitive approach, and it adds value to members through knowledge generation, collaborative multi-stakeholder projects and technical sustainability expertise. The STP has specific targets set by the sector at national level that are monitored on an annual basis. – **Since: 2013**

6 Conclusion

Coffee consumers can enjoy a wealth of choice. From mainstream coffee in the form of standard blends, to a bottle of RTD-coffee or a signature pour-over at your local coffee bar. If you are having a coffee today, chances are high it is roasted by one of the top ten coffee roasters. Together they produce more than one third of the world's coffee, in a staggering amount of consolidation of global, regional and local brands. Their purchasing power and access to distribution networks significantly impacts which coffee ends up in cafés, restaurants, offices and at supermarkets.

While coffee is increasingly lucrative with a retail value of \$200 billion in 2015, less than 10% of the aggregate wealth stays in the producing countries. Whereas coffee companies are busy conquering markets, cutting costs and driving efficiency, coffee farmers on their end are struggling to get their fair share of the total value added in the coffee industry. The economic inequality is rising, as prices paid to farmers have been falling for decades often reaching levels well below the poverty line. The sector needs fair prices for farmers, for their livelihoods and for investments to ensure the long-term viability of their farms. Coffee's image as a poverty crop will not help to attract rural youth as they aspire a better future and seek employment outside the coffee sector.

As the size of the coffee economy increases relative to its agricultural resource base, it becomes even more urgent to manage the ecosystems, biodiversity and forests in coffee producing countries. Despite extensive satellite imagery, our estimates of the rate and extent of tropical deforestation in countries of origin are rudimentary. In an increasingly land-constrained world, adaptation strategies for coffee will depend on integrated land management, and an almost inevitable increase in production costs. If investments in sustainable coffee production do not catch up, the future supply of coffee is at risk. Furthermore, sustainably grown coffee provides competitive business opportunities for smallholder farmers and adds value to consumers. The major challenge will be to consider a more fundamental shift in the business and trade model to move away from high yield sun-grown monocrop systems, to climate-smart coffee production addressing landscape conservation and climate resilience beyond the farm-level. In addition, companies should consider how to effectively address the growing threat of deforestation, within their supply chains as well as sector-wide.

Although the coffee sector has the image of a frontrunner in sustainable agriculture, it is failing to create the conditions needed for a viable and flourishing sustainable value chain. The investments in the sector's sustainability are for 50% related to the premiums paid for certified coffee. While the uptake of VSS verified and certified coffees is expanding slowly, questions remain as to whether this translates into the desired benefits for a larger number of producers. VSS are under increased pressure to deliver on their sustainability promises. In practice, VSS adapt to ensure their relevance, and the merger of Rainforest Alliance and UTZ is a positive example to pool limited resources and reinstate its advocacy role in the sector. Clearly, a focus on VSS alone

is not the solution, although it provides many entry points to stimulate innovations in the coffee value chain. Roasters and retailers are increasingly developing their own company sourcing standards, which become mandatory standards for smallholder farmers. Transparency and accountability will be critical elements to the credibility of these in-house sustainable sourcing programs.

In order for coffee to meaningfully contribute to the global SDG's – through Vision 2030 and the Sustainability Framework of GCP and SCC – coffee businesses must seriously engage in fundamentally transforming the market structures hampering sustainability. Improving at company level or trying to outperform competition is not the same as broadly working together towards a sustainable coffee sector. As the costs need to be paid now, while the rewards will come in the distant future, this creates frictions with most corporations' preference for assured short term gains. The increased competition between the main market players heightens concerns about a race to the bottom. Behind the brand image, sustainability seems not to be a priority for too many CEO's, especially when it does not directly coincide with the business goals of increased sales, profits and market control.

The latter is amplified by the recent spate of mergers. Since 2012, the holding company JAB has been building a coffee empire with market presence in the US, the EU and Asia. It is threatening the market share of famous global brands like Nestlé and Starbucks, which dominate the respective markets of instant and retail coffee. These companies are all in fierce competition to scale their brands and capitalise on the growing demand of middle-class quality conscious consumers. Typical are the acquisitions of famous specialty roasters like Stumptown, Blue Bottle and Kicking Horse, as well as many joint ventures and minority stakes in the sections roast and ground, instant and the booming RTD segments. Via these routes, companies are trying to build market share.

