

Impact of supply chain relations on farmers' income in Ethiopia



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List of abbreviations

CSA	Central Statistical Agency Ethiopia
ECX	Ethiopian Commodity Exchange
ICO	International Coffee Organization
GCP	Global Coffee Platform
ha	Hectare
HDI	Human Development Index
ILO	International Labour Organization
kg	Kilogram
kg/ha	Kilogram per Hectare
UNDP	United Nations Development Programme
USDA-FAS	United States Department of Agriculture - Foreign Agricultural Service

Executive summary

Coffee is an important cash crop for millions of farming families worldwide. In Ethiopia, at least 2.4 million families grow coffee and a significant part of their income depends on the coffee price. This coffee price decreased inflation-adjusted over the last decades.

The Ethiopian government needs coffee exports to get access to foreign currency and does not allow the selling of good quality coffee on the growing domestic market.

Coffee plantations in Ethiopia are on average smaller than 1 ha and the productivity is low compared to other countries. Most of the production is organic, as farmers do not use fertilisers and pesticides. Part of the coffee grows in forest areas, a very large part of the harvest takes place in agroforestry system. Only a low percentage comes from monoculture plantations.

The coffee sector in Ethiopia suffers from insufficient road-infrastructure; washing and hulling stations are often very small and – compared to other countries – inefficient. Therefore, transport, handling and processing costs of coffee are very high, which reduces the percentage of the world market price which goes as a farm gate price to the farmers.

Most of small-scale farmers sell their coffee to local traders, which sell the coffee to collectors. The next step in the value chain are larger traders or exporters.

From 2008 until recent reforms, only large plantations and some unions- the umbrella organisations of cooperatives - can export directly onto the international market. Some cooperatives and their unions have high numbers of members, but they often have financial problems and buy only a part of the coffee produced by their members. This limits their ability to support farmers to improve agricultural practices and first processing steps taking place on plantations. Additionally, their

internal quality control systems are not always reliable.

All coffee has to be graded by the Ethiopian Commodity Exchange (ECX), which holds a central position on the Ethiopian coffee market. The grading is important, as only high-grade coffee might receive a (sometimes much) higher price from buyers who are interested in quality coffee.

Since the reform process started in 2017, not only unions and large-scale plantations are allowed to export directly, but also washing and hulling stations and mid-size farmers. However, most of the coffee is still traded through the ECX. Due to shortcomings in the grading systems which can lead to unreliable quality certificates, many potential buyers of coffee do not trust the Ethiopian trading system.

More than 300 traders have export licenses, many of whom use the export coffee to get access to foreign exchange for other businesses. Presently, some of these traders offer more for the coffee at the ECX than they can get on world market; they are prepared to run losses to get access to foreign currency. Additionally, they are often not interested in long-term relations with buyers, which leads to a lot of problems and mistrust. This has negative consequences for traditional coffee traders who do focus on coffee and depend on reliable relations with customers.

Presently, the local market often pays more for the coffee than exporters offer. Therefore, a lot of low-quality coffee is either sold legally on the local market or higher qualities are smuggled onto the domestic market. According to market sources, far more than half of the coffee produced in Ethiopia is used for domestic consumption.

High-quality speciality quantities of Ethiopian coffee can fetch higher prices than standard qualities, but the market

for these varieties is very small. Many farmers and cooperatives complain that they produce high quality but have to sell into the bulk market, as there is no uptake from buyers.

The same happens to a lot of certified coffee. Many farmers or their cooperatives pay fees for certification and audits, but only a part of the certified quantities are sold for a higher price and with a premium.

Farmers often produce coffee with different agricultural practices, and of different qualities, and sell through different value chains. Even if they are members of cooperatives, they usually sell part or even most of the coffee not through the union, but onto the domestic market or to traders who either sell onto the domestic market or to exporters.

From the farmer's perspective, producing better quality leads to higher cultivation, harvesting and processing costs, which are often not rewarded. Meanwhile, the best price for many qualities can be achieved on the domestic market. However, selling higher qualities onto this domestic market is illegal.

Similar risks can be observed at the processing stage in the value chain. Higher costs to produce better quality coffee might not be rewarded. Traders face a complicated market with

insufficient infrastructure, highly bureaucratic proceedings, an unreliable grading system, and a world market which presently offers only very low prices.

Potential buyers of exported coffee have to cope with the complicated coffee trading system in Ethiopia. On the one hand, at least some of them prefer the specific qualities of Ethiopian coffee, on the other hand this specific taste has to be as cheap as possible and traders may change to other origins if the situation in Ethiopia does not improve.

To improve the situation on the Ethiopian coffee market, the infrastructure must improve significantly, as this would automatically reduce costs and increase farm gate price. Market reforms which allow more direct trade between producers and exporters might improve the chance of farmers to get a higher price for good quality coffee. This could be a major incentive to increase the quantities of high quality and/or speciality coffee, which would not only increase the income of farmers but also increase export earnings of the government. To realise these potential gains, market uptake is needed: without customers willing to pay more for good quality coffee, the efforts and investment of the farmer will not be rewarded.

1. Introduction

The production of coffee provides income for roughly 12 million farming families worldwide. According to estimates, the income of at least another 12 million families depends at least partly on salaries for working on coffee plantations (International Coffee Organization 2019a:1; International Coffee Organization 2019b:11; Sachs et al. 2019:14).

The biggest coffee producing countries are Brazil and Vietnam, followed by Colombia, Indonesia, Honduras and Ethiopia. One third of the global production is consumed in Europe, with Germany being the largest consuming nation within Europe. Due to its certain role as an importer and exporter of coffee and coffee products Germany is the third biggest coffee trader worldwide.¹

The price for coffee is determined at the commodity exchange and is massively influenced by the production of Brazil and Vietnam. When adjusted for inflation, the price declined significantly during the last decades. This long-term trend is not linear, as the coffee price is volatile. Since the end of 2016, prices remain on a relatively low level (Sachs et al. 2019:20).

This is the background for the research on the coffee sector of Ethiopia. The East African country is the origin of Arabica varieties of coffee, while wild Robusta trees most probably come from Uganda. Coffee is of high relevance for the Ethiopian economy. It is the main cash income source for millions of families and an important source of foreign currency for the economy and the government. Additionally, Ethiopia has a long-standing tradition of consuming coffee and therefore knows a significant domestic demand. These aspects – high relevance

of coffee exports and a strong domestic market – make the Ethiopian coffee sector unique in the world. Therefore, the country makes for an intriguing research subject and has been chosen for this study. The starting point of the research was the division of the value chain into different potential sale channels, as farmers have different options:

- small-scale traders,
- cooperatives and their umbrella organisations the unions,
- large plantations who can export directly.

All coffee trade in Ethiopia depends on the grading of the Ethiopia Commodity Exchange (ECX), where also most of selling to domestic or international traders or roasters takes place.

Within these trading channels, different qualities of coffee are traded. Again, farmers have different options. The study was to explore which of these options has the potential to achieve the highest income for farmers:

- washed versus sundried coffee,
- specialty coffee,
- certified coffee,
- coffee sold on the domestic market.

Originally, the term "value chain" was used to describe the processes of procurement and production within companies. Today, the term is also used for the entire production chain of a product, covering all steps from cultivation or extraction of a raw material to processing, trade, consumption and disposal. In addition to the distribution of costs, the power relations within the value chain is also analysed. Development policy-oriented research institutions also ask how the situation of the people who

¹ Source:

<https://howmuch.net/sources/world-map-of-coffee-exports>

grow or produce products for the world market can be improved.

This paper focuses on the situation of farmers and traders, as it analyses the financial impact of certain value chains for these. The author is aware of the fact that input producers, input traders, extension services, coffee research institutions, warehouses, transport companies, the consumers in Ethiopia or in other countries, roasters, retailers, coffee shops, financial service providers, disposal companies etc. are also part of the value chain, but they are not covered in this research.

The study is based on a combination of methods including a literature review, stakeholder interviews and the review of databases to cross-check and validate information:

- The literature review represents the primary means to gain information on the framework conditions, the global coffee sector in general and the situation in Ethiopia in particular.
- The author of this study carried out 28 interviews with a total of over 50 stakeholders, among them government representatives, farmer organisations, trading and coffee companies, non-governmental organisations (NGOs) working in Ethiopia, standard-setting organisations, development cooperation and foundations. Most interviews were carried out with only one interviewee present; some with groups of stakeholders. The interviews were carried out in a semi-structured way and

supported by a set of guiding questions. Interviews in Ethiopia were conducted in October 2019, interviews in Germany in person or by phone between August 2019 and December 2019.

Due to the highly politicised coffee market and the dependency of all stakeholders on government regulations and permits, all persons interviewed were assured anonymity. Therefore, the interview partners are not quoted by name.

Outline of the study

The scope of this study is to analyse the impact of supply chain relations on farmers' income in Ethiopia. The overall structure of the coffee sector in Ethiopia is touched upon briefly. Detailed attention is paid to issues directly connected to the value chains and their impact on farmers' income.

Chapter 2 of this report briefly describes the social and economic background of coffee production in Ethiopia. Chapter 3 presents data on the global coffee market to get an impression of the Ethiopian role in the sector. Chapter 4 presents data on coffee production in Ethiopia, as well as different production methods which are closely connected to different trading chains within the value chain. In chapter 5, the different trading chains of the Ethiopian coffee are explained. Chapter 6 analyses the impact of these value chains on the income of coffee farmers.²

² For in-depth analysis of the sector see Herhaus, Tigne and Teketay 2014 and Ethiopian Coffee and Tea Authority 2018. Details about the structure of coffee producing households, production and

income see BASIC 2018, Global Coffee Platform 2016, Global Coffee Platform 2018, Minten et al. 2015a, Minten et al. 2015b, Minten et al. 2018, Minten et al. 2014, Tamru and Minten 2018.

2. Ethiopia's position in global coffee production

During the last years, 60% of the world harvest consisted of Arabica beans while 40% were Robusta varieties. Nowadays, South America is by far the most important production region for coffee, followed by Asia & Oceania, Mexico & Central America and Africa. Europe is still the region with the highest demand, followed by Asia, North America and South America. Consumption in African

leader Brazil did the same and Vietnam increased its production twenty-fivefold in the same period.

Other countries such as Honduras, India and Peru also significantly increased coffee production, while some origins including Colombia and Mexico stagnated. Nowadays, Ethiopia is number six in the quantity of coffee produced (Table 2).

Table 1: World supply/demand / 1,000 60kg bags

(October to September)	2014	2015	2016	2017	2018 (estimates)
Production	150.511	156.051	157.293	162.853	168.869
Arabica	87.516	93.273	99.531	100.877	102.683
Robusta	62.879	62.749	57.716	61.902	66.041
Africa	17.123	16.804	17.759	17.649	17.986
Asia & Oceania	46.365	49.343	45.341	46.346	48.462
Mexico and Central America	16.093	16.036	19.274	21.634	21.468
South America	70.930	73.858	74.920	77.224	80.953
Consumption	151.002	155.452	158.283	161.422	164.819
Exporting countries	46.666	47.548	48.458	49.648	50.307
Importing countries	104.336	107.904	109.825	111.774	114.512
Africa	10.706	10.862	11.147	11.476	11.820
Asia & Oceania	31.596	32.911	34.244	34.621	35.889
Mexico and Central America	5.230	5.305	5.174	5.253	5.263
Europe	50.951	52.140	52.043	53.155	53.967
North America	27.363	28.934	29.559	29.941	30.606
South America	25.116	25.300	26.116	26.976	27.274
Balance production/consumption	-491	589	-989	1.431	4.050

Source: International Coffee Organization 2019b:7

countries is very low (Table 1).

Coffee production

Although Ethiopia is often named the 'cradle of coffee', Ethiopian production nowadays is much lower than that of the two giants on the market, Brazil and Vietnam. Ethiopia more than doubled coffee production since 1990, but market

Global coffee exports

The figures on coffee exports show a different ordering, as some coffee producing countries have high local consumption while others do not. Despite having a very high national consumption,

Table 2: Coffee production in the 15 most important producing countries / 1,000 60kg bags

Crop-year	1990/91	1995/96	2000/01	2005/06	2010/11	2015/16	2016/17	2017/18
Brazil	27.286	18.060	31.310	32.933	53.428	52.426	56.764	51.000
Vietnam	1.310	3.970	14.841	13.842	20.000	28.737	25.540	29.500
Colombia	14.268	12.963	10.400	12.564	8.523	14.009	14.634	14.000
Indonesia	7.441	4.573	6.987	9.159	9.129	12.535	11.491	10.902
Honduras	1.568	1.909	2.667	3.204	4.331	5.786	7.457	8.349
Ethiopia	2.909	3.165	3.115	4.779	7.500	6.714	7.297	7.650
India	2.829	3.717	5.020	4.567	5.033	5.800	5.200	5.840
Uganda	1.955	3.244	3.401	2.175	3.267	3.650	4.962	5.100
Peru	937	1.871	2.676	2.489	4.069	3.304	4.223	4.280
Mexico	4.674	5.300	4.815	4.225	4.001	2.903	3.781	4.000
Guatemala	3.271	4.002	4.940	3.676	3.950	3.410	3.684	3.800
Nicaragua	461	985	1.572	1.432	1.638	2.133	2.575	2.500
Costa Rica	2.562	2.844	2.419	1.653	1.614	1.440	1.372	1.560
Côte d'Ivoire	2.940	2.532	4.846	2.099	837	1.289	817	1.300
Kenya	1.485	1.664	1.002	660	641	789	783	790
Total	93.102	87.056	113.673	111.803	139.486	153.561	159.047	158.560

Source: International Coffee Organization 2019d

25% of the global exports come from Brazil, and Vietnam's exports with the relatively low domestic consumption are only slightly lower.

With its high local consumption, Ethiopia exports nearly 4 million bags of coffee per

year, less than 4% of global exports. It is the eighth biggest exporter of coffee producing nations (Table 3).

The market is dominated by Brazil and Vietnam; the two countries produce

Table 3: Coffee exports of the 15 most important producing countries / 1,000 60kg bags

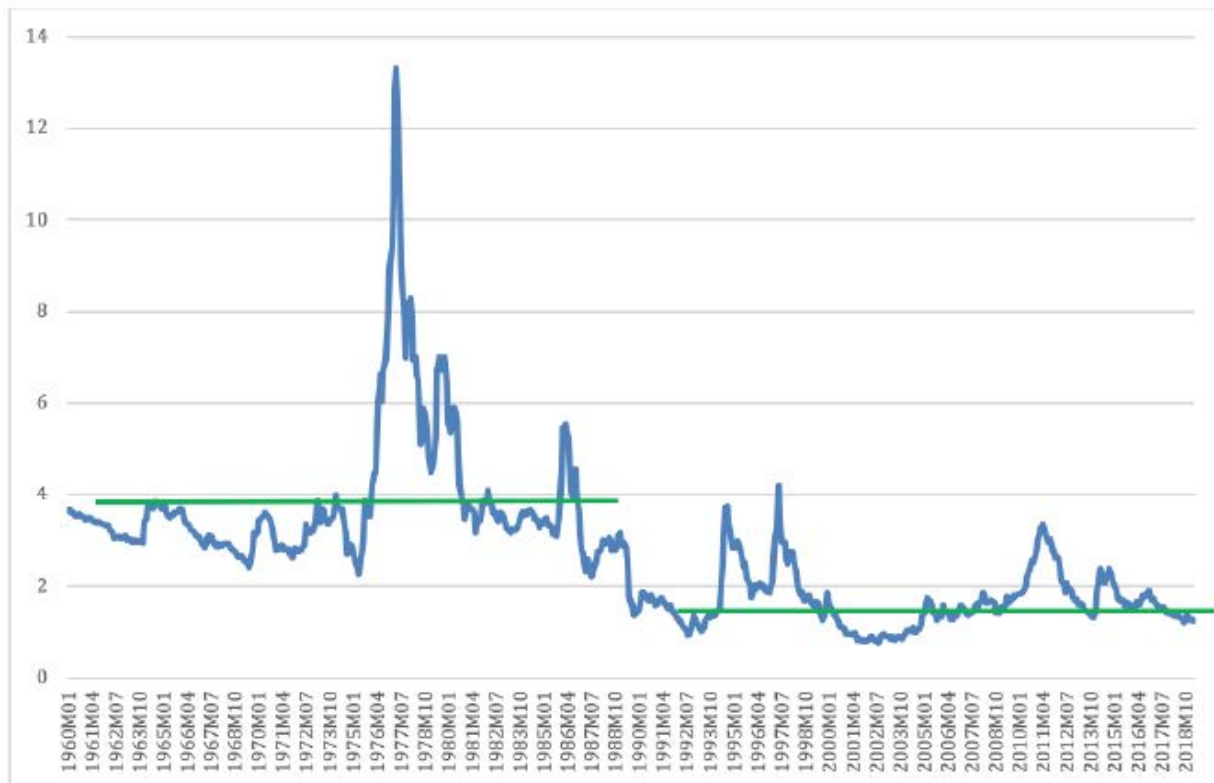
Crop-year	1990/91	1995/96	2000/01	2005/06	2010/11	2015/16	2016/17	2017/18
Brazil	19.086	7.960	18.110	17.395	34.296	31.918	35.539	29.003
Vietnam	1.160	3.688	14.440	13.042	18.417	26.437	23.140	27.000
Colombia	13.033	11.463	9.000	11.164	7.215	12.337	12.898	12.200
Honduras	1.380	1.748	2.437	2.974	3.996	5.421	7.087	7.974
Indonesia	6.199	3.130	5.311	6.659	5.796	8.035	6.891	6.202
Uganda	1.885	3.164	3.259	2.025	3.063	3.416	4.722	4.855
Peru	747	1.671	2.476	2.269	3.819	3.054	3.973	4.030
Ethiopia	1.709	1.610	1.101	2.170	4.117	3.014	3.572	3.900
India	1.926	2.884	4.020	3.230	3.233	3.550	2.900	3.490
Guatemala	2.971	3.692	4.640	3.376	3.610	3.020	3.294	3.405
Nicaragua	427	873	1.398	1.245	1.435	1.919	2.358	2.282
Mexico	3.300	4.121	3.510	2.500	1.647	574	1.421	1.600
Costa Rica	2.187	2.469	2.044	1.278	1.206	991	1.042	1.207
Côte d'Ivoire	2.890	2.482	4.529	1.782	520	972	500	983
Kenya	1.435	1.614	952	610	591	739	733	740
Total	73.593	64.307	86.916	79.151	99.639	109.902	114.596	112.949

Source: International Coffee Organization 2019c

roughly 50% of all exports of Arabica and

strongest influence. Market participants in

Figure 1: Two Historical Price Setting Regimes: ICA Quotas and Post-ICA Quotas (ICO Mild Arabica, \$US/pound 2018 Prices)



Source: Sachs et al. 2019:20

Robusta coffee.

Even if only Arabica coffee is considered, the Ethiopian production is small compared to Colombia and specifically Brazil. In the harvesting season 2018/19, Brazil produced approximately 48 million bags of Arabica coffee, Colombia 14.3 million bags and Ethiopia 7.3 million bags; global production was 97 million bags. Ethiopia's market share for Arabica coffee production is roughly 7.5% (USDA-FAS 2019a:6), but might be significantly higher if local consumption traded on informal ways is included (see chapter 6.2).

Huge influence of Brazil and Vietnam

This relatively small global market share weakens the Ethiopian negotiating position on the coffee market concerning prices: the production in Brazil has the

Ethiopia are well aware of the fact that they compete against the Brazilian production system which has a very different structure (Int. 13; Int. 15). This trend is unlikely to change soon, especially for the Arabica varieties. Due to rising productivity levels, Brazil has been able to increase production. Market experts therefore expect the price of standard Arabica coffee beans to remain at the low level they currently have, as it roughly corresponds to the production costs on plantations in Brazil (Sachs et al. 2019:9).

During the last three decades, the price of green coffee has fallen massively. This is particularly true for the period since the end of the global International Coffee Agreement, which until 1989 sought to keep prices stable and high by means of fixed supply quotas for countries limiting the areas under cultivation. Although stability could never be achieved, the

inflation-adjusted coffee price between 1960 and 1989 was basically about twice

as high as in the three decades that followed (Sachs et al. 2019:20; Fig.

3. Ethiopia: General economic and social data

Ethiopia is possibly the oldest independent country in the world, with the first signs of a monarchic society in the first century BC. Apart from a short period of Italian occupation from 1936-1941 it did not fall under colonial oppression. In 1974, a socialist state was established by a military junta. It was overthrown by rebel forces in 1991. In 1994, a new constitution was established and first multiparty elections were held in 1995 (CIA n.d.).

One of the most severe recent events influencing the political situation in Ethiopia was the drought in 2015/16. Net cereal production decreased by 10-20%, which severely escalated food insecurity. The following famine was among the reasons for the increasing discontent within the population. This culminated in anti-governmental protests beginning in 2015 which finally led to the resigning of Prime Minister Hailemariam in 2018. He was replaced by Abiy Ahmed Ali (CIA n.d.; Dorosh and Rashid 2015). For his efforts to improve the relationship with the neighbouring country Eritrea, a former province of Ethiopia which split up after a long war, Ali was awarded the Nobel Peace Prize in 2019.

Widespread poverty

In Ethiopia, around 105 million people live on an area of 1 million square kilometres. Despite a significant increase during the last decade, in 2017 the Gross domestic product (GDP) per capita of 1,730 (2011 PPP \$) was only half of the average up Sub-Saharan Africa (3,489 2011 PPP \$) (UNDP 2018: 60-61).

In recent decades, Ethiopia has made considerable progress in reducing poverty. This is reflected in the Human

Development Index (HDI) drawn up by the United Nations Development Programme (UNDP). Just how serious the country's problems still are can be seen from Ethiopia being ranked 171 out of 188 countries under the HDI. At the same time, statistics show that there have been significant improvements in some areas. For example, the life expectancy of 65.9 years is well above the average for sub-Saharan Africa. Nonetheless, figures for the duration of schooling and income levels are well below average (UNDP 2018:24).

Going beyond the HDI, the UNDP has published an index that captures the multidimensional facets of poverty. According to this index, 83.5 % of the population of Ethiopia is considered poor. Ethiopia thus has one of the highest rates of multidimensional poverty worldwide (UNDP 2019:19).

The situation in the country is aggravated by the fact that there is great inequality between men and women. The index of the UNDP ranks Ethiopia 173 out of 189 countries covered (UNDP 2018:24).

Regarding nutrition, progress has been made in recent years. The percentage of children being severely underweight is still at 6.6%. Furthermore, 21.4% of the population is undernourished, which is better than the Sub-Saharan average of 23% but still twice as much as the world average of 11.2% (USAID n.d.).

Approximately 26% of all households suffered from a food shortage in the 12 months prior to the survey in 2015/16, with rural areas being affected more than twice as often. Regional differences show that the problem is most prevalent in the Southern Nations, Nationalities and Peoples' Region (SNNPR) with 42% of households reporting the issue (CSA Ethiopia 2017:49).

Child labour is widespread, especially in rural areas and thus probably also in coffee cultivation. It is estimated that 49% of children in rural areas work in the 5-17 age group (urban areas: 15%). The majority of working children work within their own families on their parents' farms. The majority of children (63%) say that their motivation for working is to help in the household, but almost a third (28%) also contribute to household income (CSA Ethiopia / ILO 2018:XII). In the years 2012-2017 more or less all children of the relevant age group were enrolled in primary school, but only 35% of the affected age group visited secondary school (average Sub-Saharan Africa: 46%) and 8% had access to tertiary education (Sub-Saharan Africa: 9%). Many children leave school young, as the dropout rate from primary school is 61.8% (UNDP 2018:56–57). There is no information available on the prevalence of child labour in the coffee sector, neither for Ethiopia nor in general. This is surprising, as for many comparable products such as cocoa, most producing countries have a well-known risk of child

labour. An article published in August 2019 registers the lack of data on the topic: "Coffee child labour: Under-researched and 'undetected'" (Nieburg 2019).

Agriculture is backbone of the country

68% of the employed population work within the agricultural sector (UNDP 2018: 64). 98% of rural households engage in agricultural activities (CSA Ethiopia 2017:28).

The population of the highlands covering most of the middle and western parts of Ethiopia lives in small villages surrounded by farmland, while in the lesser populated areas of the east a major part of the population are pastoralists with shifting location of their camps (CSA Ethiopia & ILO 2018:9).