The future is unknown. The success of the reorganisation of the coffee companies will depend on sustainable production of coffee. Billions are invested in the consumers' end of the value chain, but profits are not reinvested at the farmers' level. Most farmers are not even able to cover the full cost of production, let alone account for external social and environmental costs. Unfortunately, sustainability commitments are not on the companies' agendas and instead of defining ambitious targets and actions, they failed to become more transparent. The sector needs consensus on a valid system to measure sustainability progress and report this consistently. Ultimately, consolidation in the sector not only enables large players to increase their market share and probably their profits, the concentration of power can also be an opportunity allowing them to exert positive influence on the sustainability debate and foster sector innovation. It is good business sense to be prepared for unexpected scenarios and realise there are no short cuts.

Collaborative approaches, like the GCP and SCC, are potential answers to the shortcomings and limited ability of individual efforts of private sector stakeholders. These MSI's operate under the banner of non-competitive, collective, sector-wide collaboration. However, it is yet to be seen whether big competitors will start leveraging these initiatives to find common ground and actively collaborate through investments at grassroots levels in producing countries. Moreover, closer alignment remains key as there is a clear difference in geographical coverage and/or focus. Nestlé and JDE are members of the GCP, Lavazza is active in c&c, while Starbucks is promoting the SCC and is a member of SAFE.

The transparency, commitment, involvement and accountability of companies is important. Equally important is to avoid pre-conceived interventions and really involve coffee farmers and local coffee communities to challenge the thinking of international and national MSI's. This implies acknowledging local people's interests and agenda setting, rather than developing top-down solutions. To challenge the powerful stakeholders and the status quo, MSI's should actively support stakeholders with limited resources – like local producer organizations, trade unions, local NGOs and research institutes – to participate in defining, challenging and steering the sustainability agenda. Together these stakeholders cannot only deal with the consequences of poverty and climate change effects, but address the root causes of all challenges, via natural resource management, land-use planning and a fair value-distribution in the coffee sector.

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Sources

Justification of the figures

Global volume of coffee 2016/2017:

157,7 million bags

Green coffee conversion

1 bag = 60 kilogram

1,0 tonne = 1,000 kilogram = 16,67 bags

Figure 1.

Main acquisitions and brands 2012–2018

The data for this infographic is based on media coverage of acquisitions and mergers, companies' websites and annual reports.

First Wave: Brands focusing on standardisation and volume, for at-home consumption (large roasters and grocery retailers).

Second Wave: Brands focusing on coffee origins and roasting styles, differentiation based on higher quality and out-of-home consumption (coffee chains).

Third Wave: Independent coffee shops focusing on consumer interaction with high quality coffee and a variety of brewing techniques.

Figure 2.

Top five green coffee traders

The data for this infographic has been provided by the different trading houses.

Figure 3.

Top ten coffee producing countries

Data on production of Arabica and Robusta:

– ICO (2018). Total production by all exporting countries.

Data as of April 2018 – ICO.

– UN Comtrade database (2018). 090111 coffee, not roasted or decaffeinated; comtrade.un.org/data

Figure 4.

Inequality in the coffee value chain

Data on global coffee category value and value of coffee exports to producing countries:

– Samper, L., Giovannucci, D. and Marques Vieira, L. (2017). The powerful role of intangibles in the coffee value chain. Economic research paper No.39. WIPO.

Data on global investments in sustainable coffee production:

– Steemers, S. (2016). Coffee sustainability catalogue 2016. A collective review of work being done to make coffee sustainable. GCP, SCA, SCC.

Figure 5.

Global market share and demand VSS in 2017

Data kindly provided by 4C CAS, Rainforest Alliance, UTZ, Nestlé, Starbucks. (the total volume of Nespresso AAA and C.A.F.E. Practices is our own estimate).

Fairtrade is our forecast, based on FLO statistics of 2016. Organic is an estimate based on statistics in:

– Lernoud, J. et al. (2017). The State of Sustainable Markets – Statistics and Emerging Trends 2017. ITC, Geneva.

Figure 6.

Top ten roasters; volume and VSS in 2017

Data kindly provided by the companies.

The J.M. Smucker Company is an estimate.