Most households have to work with land holdings of less than 2 ha and feed a family of roughly 5 people from this land (Table 4)

Table 4: Key indicators of rural (~ =agricultural) households in Ethiopia

Average size of rural households	5.2
Average number of fields per household	11.5
Average field size (ha)	0.13
Average land holdings (ha)	1.48
Average cultivated land holdings (ha)	1.12
Households that own the land (%)	95.2
Percentage of fields cultivated (%)	70.1
Percentage of fields for homestead (%)	10.7
Percentage of fields for pasture (%)	8.1

Source: CSA Ethiopia 2017:29

4. Coffee production in Ethiopia

4.1. Relevance of coffee in Ethiopia

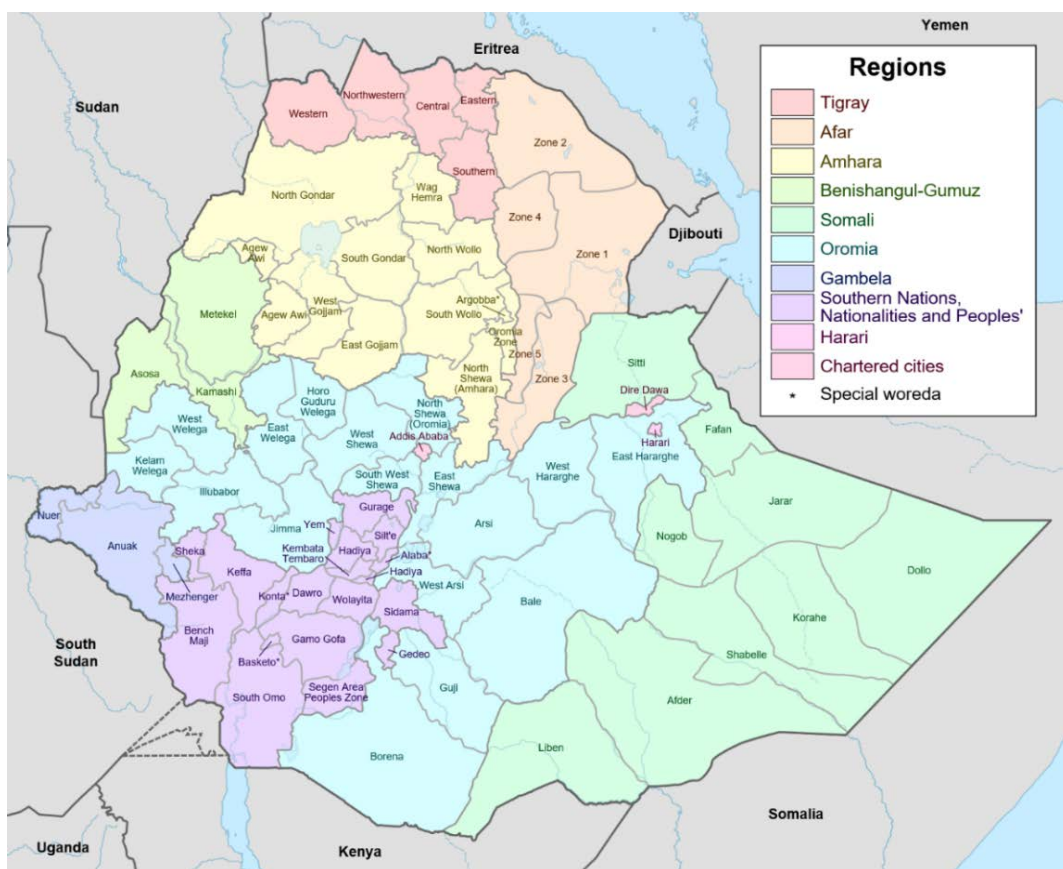
The coffee growing areas in Ethiopia are located in different regions of the country, but most of the coffee comes from the south-western areas. The Ethiopian Coffee and Tea Authority states that more than 60% of Ethiopia's production comes from the Jimma and Sidama regions, with other regions including Wellega, Yirgacheffe, and Harar contributing the rest (Ethiopian Coffee and Tea Authority 2018:13; Fig. 2).

Figure 3 shows the main coffee growing areas in Ethiopia. All bulk coffee traded within the formal value chain is brought to Addis Ababa, where the coffee is sold via the ECX.

The development of the coffee sector has a tremendous influence on the overall economy of Ethiopia. The Ethiopian Coffee and Tea Authority summarizes the importance and the structure of the sector as follows:

"Coffee is the backbone of the Ethiopian economy and the country's leading export, contributing between 25 and 30 percent of commodity export revenues each year. Coffee also accounts for around 5 percent of Ethiopia's gross domestic product and supports the livelihoods of up to 25 percent of Ethiopians. An estimated 2 to 5.2 million

Fig. 2: The regions and zones of Ethiopia

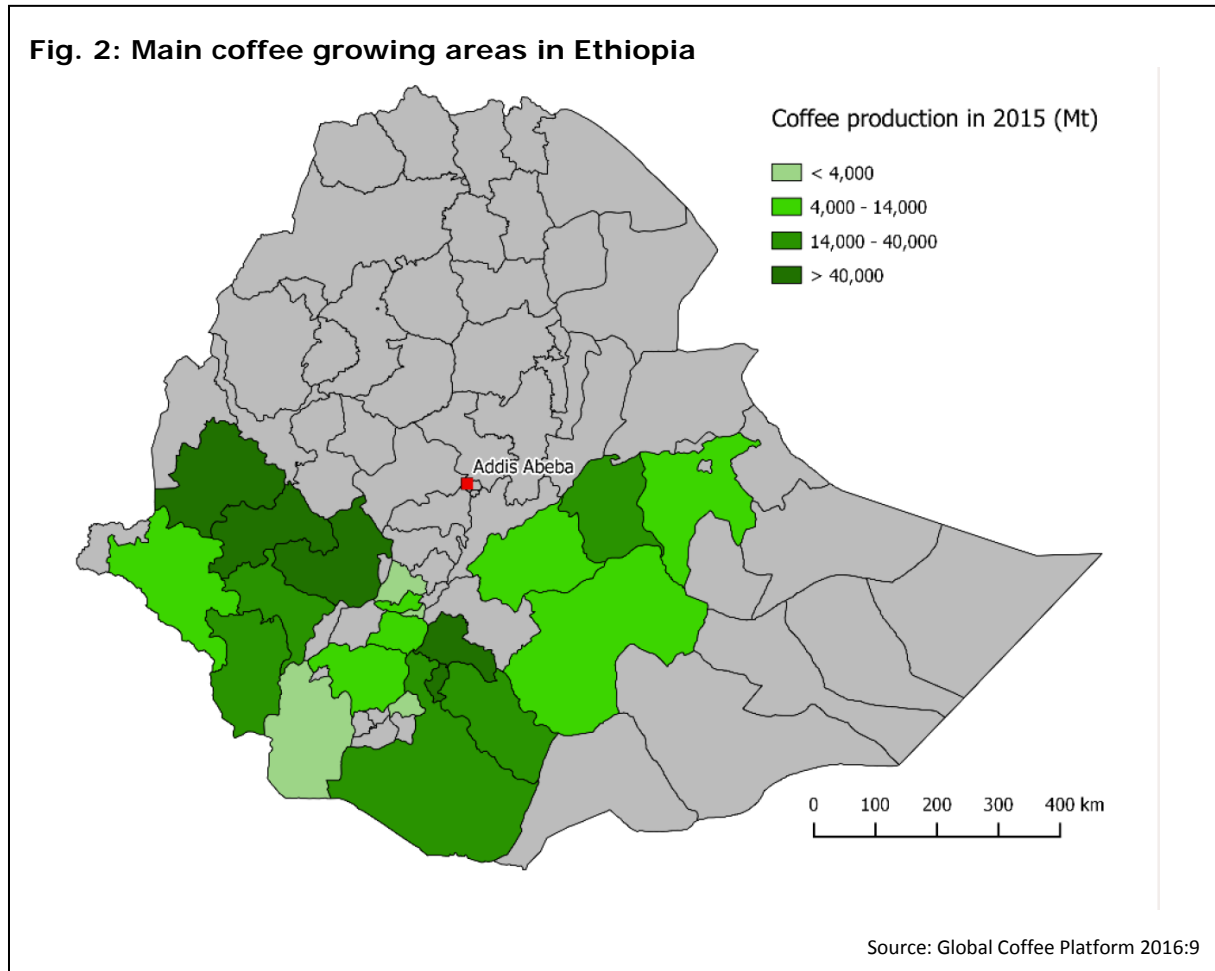


Source: https://upload.wikimedia.org/wikipedia/commons/thumb/8/80/Map_of_zones_of_Ethiopia.svg/948px-Map_of_zones_of_Ethiopia.svg.png

smallholder farmers across Ethiopia's various growing regions contribute over 90 percent of the country's production" (Ethiopian Coffee and Tea Authority 2018:13).

are involved in coffee production (Ethiopian Coffee and Tea Authority 2018:13), while the Global Coffee Platform in one survey works with the number of 1.2 million farmers, of which more than 60% have less than 0.5 ha of coffee (Global Coffee Platform 2016:15).

Fig. 2: Main coffee growing areas in Ethiopia



Source: Global Coffee Platform 2016:9

A problem concerning all figures about the Ethiopian coffee market is the lack of a common definition of the term "coffee producer". Due to the high cultural relevance of coffee, many farmers own at least a small number of coffee trees, mainly for consumption within the wider family. This raises the question of who should be counted as a coffee producer. Is a farmer who owns a few coffee trees for own consumption a coffee producer that should be considered in the statistics?

The Ethiopian Coffee and Tea Authority estimates that 2 - 5.2 million households

In another survey, the Global Coffee Platform calculates with 2 million farmers (Global Coffee Platform 2018:6).

According to market experts, all these figures are true in some way or another. It might be possible that 5 million households own coffee trees, but many use them only for their own consumption. Therefore, the figure of 2.4 million farmers who actually sell coffee on the domestic market to traders for export seems to be realistic (Int. 8).

USDA estimates that presently 535,000 ha are planted with coffee and that the production in the harvesting season 2018/19 adds up to 7.25 million 60 kg bags (435,000 tons). Of these, according

Table 5: Coffee exports of Ethiopia in the harvesting year 2017/18

	Tons	in 1,000 US-Dollar	% of volume
Germany	51.634	145.101	22
Saudi-Arabia	37.406	120.993	16
USA	26.657	140.900	11
Japan	23.461	69.192	10
Belgium	17.410	67.906	7
Sudan	14.558	39.839	6
Italy	10.893	39.839	5
Korea Republic	10.060	41.618	4
France	8.816	26.642	4
UK	4.651	23.211	2
Australia	3.854	16.532	2
China	2.712	11.746	1
Russia	3.186	12.099	1
Jordan	2.467	9.181	1
Greece	1.267	3.890	1
Total	233.576	916.983	100

Source: USDA-FAS 2019b:5

to official numbers 3.98 million bags (238,800 tonnes) were exported (USDA-FAS 2019b:6).

These figures are disputed. The low productivity per hectare suggests that planted area might be much bigger than the officially reported figure, perhaps up to 1 million ha (Herhaus, Tigne and Teketay 2014:22). Figures on local consumption might also be underestimated (for details see chapter 5.5).

During the last decades, Ethiopian coffee production grew relatively slowly but steadily compared to other coffee producing countries. The average growth rate was 3.9% per year (2000 – 2015) (Global Coffee Platform 2016:8).

Table 5 shows that the most important export destination for Ethiopian coffee is Germany, followed by Saudi Arabia, Japan, USA, Belgium and Sudan (USDA-FAS 2019a:5). The table is an indicator for the complex structure of Ethiopia in coffee exports, as it gives a first insight on the preferences of the consumers. Germany for example paid roughly 2,800 US-Dollar per ton exported coffee, Saudi

Arabia 3,200 US-Dollar and the USA nearly 5,300 US-Dollar. There seem to be remarkable differences between the qualities preferred by consumers in different destination countries.

Coffee producing households

There is not much data available specifically on the typical coffee producing household. One large survey took place in 2014. Researchers collected data from 1,600 households across the country in intensive interviews. Afterwards, they published a series of papers on different aspects of the sector (Minten et al. 2014; Minten et al. 2015a; Minten et al. 2015b; Minten et al. 2018; Minten et al. 2019; Mitiku, Nyssen and Maertens 2018; Tamru and Minten 2018).

Other researchers focused on specific regions (Mitiku et al. 2017; Mitiku et al. 2018) or even on subregions (Gebre 2017).

The results of these papers show that more than 90% of all households are headed by a male person. Average family

sizes differ among regions ranging from 5.3 to 7.2 household members (Minten et al. 2015a:9; Mitiku et al. 2017:9; Fig. 6). The household economy is diversified. Income sources in the different regions varies significantly. The same is obvious for the percentage of coffee income measured against total income of the household. The figures range from 30%

4.2 Different production models

Traditionally, coffee was harvested in forests. To intensify production, many farmers changed the landscapes to semi-forest production. Further intensification of production led to growing coffee in gardens. Additionally, there are some large coffee plantations.³

Forest coffee

Traditionally, coffee was harvested in natural forests, where wild coffee grows under the cover of other trees. Farmers harvest what they find and invest little to no labour in the maintenance of these forests. Harvesting coffee cherries by hand is labour-intensive, as there might also be distances to cover between coffee trees.

According to estimates, 5% of the Ethiopian coffee is produced in forests.

Semi-forest coffee

To increase productivity, farmers cut down part of the non-coffee trees, plant additional coffee trees and weed the area. These agroforestry systems are widespread and can have very different structures. Part of the semi-forest coffee is produced with a relatively low intensity under a canopy of other trees, but there are other areas with up to 3,500 coffee trees per hectare and a significantly reduced canopy.

(Harar) to 50% (Sidama), but most regions are near to a level of 40% (Minten et al. 2015a:9; Mitiku et al. 2017:9).

This figure is in line with the numbers of the Global Coffee Platform, which estimates an average of 40% of the income of farmers coming from coffee production (Global Coffee Platform 2016:21)

Approximately 35% of the coffee is produced in semi-forest fields.

Garden coffee

The next step to intensify coffee production is to manage it more intensively in so-called gardens. Farmers plant coffee trees and often intercrop these with other crops or trees. The gardens are usually small. Recommended are 4,000 trees per hectare.

Approximately 50% of the Ethiopian coffee comes from coffee gardens.

Plantation coffee

Coffee can be produced by smallholders or large-scale landowners with intensive production methodologies. Large-size commercial farms, as they are widespread for example in Brazil, are not very common in Ethiopia.

It is estimated, that 10% of the coffee production comes from plantations.

A clear distinction between the first three systems might be difficult for two reasons. Firstly, developing forest areas into semi-forest areas or converting semi-forest areas into coffee gardens is a step-by-step process taking place in many forests and semi-forests. Secondly, farmers might produce a part of their coffee in forests and the rest in semi-

³ Sources for the following differentiation of production models: (Minten et al. 2014:3; Duguma 2017:3; Wiersum et al. 2008:13; (Wiersum et al. 2008; Int. 8; Int. 16. These studies estimate that 10% of the coffee origins from forest coffee production and less than

10% from plantations. Due to the conversion of forests systems to semi-forest areas and in a parallel process the modernisation of large-scale plantations which leads to higher productivity, the author uses the figures estimated by an expert (Int. 8).

forest areas or gardens (Wiersum et al. 2008:17). Many areas which were formerly used for forest coffee production are now mostly either semi-forest areas or even coffee gardens or fields with other crops (Int. 19; Int. 20; Int. 21; Int. 22; Int. 23; Int. 24; Int. 25; Int. 26). Productivity per coffee tree is very low in Ethiopia. This could be improved by a

better service structure for farmers. Presently, there is no efficient infrastructure supported by the state or state agencies to distribute high-yielding seedlings to intensify the production and other inputs, to train farmers in good agricultural practices et cetera (Int. 13).

4.3 Average farm size and yields

The different farming methods combined with a lack of reliable data make it very difficult to calculate average field sizes, yields and production costs. Information from farmers on field sizes and productivity are strongly influenced by different ways of producing coffee. Farmers who use a couple of hectares of forest which contain a low number of coffee trees might have “fields” which are much larger than farmers who own a coffee garden and manage this with high labour input. This leads to study results which vary between 0.5 and 1 ha used for coffee (Table 6).

Table 7: Total farm size

- 1.70 ha countrywide, based on 1600 surveys (Minten et al. 2015a:6)
- 2.84 ha, Jimma and Kaffa zone (Mitiku et al. 2017:9)

The number of cooperatives has increased in recent years, but currently only about 10% of the farmers are organised in cooperatives or unions (Global Coffee Platform 2016: 15).

Table 6: Size of fields used for coffee production according to different sources:

- 0.5 ha countrywide (Ethiopian Coffee and Tea Authority 2018:18)
- 1.01 ha, countrywide, based on 1600 surveys (Minten et al. 2015a:6)
- 0.89 ha, Jimma and Kaffa zone (Mitiku et al. 2017:9)
- 0.67 ha, countrywide (Global Coffee Platform 2016: 15)
- 0.5 ha, countrywide (Global Coffee Platform 2018:12)

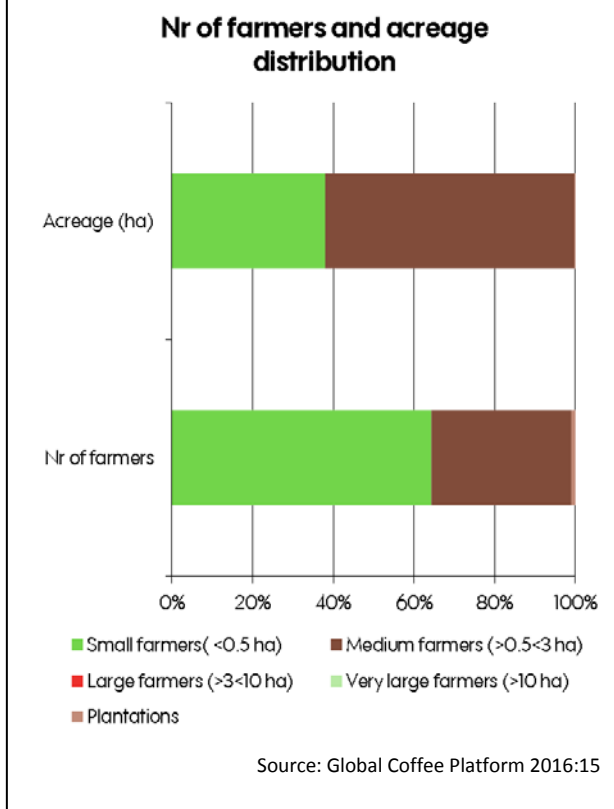
The difference concerning total farm size is also significant. This farm size has a significant influence on the opportunity of farmers to either increase coffee production or use land for other crops. The few available figures suggest that half or even less of the farm land is used for coffee (Table 7).

Yields per hectare

Statistics on average yields per hectare need to be interpreted carefully. One problem is the above mentioned fact that farmers may produce in very different agricultural systems. Another problem is that studies use beans in different stages of processing to measure yields. Most of the farmers in Ethiopia dry their beans after harvest and sell these. Others sell fresh red cherries. Internationally,

Approximately 60% of the farmers work on a field size of less than 0.5 ha; less than 40% of the total area planted with coffee trees (Fig. 3). There is only a small number of larger plantations, about 200.

Fig. 3: estimates on the size of the Ethiopian coffee farmer



yields per hectare are measured by kilograms of green coffee beans.⁴

As for average field sizes, there is a huge range of figures on yields per hectare:

- 260 to 700 kg/ha according to the Global Coffee Platform (Global Coffee Platform 2016: 16).
- 378 kg/ha according to the results of a survey (Global Coffee Platform 2016: 16).
- 634 kg/ha according to the datasets of the Central Statistical Agency in the harvesting season 2015/16 and 748kg/ha in the year before (Central Statistical Agency Ethiopia CSA 2016a: 14)

The figures of the CSA are significantly higher than these of other sources and might not be reliable. Concerning regional differences, the data are interesting

despite these insecurities. According to the CSA, the yields differ significantly between regions. In the Amhara region, for example, the yield was 358 kg/ha, whereas farmers in the Oromia region harvested 619 kg/ha, and farmers in SNNPR 696 kg/ha (Central Statistical Agency Ethiopia CSA 2016a: 19–92).

Yields of plantations differ on a year-to-year basis due to natural reasons, as many coffee trees in Ethiopia have bi-annual production cycles. Surveys show that this be due to weather patterns and climate change. Many farmers claim that the number of years with low harvest has increased as compared to years with good harvest (Minten et al. 2015a: 8).

Yields in Ethiopia are low compared to other production countries, especially to these of Latin American producers. Coffee farmers in Brazil have the highest average yields of Arabica coffee and harvest on average 1,600 kg/ha (Fig. 4). But Brazil has a completely different production structure with large-scale plantations and high intensity farming. Compared to neighbouring countries like Tanzania and Kenya, productivity in Ethiopia is not that different (Global Coffee Platform 2017: 6).

⁴ Conversion rates:

6 kg of red cherries needed to produce 1 kg of green coffee.

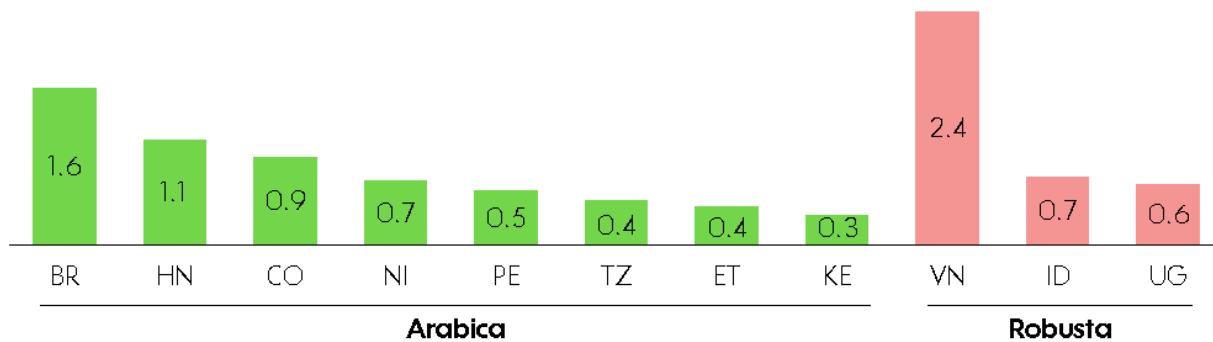
60 kg green coffee represents:

- 120 kg dried cherry

- 75 kg parchment
- 50.4 kg roasted coffee

Source: <http://www.thecoffeeguide.org/coffee-guide/world-coffee-trade/conversions-and-statistics/>

Fig. 4: Yields in coffee producing countries - tons per hectare of green beans



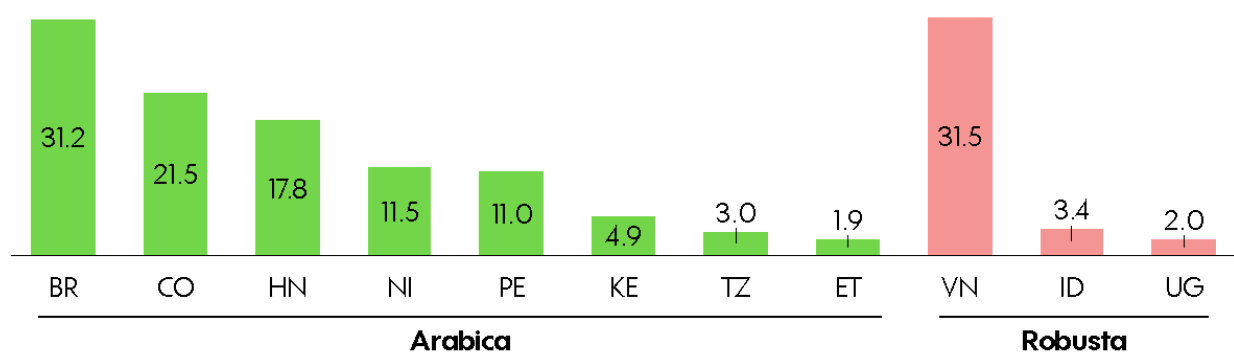
Source: Global Coffee Platform 2017:6

4.4 Low production costs

The Ethiopian Coffee and Tea Authority praises the low production costs in Ethiopia (Ethiopian Coffee and Tea Authority 2018:14–15). Indeed, production costs are very low, even when compared to neighbouring countries. According to the Global Coffee Platform, farmers spend on average 190 US-Dollar

per hectare, compared to 300 in Tanzania or 3,120 in Brazil (Global Coffee Platform 2017:7; Fig 5). According to a survey conducted in 2014, 1% of farmers in Ethiopia use herbicides and 2% use fungicides. Fertilizers are also either not available or not affordable for small scale farmers (Minten et al. 2015a:8).

Fig. 5: Cost structures in coffee producing countries – hundreds US-Dollar/ha



Source: Global Coffee Platform 2017:7

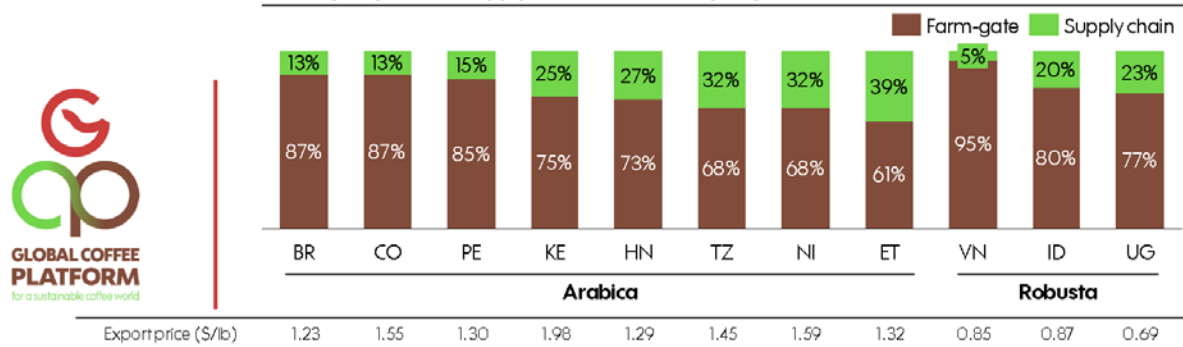
4.5 High transport and processing costs

While coffee from Ethiopia might – at least partly – have the potential to be sold as high quality product, the average price

market as there is no transport available (Int. 19).