For specific information about companies and VSS, see page 22–24; summary of sustainability policies and practices

Figure 7.

Multi-Stakeholder Initiatives

This figure reflects a visualisation of the various MSI's in the coffee sector, it is not an actual representation of the reality based on membership, funding or geographical distribution.

Keys for a Successful Sustainable Sourcing Program (Cosa, 2018).

Definition

Function & Credibility

1. Clear Strategic Objectives

Document that outlines the time – bound goals and the key processes and resources required to achieve desired outcomes

- Engage stakeholder's participation to create it
- Consider first desired long-term impacts, then the mid-term outcomes that would lead to those, then the activities and investments that generate desired outcomes
- Measurable, time –bound goals that are clearly articulated to supply chain stakeholders
- Highlight key processes and resources to demonstrate how the program will be operationalized and managed

2. Key Performance Indicators

Simple metrics that clearly measure the progress toward objectives – Performance is replacing the static approach to scorecards

- Formulate S.M.A.R.T. KPIs (Specific, Measurable, Actionable, Realistic, Time-bound)
- KPIs align with international norms to facilitate accountability and benchmarking or comparability across origins and supply chains
- Integrated KPIs into a functional management system that encourage their active use in decision-making
- Documented guidance is key for applying KPIs to ensure consistency and credibility

3. Code of Conduct Guidelines

Pragmatic guidelines that address policies and practices for vital areas such as occupational safety, social norms, environmental responsibility, and economic transparency

- Define clearly and state expectations realistically Interpretations of ethical business practices vary place to place. Local regulations are a necessary basis but may be insufficiently aligned with global expectations
- Coherent approach should apply appropriately for different levels: aggregators, processors, producers, and hired labor
- Guidelines should be auditable, have clearly defined metrics, and enforceable consequences
- Ideal to quantifiably assess specific risks or sustainability attributes associated within the supply chain

4. Traceability Protocol

The defined system for ensuring the ability to reliably identify the product source and all intermediaries along the supply chain

- Define clearly. Interpretations of ethical business practices vary place to place. Local regulations are a necessary basis but may be insufficiently aligned with global expectations – state expectations realistically
- Coherent approach should apply appropriately for different levels: aggregators, processors, producers, and hired labor
- Guidelines should be auditable, have clearly defined metrics, and enforceable consequences
- Ideal to quantifiably assess specific risks or sustainability attributes associated with individual suppliers or the entire supply chain and mapping, to the farm level, offers a much better layer of understanding

5. Sustainable Production and Processing Criteria

Program to promote best practices in sustainable coffee cultivation and processing

- Ensure delivery of services are prioritized with local stakeholders and are based in a credible needs assessment methodology
- Establish a clear process for monitoring farmers, aggregators, and processors
- If specific activities such as training, credit, soil analysis, or inputs are delivered, include a system to monitor delivery and quality of services

6. Verification

Criteria and procedures to ensure compliance and that the information reported is accurate

- Apply verification as a learning process for continuous improvement not just as an enforcement tool
- Provide a checklist of required information and clarity on how suppliers will be evaluated on key aspects of the sourcing program
- Integrated systems for validating data sources to reduce verification costs and target field audits towards specific risks
- Improve accuracy with some electronic or even remote sensing verification in addition to traditional observational inspections

7. Impact

The intended and unintended effects (both positive and negative) that can be attributed to specific interventions or investments

- Utilizing targeted impact assessment can identify reasons for an outcome. Knowing how interventions such as training or credit affect an impact opens up solutions and better investments or policies
- Engaging the scientific rigor of quantitative and qualitative tools offers the most credible assessment possible.
- Look beyond single dimensions to include the environmental, social, and economic manifestations of change to usefully illuminate the realistic dynamics or trade-offs of farming and supply chains.

8. Information Management

A functional information system goes beyond data to enable the actors within the Sustainable Sourcing Program to share and learn from results

- Visualisation of results to track progress of Sustainable Sourcing objectives
- Results based on a common or shared set of KPIs
- Permitted access to ensure sharing information is restricted based on the suppliers role in the supply chain
- Stimulate continuous improvements including the ability to easily rate supplier sustainability performance.

Colophon

Citation: Panhuysen, S. and Pierrot, J. (2018). Coffee Barometer 2018.

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