For example, the transport of coffee from the Awasa Region to Addis Ababa

Fig. 6: Export Price and farm gate price level (US-Dollar/lb)

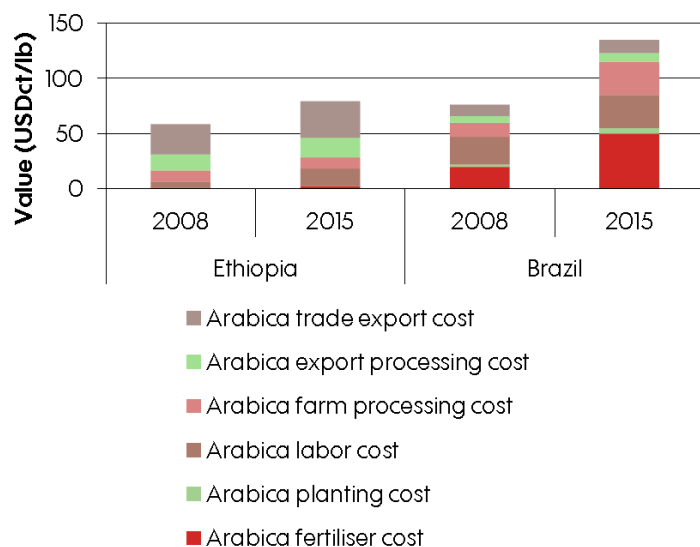


Source: Global Coffee Platform 2017: 9

received on the world market in 2017 was only 1.32 US-Dollar/lb, which is a very low premium compared to the bulk coffee from Brazil, and significantly less than coffee exported from Tanzania and especially Kenya. One reason for this is the complicated Ethiopian trading structure, which is cost-intensive (see chapter 5). Inefficient structures also influence the farm gate price. This all leads to a farm gate price which is very low compared to the value in other countries, and only 61% of the FOB price (Global Coffee Platform 2017: 9; Fig. 6). The insufficient road infrastructure has a massive impact on the cost structure and on the farm gate price (Int. 13). Cooperatives in remote areas have difficulties to access members and buy their coffee. Transport to collecting stations partly takes place on horseback or with donkeys. Even if roads exist, many of these are not usable during the rainy season (Int. 19). Coffee that could be graded as specialty coffee is sometimes sold on the local

(distance 300 km) may cost as much as the transport from Addis Ababa to Djibouti (800 km) due to the bad road infrastructure in the coffee growing region (Int. 25). Transport costs from the Tepi region to Addis Ababa might add up to 20% of the export price (free on board price – FOB), and the price to transport

Fig. 7: Cost structure Arabica coffee in Ethiopia and Brazil, US-Dollar-Cent per lb



Source: Global Coffee Platform 2016: 19

the coffee to the harbour in Djibouti comes on top (Int. 15).

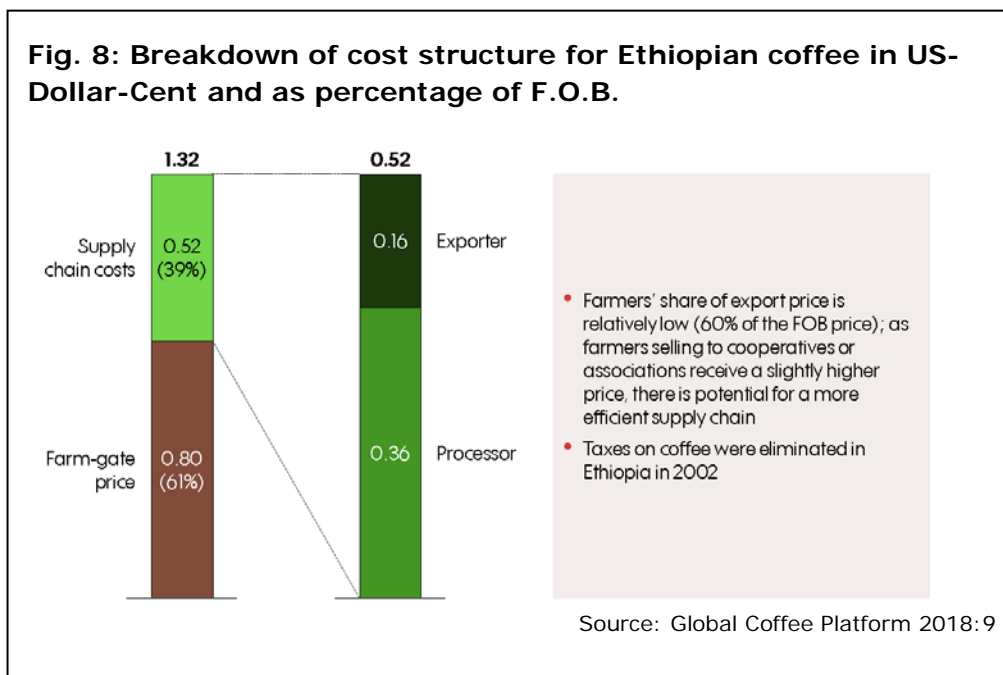
Processing of coffee beans, either in washing stations or the hulling of sun-dried beans, often takes place in small quantities, which is by far not as efficient as processes in other countries, using bigger machines and processing much higher volumes.

A comparison with the coffee sector in Brazil shows the problems in the cost structure of coffee in Ethiopia. While on-farm production costs are lower due to nearly non-existent costs for fertiliser and lower labour costs, costs of processing and exports are much higher than in

Brazil (Global Coffee Platform 2016:19; Fig. 7).

Tax has no influence on the low farm gate price, as Ethiopia abolished the export tax on coffee in 2002 in response to a major coffee price crisis (Global Coffee Platform 2016a:12).

A breakdown of the post-farm costs shows that most of the difference between export price for green beans and farm gate price goes to processors. Exporters also get a significant part of the export price (Global Coffee Platform 2018:9; Fig. 8; details strategic problems of the sector see Annex 1).



5. The coffee trading system in Ethiopia

All coffee grown in Ethiopia is classified as Arabica. Due to a high genetic variety of coffee plants and different harvesting post-harvest management practices, tastes and quality may differ significantly across and even within the regions. Standard quality coffee from Ethiopia has a specific role on the international market.

The unique taste of Ethiopian coffee might be an advantage in some areas, but on the other hand many customers are not used to the specific taste of Ethiopian coffee. This makes it difficult to trade it as single origin brand in many countries,

including Germany, except for in niche markets (Int. 2).

Ethiopian coffee is usually darker and has a stronger taste than Arabica varieties from other regions. It is therefore often used to blend with lower quality coffee. Despite this specific role, Ethiopian producers should be aware that many roasters could replace their coffee by varieties from other regions if companies have easier access, perhaps even cheaper alternatives. The Ethiopian coffee might be special, but if price and marketing environment deteriorate, buyers are able to avoid the Ethiopian market (Int. 1; Int. 13; Int. 2).

5.1 Small scale buyers at farm level

Originally, farmers sold to collectors ("Sebsabiwoch" or "Akrabis" or local traders), who bought either red cherries or dried coffee beans. Some of these traders had fixed collection points, others moved around. These collectors sold their beans to processors ("Azegajoch") who often pre-financed the business of their suppliers. The *Azegajoch* processed the beans either to washed or sun-dried beans, collected bigger quantities and sold them to exporters.

Nowadays, coffee must be collected at Primary Market Centres (PMC), which were introduced in the market reform process after 2008. In reality, collectors and processors are still running the business in many regions. Despite existing regulations, they collect the coffee and bring it to the PMCs (Herhaus et al. 2014:14; 63-66).

The old buying system survived not least because the PMCs are often far away from the farmers, a problem specifically in remote regions (Ethiopian Coffee and Tea Authority 2018:97).

Two other options exist to sell coffee. The first is large-scale plantations, who as

previously mentioned produce approximately up to 10% of the Ethiopia in coffee production, and can sell directly via the commodity exchange or to domestic and abroad markets. The second option, for some small-scale farmers, is cooperatives, who have the potential to play a significant role in the coffee trade.

Main interest is quantity

Many farmers pick cherries before they are ripe and sell these because they are short of cash. This compromises the potential quality of the coffee (Ethiopian Coffee and Tea Authority 2018:76).

All coffee has to be graded by the ECX which decides which part of the coffee goes onto the local market or is qualified for export (see chapter 5.3).

Despite the fact that improved harvesting procedures could increase the quality of the coffee and lead to higher prices, the present market structure is not rewarding transparent, quality-oriented value chains. The PMCs are mainly interested in

quantities and not in specific qualities. Therefore, farmers are usually not getting a higher price for delivering better qualities of coffee, and have no incentive to improve agricultural practices and post-harvest processing of beans. This was different when wet mills and hulling stations could search for lucrative markets by themselves without trading through the ECX. They were interested in higher profits which could be obtained by improving the quality of the coffee. Some of them had long-term relationships to farmers delivering coffee with clear incentives to improve quality (Ethiopian Coffee and Tea Authority 2018:76-77; Herhaus et al. 2014:66; Int. 14).

Nowadays, only the small quantities of coffee handled through direct trading systems are receiving higher prices for better qualities. Reforms in the sector (see chapter 5.3) might improve the situation.

Another problem which occurred after the changes in 2008 is the lack of clear responsibilities within the value chain (except when traded by unions and private estates). The first quality controls for standard coffee take place in the PMCs, but before that the coffee already goes through several steps of the value chain. After this, the coffee gets stored in warehouses (where unfavourable conditions might compromise quality) or

is transported directly to Addis Ababa and traded via the ECX. If the quality deteriorates along the way, or if the grading was deficient, only the exporter runs the risk as he is the sole identifiable entity for the importers (Herhaus et al. 2014:67–68).

Local traders and exporters play a significant role within the value chain. They clean, sort and de-hull the beans, which results in beans losing up to 20% of their weight. Additionally, local traders and exporters have to invest in transport and logistics. This means that they have to rent trucks which might be waiting for days in warehouses, and sometimes they have to bribe customs to speed up processes (Int. 25).

Farmers can always sell the coffee to local traders, who are present in all coffee growing regions. Some farmers have cooperatives as a second option, but still sell most of the coffee to traders (Int. 18; Int. 2; details see chapter 5.2).

Washing and hulling of the beans is usually organised either by traders or – for a small percentage of the farmers – by cooperatives and unions. The only exceptions are the big private plantations. Some of these also sell to traders, others have the equipment to process the coffee on the estate and the connections to sell it directly to domestic and foreign customers.

5.2 Unions and cooperatives

In all coffee producing regions farmers organise themselves into cooperatives. These cooperatives form unions which usually serve as an umbrella organisation for coffee producers in one region.

The member counts of cooperatives range from less than 50 to more than 1,000 farmers per cooperative; the accumulated membership of the unions ranges from a few thousand farmers to a few hundred thousand. Cooperatives and unions have the aim to support farmers to achieve a better price for the product. Additionally,

they assist them to improve quality and productivity (Int. 16; Int. 18; Int. 19; Int. 20).

Over the last decades, the Ethiopian government has promoted the formation of cooperatives and unions in the hope that this would be a way to improve the situation of farmers. According to official statistics, 10% of the farmers are members of cooperatives (Ethiopian Coffee and Tea Authority 2018:13).

Some unions are of the opinion that the government does not support them

sufficiently. They suspect that this might be a political decision because strong unions and strong cooperatives could develop political power, at least on a regional level. During the political crisis in 2017, the government even tried to weaken unions and NGOs by forcing them to pay financial fines (Int. 17).

Well-functioning and powerful unions set prices for their members, albeit within the limits of the world market prices. As long as the union is able to buy the coffee from its members, competing traders cannot go below the price offered by unions respective their cooperatives. This might have an impact on all regions where members have their farms, and the impact is not limited to members (Int. 17).

Depending on the set up of the cooperative, the drying of the beans is done either on the farm or on premises of a cooperative. In other regions, cooperatives not only have central facilities to dry the beans, but also washing stations or facilities to hull the beans. The cooperatives sell as much coffee to the union as it wants to take. The unions collect the coffee in own warehouses; all big unions have such warehouses in Addis Ababa (Int. 16; Int. 17).

As unions are permitted to export directly, and their product is traceable to the member cooperatives which delivered the coffee. This gives them the opportunity to sell single origin specialty coffee directly to companies in consuming countries (Int. 17).

But even the directly traded coffee must be registered by the ECX to receive a grading and to get the permit to trade and transport the coffee. Additionally, the ECX conducts quality checks and grades the coffee (Int. 16; Int. 17; details on ECX see next chapter).

Quality control

Unions can discuss with the member cooperatives whether these invest in the necessary infrastructure and produce washed or sun-dried beans or both. Some unions have the financial means to support the cooperatives to invest in drying or washing stations and in trainings in order to improve the quality of the coffee (Int. 17; Int. 19).

The volume of better quality or high-quality coffee is rising. However, even high-quality and certified coffee is often sold for the price of conventional beans, simply because there are no buyers (Int. 19).

The final processing takes place in the union warehouses. Broken beans or beans with other signs for low quality are sorted out (Int. 16; Int. 17). Unions and their member cooperatives have the important role to guarantee a certain quality of coffee destined for export, specifically if customers want specialty coffee (Int. 16; Int. 18)

The low-quality beans are sold on the domestic market or are exported as under-grade beans. Higher qualities go into export (Int. 17).

Some of the unions want to set up their own roasting facilities in order to control more of the value chain (Int. 17; Int. 18). A problem might be the potential shelf-life of roasted coffee. Green beans can be stored in well-equipped warehouses up to 3 years without losing quality. Roasted coffee has to be consumed after at most 18 months. In Europe, coffee can only be imported if the shelf-life is at least 15 months which might be a logistical challenge for Ethiopian producers (Int. 2).

Owner of certificates

In many cases, the unions are owners of certificates obtained after audits by standard-setting organisations. If coffee

is sold to buyers who want to use a label, the union receives an extra payment. Part of this premium is given to the farmers. These get a first payment for the coffee. If the cooperatives and if the unions make an extra profit, this is shared in a second payment.

Depending on the premium system a part of it might go to social programs for the whole cooperative (e.g. Fairtrade). If there are cash premiums, cooperatives and unions deduct 30% for their own costs and give 70% of the remaining money to farmers (Int. 16; Int. 26). For many cooperatives, the premiums are very important to cover all costs and invest into infrastructure (Int. 17; Int. 18; for details on certifications see chapter 5.9).

Limits

The unions would like to increase the support for their members, but they often do not have the financial means to do this. Some of them have capacities to organise trainings, others do not. Membership fees are very low. Therefore, their main income sources are the profits made by trading coffee. This profit can be made by trading conventional beans. But even higher profits might be possible if unions sell good quality coffee with a high price or certified coffee with a premium. Unions take 30% of the profits to cover their costs and generate own profits for investments, 70% are paid out to the cooperatives to be distributed as a second payment to farmers (Int. 17; Int. 18; Int. 2).

The attractiveness of the unions depends on their market access and financial means. Ideally, farmers sell all their coffee to the cooperatives and they, in turn, bring the product to the unions. Financial constraints make it difficult for the unions to buy all coffee produced by the members of the cooperatives. All unions trade only part of the coffee

produced by the members. This percentage might be very low, as the unions are often short of cash and cannot afford to pay cooperatives immediately, who in turn are not able to pay farmers on short notice. Therefore, many farmers sell to traders who can afford timely cash payments. In many regions, cooperatives and unions trade less than 10% of the production of the members. In other region this might be as high as 30% (Int. 17; Int. 18; Int. 19; Int. 20).

Farmers in need of immediate cash often decide according to the spot price, even if they are aware that – if they were to sell to the cooperative – they might be able to receive a second payment beside the price for the coffee from profits of premiums, or services provided by cooperatives (Gashaw, Habteyesus and Nedja 2018:13).

These problems explain the low market share of cooperatives and unions. Official figures are not available, but it is estimated that 8% of the coffee produced in Ethiopia goes through cooperatives and unions (Int. 17)

These problems might be amplified if security problems in the coffee producing region exist. In the Tepi and Masha region, for example, some of the unions were not able to trade coffee during 2018 and as a consequence some of the cooperatives could not buy any coffee from their members (Int. 21; Int. 22; Int. 23; Int. 24).

The lack of sufficient finances might lead to the decision that the union concentrates on supporting only a part of the member cooperatives to invest into an improved coffee production. Often, they support programs to improve the quality of the coffee, such as drying facilities equipped with drying beds (Int. 26).

Some of the unions do not support broad-scale investments in the production of higher quality coffee anymore. Experience has taught that the investments might not be recovered, as they cannot always find customers who

are prepared to pay more than the conventional coffee price. Consequently, some unions have decided to support only a (small) group of their member cooperatives to invest in better quality coffee. The same is true for certification; as much of the certified coffee cannot be sold, unions are reluctant to spend money to include more member cooperatives into standard systems (Int. 16; details see chapter 6).

Doing business with the unions does not always seem to be easy. There are complaints about slow communication, and about long delays until samples arrive, or until ordered coffee is delivered. The quality of the delivered

coffee is sometimes lower or even much lower than promised. This makes direct trade with Ethiopian farmers much more difficult than comparable business connections with farmers from other countries (Int. 11).

Some unions require much more knowledge of the market, training concerning business relations, as well as financial support to improve the internal infrastructure (Int. 11).

A few unions have been able to accumulate capital and even own large buildings. It's not always clear if it wouldn't have been a possibility to give more money to farmers instead. (Int. 26).

5.3 The central role of the Ethiopian Commodity Exchange

"The ECX is like another government."
(Int. 14)

"The main driver for the political interventions in the coffee sector and its control by the government is the need for foreign currency." (Int. 15)

The ECX was founded at the beginning of 2008 to trade cereals and pulses. This coincided with the global food crisis, which made it very difficult for the ECX to attract traders who wanted to do business through a commodity exchange. The government decided to broaden the competences of the ECX and ordered that export crops like coffee had to be traded there. In December 2008, the coffee auction floor in Addis Ababa – which had existed for a long time – was demolished, and all coffee had to be traded through the ECX (Hernandez et al. 2017).

The new trading system was introduced overnight and became a central institution for the whole coffee sector (Int. 6).

Functioning of the ECX

The ECX itself stresses that it is unique in Africa and tries to manage a

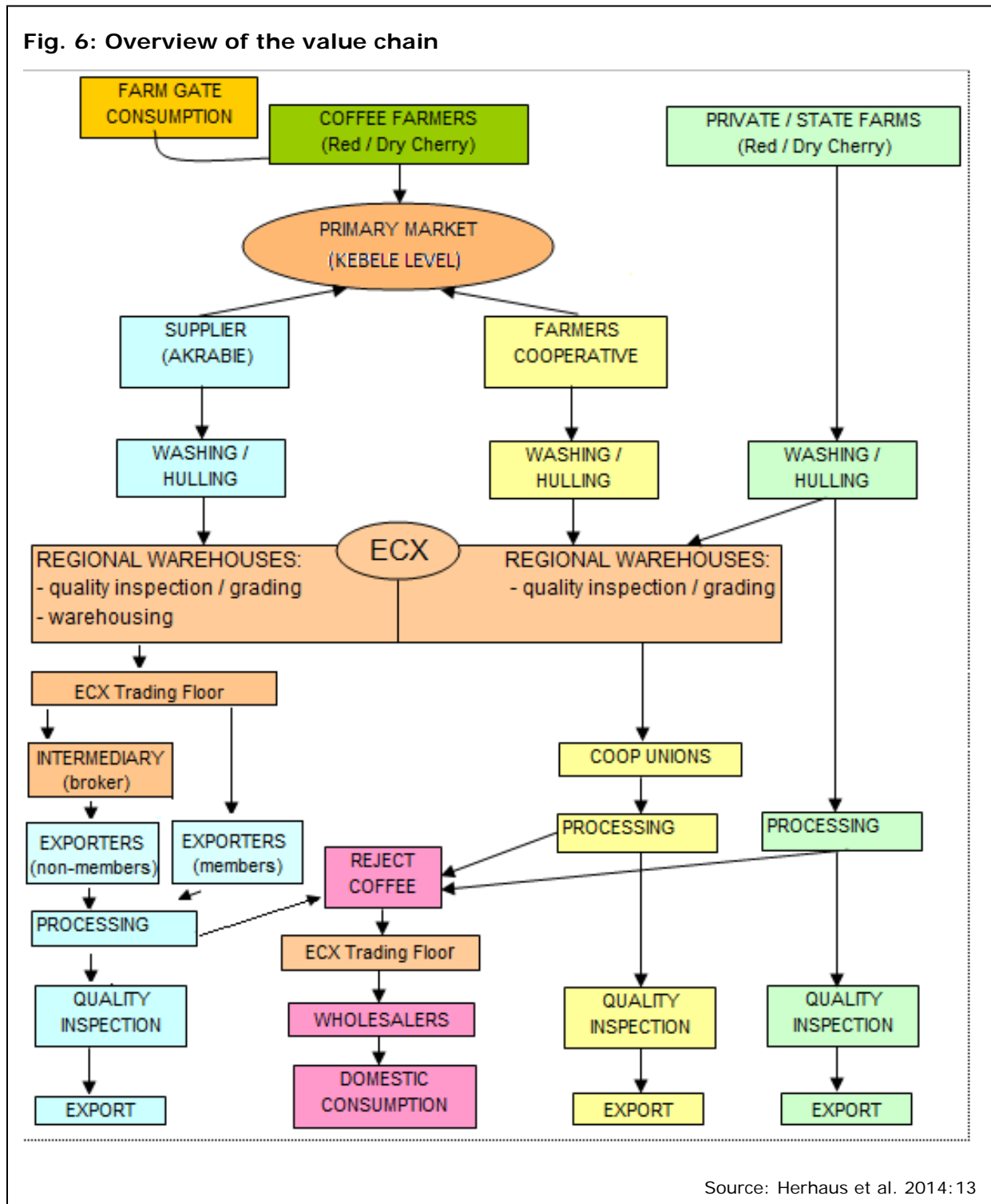
"partnership of market actors, the Members of the Exchange, and its main promoter, the Government of Ethiopia. ECX represents the future of Ethiopia, bringing integrity, security, and efficiency to the market. ECX creates opportunities for unparalleled growth in the commodity sector and linked industries, such as transport and logistics, banking and financial services, and others."

The institution has set up a system for *"handling, grading, and storing commodities, matching offers and bids for commodity transactions, and a risk-free payment and goods delivery system to settle transactions, while serving all fairly and efficiently"* (<http://www.ecx.com.et/Pages/AboutUs.aspx>).

Besides coffee, the ECX trades a variety of other crops, including sesame, different varieties of beans, chickpeas, wheat and

houses, quality control takes place, which leads to a grading and is rewarded with an official document. Based on the

Fig. 6: Overview of the value chain



Source: Herhaus et al. 2014:13

maize.

According to the regulation introduced by the government, traders must transport the coffee they bought to the Delivery Centres run by the ECX. In these store

documentation, good quality coffee is destined for export while low qualities can be sold on the domestic market. The export qualities are then traded on the trade floor organised by the ECX, and can

be bought by authorised exporting companies (BASIC 2018:119).

The trade regulations at the ECX allow no future contracts, and therefore hedging is not possible. Traders cannot protect themselves against price volatility on the international markets (Minten et al. 2014:18).

Until recently, only very few institutions were allowed to export coffee directly; namely unions and big plantations. But even their coffee has to go through the grading system of the ECX, and they are not free in deciding where to sell their product (about the ongoing reforms see below).

Widespread criticism

According to some market participants, the invention of the ECX improved the transparency on the market (Int. 2) and facilitated the financial flows between market participants (Int. 13).

Other market participants have a different point of view. Some think that the former auction system – which was used as a free-market institution where buyers bought directly from producers – was successful and well-functioning (Int. 14; Int. 6).

A study on the developments of farm gate and export prices also came to the conclusion that the old coffee auction system was functioning quite well whereas introduction of the ECX increased trading costs within the country (Hernandez et al. 2017).

The old system allowed the sampling of coffee to control quality before buying and to identify the origin of the coffee (Int. 14). In the ECX system, quality tests by traders, exporters or importers before buying are not possible anymore; they have to rely on the grading done by the ECX. No other coffee exporting country has organised the market in a similar way (Ethiopian Coffee and Tea Authority 2018:96). The only exception is coffee

sold directly from producers respective their organisations to buyers abroad. They can organise sampling and testing by themselves.

The gradings of the ECX are not always reliable, the processes not transparent, and the origin of coffee is sometimes not verifiable as different origins of the same quality are mixed in the warehouses (Int. 13; Int. 14; Int. 6).

The trader has to “buy the paper”, meaning the grading certificate (Int. 14). From the trader perspective, the grading of the ECX needs to become more reliable. The inefficiencies in the system lead to a situation in which trading is more like “gambling” (Int. 13; Int. 14).

Importers of Ethiopian coffee know about these risks. There is a tendency to offer lower prices for Ethiopian coffee than for similar quality bought in other countries, especially when bigger quantities are traded. This is a strategy to buffer risk as there is no possibility to test if the delivered quality is the quality that was paid for, as coffee can only be tested once it arrives in the warehouses (Int. 2; Int. 3).

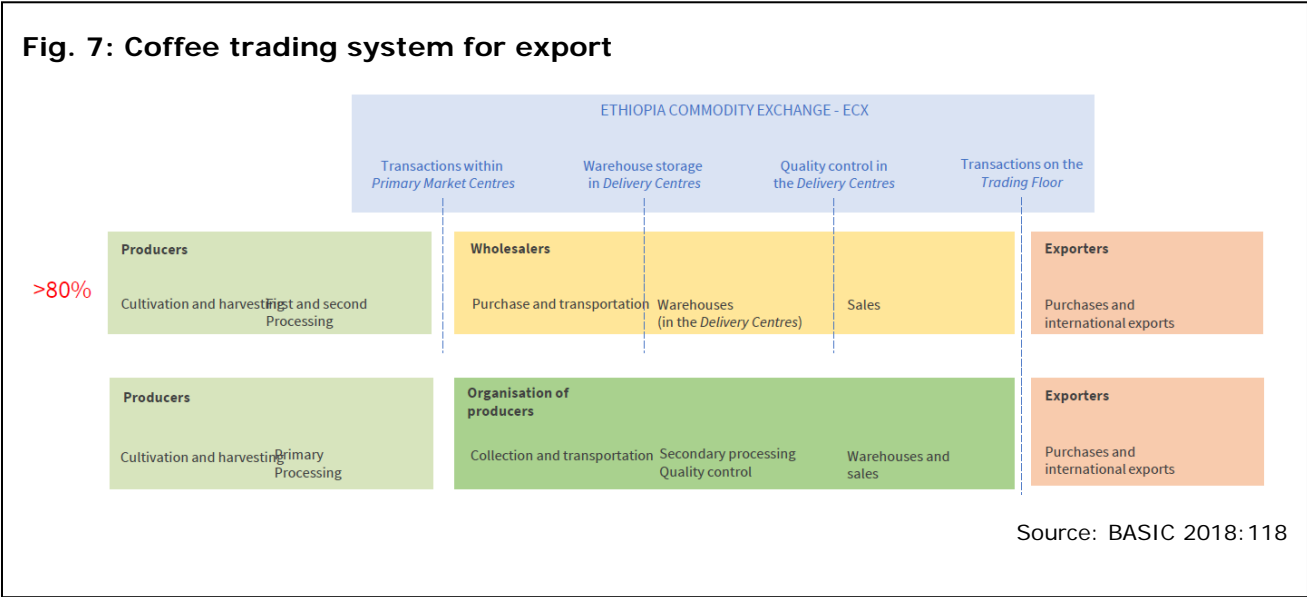
This criticism is not new. An analysis of the Ethiopian coffee sector concludes that problems are widespread:

“Value chain actors do not follow regulations regarding stock and contract administration, quality-control and inspection, transaction and primary market and the ECX, and under-invoicing. In addition, the existing Ethiopian arbitration process, through which buyers can formally lodge complaints about unreliable deliveries and receive reimbursements, is not at the level of international standards” (Ethiopian Coffee and Tea Authority 2018:95).

These problems persist and the lack of a transparent complaint mechanism makes the business for Ethiopian traders risky. If traders buy coffee via the ECX and the delivered coffee has a lower quality than

they have paid for, their companies could run into serious problems. They might not be able to send the coffee back as the deal was based on certificates and the paper counts. They have to go through a potentially lengthy procedure to explain that bad quality was delivered and get the permission to sell it on the domestic market as this is the way to get rid of the coffee and reduce losses. This is again a lot of paperwork, as the coffee was originally destined for export. Meanwhile, the coffee has to stay on the truck in the warehouse, and costs for trucks and

as the cost structures also have a significant influence (see chapter 4.4-4.5). However, many people complain about the present system due to the many steps involved. The complex regulation of administration and logistics along the value chain, from farmers to customs, leads to costs which are all deducted from the farm gate price. This could at least partly be avoided by streamlining the system. A reform would make the trade more transparent and reliable (Ethiopian Coffee and Tea Authority 2018:96).



storing have to be paid (Int. 14). Despite these problems, at least 80% of Ethiopian coffee is traded via ECX (Int. 14; see Fig. 7).

One central aim of the establishment of the ECX was to make the market more transparent, so that farmers are empowered to receive a higher percentage of the F.O.B. price. A comparison of the time before and after the implementation of the ECX system shows that this has not happened; the market is not more transparent, and farmers are not receiving a higher percentage of the F.O.B. price. (BASIC 2018:122). This is not the sole responsibility of the ECX or the regulation of the sector itself,

Ongoing reforms

In July 2017, the Ethiopian government decided to change some of the rules. Since then, the ECX has been tasked to develop models to trade fully traceable coffee. A vertical integration of the value chain is now allowed as exporters can grow coffee on own plantations and sell it on the world market (Ethiopian Coffee and Tea Authority 2018:95). Additionally, more stakeholders can export coffee directly. This is not limited anymore to owners of large plantations or unions. Now, direct exports without the participation of ECX can be carried out by

owners of mills, washing stations and fields bigger than 5 ha (Ethiopian Coffee and Tea Authority 2018:95; Int. 19; Int. 25; Int. 27; Int. 3). This weakens the position of the ECX (Int. 3; Int. 28).

Despite the reforms and a first directive from October 2018 to implement these, many stakeholders in the sector are frustrated, as there is still no directive on the details of the new system (Ethiopian Coffee and Tea Authority 2018:95).

5.4 Traditional traders versus foreign currency hunters

“Selling coffee on the local market brings no foreign currency” (Int. 15)

“Everybody who has an address, an office and an accountant can apply for a licence to become a coffee exporter.” (Int. 15)

In the present trading system, the National Bank supports exporters to obtain funds for buying coffee. The exporters need an agreement with a bank on potential credit, and afterwards get the necessary amount of money from the National Bank. The government introduced this to support companies earning foreign currencies for the country. But the system invites many companies which are not originally from the coffee sector to try to get an export licence. These are not generally interested in coffee, but in the potential funding of the National Bank (Herhaus et al. 2014:64), or even only interested in foreign currencies.

The number of companies exporting coffee has increased significantly during the last two decades. Some of these exporters have been in the business for generations, and are very experienced and focused on coffee. These traders handle significant quantities of coffee. In 2013, the eight most important companies had a combined market share of 40% of all exports (Minten et al. 2014:5–6). Nowadays, a group of around

Discussions about the ongoing reforms in the sector are mainly driven by roasters, buyers and government officials, not by farmers (Int. 15). Local governments, such as the one of Oromia, might try to further undermine the position of the ECX and strengthen direct trade by regional organisations (Int. 1).

10 big traders handles approximately half of the exports (Int. 6).

The vast majority of exporting companies consists of small enterprises, which trade relatively small quantities of coffee. According to export data over 2006 to 2013, the average exporter traded 1,266 tons per year and had a turnover of 4.5 million US-Dollar (Minten et al. 2014:5–6). As a few of the traders are much bigger, the biggest share of the companies involved has an even lower turnover than this average.

It is estimated that at least 300 exporters are presently active on the coffee market and many more might have a trading licence (Int. 15; Int. 6). According to official figures, the number of licensed traders was 323 in 2018 (Ethiopian Coffee and Tea Authority 2018:18).

Despite clear requirements of the Ethiopian Coffee and Tea Authority, which have to be fulfilled by coffee trading companies, it is often unclear how and why certain traders get a trading permit (Int. 6).

Many of these companies started to trade coffee to get access to foreign currency for imports. They are not genuinely interested in coffee or long-term relations within the coffee sector, but in fast cash. The representatives of one trading company, for example, said that their main business is the import of chemicals, specifically from China. They are now trying to enter the European market for

coffee without any experiences in the business. They see coffee export as a potential source for foreign currency. The company learned quickly that coffee could be a source of income, but the business is risky (Int. 12).

The appearance of unexperienced companies on the market has negative consequences for the reputation of the Ethiopian coffee sector. One risk is that unexperienced coffee buyers do not have enough knowledge about the market. They try to sell coffee without respecting the needs of potential buyers concerning quality and reliable delivery. Additionally, in some cases the coffee quality delivered might not be the coffee quality promised (Ethiopian Coffee and Tea Authority 2018:98; Int. 14; Int. 15; Int. 6). Recently, this problem has appeared even on the market for specialty coffee (Int. 6).

Another challenge on the market is that some traders buy coffee via the ECX at a price that cannot be obtained by exporting the coffee. In other words, they know that they buy at a price which is higher than the world market is prepared to pay for Ethiopian coffee. They are prepared to do this, because they need the foreign currency for other businesses with high margins. This assessment was shared with very similar words by many interviewees (Int. 1; Int. 13; Int. 14; Int.

15; Int. 16; Int. 18; Int. 19; Int. 28; Int. 6).

The present state of the business around coffee export makes it very difficult for traders who live entirely or almost entirely from the coffee trade to stay in the market. Some of them decided not to export coffee anymore and work only on the domestic market (Int. 13; Int. 14).

This might bring them into conflict with the regulations as they also trade higher quality coffee which they are not allowed to sell on the domestic market.

International buyers face the problem that many of the potential sellers approaching them are not generally interested in long-term relations and a trustful business. This makes the Ethiopian coffee business very risky for them. They know that specifically smaller exporting companies could be out of the coffee business after the ongoing deal, which might lead to difficulties if the delivered quality is not as good as promised or if the delivery does not come at all. Quality, quantity and delivery dates promised in contracts are often not reliable. Due to these problems, some international traders have either left the Ethiopian market or have reduced the quantity of purchased coffee (Int. 6). In the formerly trust-based industry, trust has eroded as traders cheated with papers, quantities and qualities (Int. 15; Int. 8).

6. Impact of value chain of the income of farmers

"(...) the coffee export market is highly differentiated in Ethiopia, with quality premiums being offered for washing, grades, certification, and specific geographical indications" (Minten et al. 2014:26).

In theory, farmers look for the most lucrative agricultural system, harvesting method and processing facility. Having identified the most suitable way to market

the coffee, farmers sell all their coffee in the chosen value chain.

The reality on the ground is much more complicated. Many farmers produce coffee with different plantation models and/or post-harvest treatments. This results in low quality, standard quality and high-quality coffee all coming from the same small-scale farmer.

Theoretically, farmers sell only low-quality coffee on the domestic market.

Bulk quality quantities and specialty coffee are sold via traders or cooperatives and might end up in very different value chains. Additionally, washed and unwashed coffee can be traded through different value chains.

The decisions of farmers and traders are strongly influenced by price, infrastructure, cash demands, the handling of the coffee by the ECX and not in the last place by the demand of international buyers.

Export prices depend on different factors. Some regions are well known for the good qualities and achieve a higher price (e.g. Yirgacheffe and Harar) while others get a lower price than the average (e.g. Jimma and Wollega). Certified coffee might receive a higher farm gate and export price, but the same is true for coffee exported by cooperatives and private

commercial farms directly or specific qualities. The price differentials change over the time. A study covering the years 2006 to 2013 proves that there is a huge volatility between years concerning prices in different trading systems and origins or qualities. The preferences of the buyers decide what finds a market (Minten et al. 2014:20).

The first choice farmers have to make is to decide how much time they invest in harvesting and processing beans. This depends on a number of preconditions, including cash needs, available labour for farm maintenance and harvest, accessible processing facilities and market demand. Some options, specifically the production of higher quality or even specialty coffee, and following the criteria of standards setting organisations, potentially offers a higher income.

6.1 Washed versus sundried coffee

Research on price developments between 2006 and 2013 shows that washed coffee potentially achieves a higher price and can increase the income of farmers (Minten et al. 2014:10). Additionally, washed coffee might reduce risk for farmers and traders as it is easier for them to assess the quality of the beans. The price differences between coffees coming from different origins are lower for washed coffee compared to sun-dried coffee, as the quality is more uniform after processing. The same can be observed about price differentials between different quality grades (Minten et al. 2014:20).

From the perspective of the Ethiopian government, washed coffee is the best choice as it gets the highest export price for bulk coffee. The Ethiopian government hopes to increase the value of export coffee by supporting washing stations. Some international donors, such as Technoserve and the Bill & Melinda Gates

Foundation, also support washing stations (Int. 2).

But there are also problematic issues with washed coffee. Increasing the quantity of washed coffees comes not only with ecological risk, but also with the risk of insufficient market uptake. Additionally, not all coffee varieties are appropriate for washing, and there are financial constraints to import the machinery for wet mills (Minten et al. 2014:26).

Another problem is the infrastructure, which is so inadequate in some coffee producing regions that the transport of the fresh cherries to washing stations might not be possible in time or if so would be too costly (see chapter 4.5).

Most of the processing plants do not focus on quality, as they have no financial incentive to do so. Many of the washing and hulling stations are not well-managed, don't have access to good equipment, work in difficult infrastructure, and suffer from price volatility. They might also be indebted. In

some regions, not enough processing stations are available, specifically washing stations. Therefore, the processing sector needs a supporting political environment, and access to finances, training and support to focus on quality instead of quantity (Ethiopian Coffee and Tea Authority 2018: 76–88).

The quantity of washed coffee has increased with the increase of total production in Ethiopia, but the market share stagnated between 2006 and 2013 at 30% of all exported coffee. Despite the potential business case for washed coffee, a lot of wet mills cannot work at full capacity. Many farmers prefer to sun-dry their beans, despite a government regulation which does not allow the trade of dry cherries in some regions during harvesting season (Tamru and Minten 2018:11-12).

Buyers interested in large quantities of bulk coffee often prefer washed coffee. For these buyers, washed coffee means less risk as the quality is better controlled (Int. 2; Int. 25). Washing stations might mix coffee from different qualities so that the value chain is not transparent (Int. 2). Approximately 70% of the coffee is still sold as dried beans to traders (Ethiopian Coffee and Tea Authority 2018: 14). There are several reasons, why farmers choose this way of trade.

Labour-intensive or less labour-intensive harvesting?

If farmers follow good agricultural practices, they harvest only the ripe red cherries. To focus on the ripe cherries is a precondition for the production of good quality coffee. Washing stations will only accept red cherries. The red cherries have to be delivered to a washing station within 12 hours of picking to avoid quality degradation. This might be a challenge depending on infrastructure and transport facilities.

To get a high-quality coffee from sun-dried beans, farmers should also work only with red cherries. Farmers can dry the cherries on their own premises. After the drying process it is not possible to distinguish any more between cherries picked at a ripe status and unripe cherries. From the farmer's perspective, the central question is if they see a potential to get a higher price for better quality.

If there is no or low potential to receive more money for good quality, farmers might not focus on quality. Harvesting only red cherries is connected to higher costs; farmers have to harvest several times and pick the cherries one by one. The other option would be to work with fewer picking rounds, and to harvest both the ripe and nearly ripe cherries at the same time, or even strip all cherries off the trees in one take regardless of their ripeness. Damaged and unripe cherries cannot be sold to a washing station or serve as a base for high-quality sun-dried coffee. Farmers who do not expect an increased net income from producing good quality coffee might decide to reduce the rounds of picking and dry the cherries on-farm without professional drying beds to save costs. Another advantage of using sun-dried cherries compared to selling fresh red cherries is that not-perfectly-ripe or slightly damaged cherries can be used for drying. As a consequence, farmers have a higher marketable yield per hectare. Additionally, an important advantage of dried cherries is that farmers can store them at home and sell bags of coffee when they need cash. This advantage should not be underestimated. Due to the high inflation rates, it is a significant problem for farmers to get all the money in cash for the red cherries during the harvest season as they want to spend this money over the next months. Farmers are well aware of the fact that money loses a lot of value during these months. Therefore, even farmers who have access

to washing stations might prefer to dry at least part of their coffee at home and use it as a bank account. Thus, from the farmer's perspective, it might be a wise decision to invest less labour, reduce risk caused by inflation and perhaps even speculate on rising prices during the next months. For the government of Ethiopia, the decision of farmers against picking only red cherries and either selling them to washing station or producing high quality coffee from sun-dried beans means that export earnings are lower than they could be (Tamru and Minten 2018: 14-18).

Moreover, the marketing system for bulk coffee often doesn't reward the production of higher qualities. In a survey of 2014, 90% of the farmers stated that they received no premium for the delivery of better quality coffee (Minten et al. 2015a:14). These imperfect market mechanisms further reduce farmers' willingness to invest more labour and risk inflation losses.

Risk during post-harvest processing

Presently, most specialty coffee from Ethiopia is sun-dried (Int. 2). The sun-dried beans have a specific taste (Int. 14) and are sought by some traders due to this taste. They can either be traded in very small amounts as origin coffee or can be mixed with other qualities to create a specific taste (Int. 3).

The correct harvesting and processing of beans is a precondition for good quality coffee which might achieve a higher price. If the processing is not done well, farmers end up with low quality and low prices. Drying in backyards without any equipment often compromises the quality. Therefore, there is always a risk for buyers who might not be able to control if sun-drying and the accompanied sorting of beans is done well. Despite these risks, some buyers prefer sun-dried coffee and hope that the process was good (Int. 25).

Buying from traders is sometimes riskier than buying from unions, as the unions try to support the cooperatives to deliver better qualities (Int. 2).

Market does often not reward quality

A persistent problem is the market uptake. Some washing stations are not able to sell their washed beans or, if doing so, do not receive a higher price for better quality (Int. 19; Int. 2). This makes the investment in washing stations risky for cooperatives and traders, as they are not sure if the cooperatives can recover the costs of their investments (Int. 8).

Despite these problems, cooperatives have invested in small washing station as this offers them more trading channels than only focusing on sun-dried beans; they want to balance market risks by being able to deliver washed and sun-dried coffee (Int. 21; Int. 22)

6.2 The domestic market

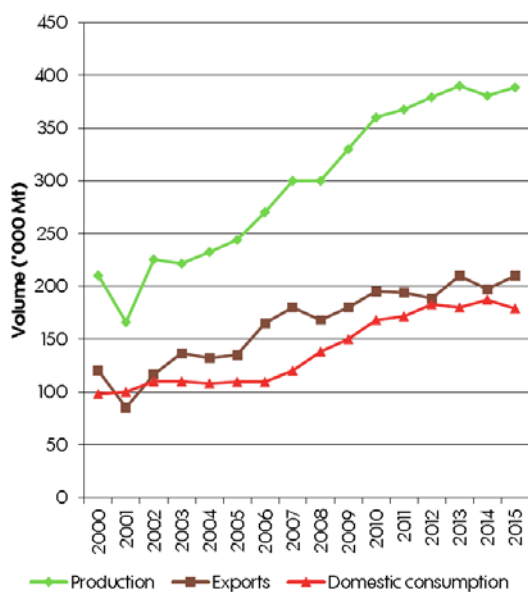
“If Ethiopia would find oil, not much coffee would be exported any more” (Int. 15).

“The government has to accept that people drink coffee” (Int. 14).

The consumption of coffee is deeply rooted in the culture of the Ethiopian people. According to official figures, approximately half of the coffee produced in Ethiopia is sold on the domestic market (Fig. 9).

Countrywide, according to the Central Statistical Agency Ethiopia, 45% of all coffee harvested in Ethiopia is used for domestic consumption. The percentage differs between regions. In the Amhara region, with its relatively low production of coffee, 68% of all produced coffee is for domestic consumption, in West Gojam the rate is as high as 83% and in Sidama at a much lower level of 29% (Central Statistical Agency Ethiopia CSA 2016b:16–90).

Fig. 9: Coffee production, export and consumption in Ethiopia according to official figures in 1000 Tonnes



Source: Global Coffee Platform 2016:10

These official figures are not reliable. The government decided that higher graded coffee of good quality has to be exported. Only coffee with a quality lower than grade 5, called “ungraded” coffee”, is allowed to be sold on the local market (details see chapter 6.3). The background of this decision is the trade deficit of the country combined with rising imports, which are needed to modernise the economy and the infrastructure.

Many consumers prefer to buy coffee directly from farmers and do not want to use the low qualities which do not qualify for export (Gashaw et al. 2018:14). Due to the strong demand within the country, traders who want to sell the coffee on the domestic market receive prices as high as or even higher than traders who want to export. As a consequence, coffee with high grades and destined for export is smuggled onto the domestic market (USDA-FAS 2019b:4).

The percentage sold on the local market might have increased recently after the decline of the world market price starting in 2016. Traders searching coffee for the domestic market often offer farmers a higher price than those selling to exporters. It became more lucrative for farmers or small-scale traders to avoid the ECX and sell directly on the domestic market (Int. 13; Int. 14; Int. 16; Int. 19; Int. 2; Int. 20; Int. 28; Int. 3; Int. 6)

Additionally, the smuggling of coffee into the neighbouring countries might be lucrative for farmers and traders. Trade connections seem to be established with buyers in South Sudan, Eritrea and Somalia (Int. 15; Int. 2; Int. 3).

Most farmers sell coffee to neighbours or within the village, even cooperative members sell most of their coffee directly into the domestic market or to traders who might prepare the coffee for export or sell it on the domestic market (Int. 16; Int. 17; Int. 18; Int. 19; Int. 20; Int. 21; Int. 22; Int. 23; Int. 24).

Depending on supply and demand, the price difference might be significant. For specific lower gradings, exporters pay 70 ETB per kg green beans, while the local market pays 115 ETB per kg (Int. 14). Another interviewee said that coffee bought for 50 or 60 ETB in the producing region might be sold in Addis Ababa for 100 ETB (Int. 14).

The market in Addis Ababa with its large number of coffee shops has a high potential. A rising number of people can afford to pay the price for a cup of quality coffee. The government tries to restrict the use of high-quality coffee on the local market. People travelling on the main roads to Addis Ababa are controlled at many roadblocks for security reasons and to avoid smuggling. During these controls, the police tries to detect coffee transported without proper documentation and in quantities beyond amounts for own consumption (Int. 19). As a consequence of the rising demand within Ethiopia and the smuggling into the

neighbouring countries in combination with the low world market price, it is possible that up to two thirds of the harvest never reaches official trading channels (Int. 3). One expert even estimated that more than 50% of the coffee produced in Ethiopia never reaches the official market, 10% is used for self-consumption and only 20 to 30% is traded in the formal sector (Int. 8).

While the informal trade of coffee leads to the loss of potential export earnings, this combination of a domestic market and export opportunities might stimulate the future growth of the coffee production, as the market is not dependent on the preferences of coffee drinkers in foreign countries (Int. 15; Int. 25). Coffee farmers, cooperatives, unions and traders always have the domestic market as a last resort to sell coffee and get an even higher price compared to what exporters are prepared to pay (Int. 13; Int. 14).

6.3 Specialty coffee

"Quality always sells. Exporters are best trainers of farmers by the price they pay" (Int. 25).

"Big volumes cannot be special!" (Int. 14)

The expression "specialty coffee" is used since the 1970s but was never clearly defined. Usually, a testing methodology called "Cupping" invented by the Specialty Coffee Association (SCA) is used to identify the quality of the coffee. Graders test the coffee and give points for aroma, flavour, aftertaste, acidity, body, balance and the overall impression. Coffee receiving less than 80 points is "standard" commodity quality, 80 to 85 points is "very good", 85 to 90 points "excellent" and 90 to 100 points "outstanding". Some of the Ethiopian coffee is valued with more than 85 points.

But these quality tests are not the only benchmark to call certain coffee a specialty coffee. Some traders use coffee from certain origins and call this specialty coffee.

Summarized, the value of specialty coffee depends on origin, quality and preferences of buyers. Buyers might make decisions based on other criteria than the quality of the coffee. Some high-priced specialty coffees do not have a superior quality but are traded with specific stories customers like (Int. 3).

Figures on the percentage of coffee traded as specialty coffee as proportion of the world market are not reliable, as there is no clear definition of specialty coffee and therefore large volumes may be counted as specialty because buyers call them specialty and not because of quality (Int. 2).

On the Ethiopian market, the definition of specialty coffee varies. American buyers focus on origin and quality, while other buyers only concentrate on cup quality. Some roasters sell forest coffee with a specific story around it as a special coffee. The ECX focuses on cup quality to decide if coffee beans qualify for specialty coffee (Int. 17).

In the ECX system, coffee is graded from 1 to 5, 1 being the best rate and 5 the lowest. All coffee not qualifying for grade 1 to 5 is called ungraded and either exported to markets not interested in higher qualities or sold to the domestic market (Minten et al. 2014:11, 16).

This grading has an influence on pricing. Highly graded coffee can be traded as specialty coffee. Additionally, coffee coming from specific regions might be traded as a single origin coffee. Some destinations are registered as geographical designations (Harar, Sidamo and Yirgacheffe). Farmer and their organisations try to commercialise this by finding a place in the niche market for single origin specialty coffees (Global Coffee Platform 2016:9; Herhaus et al. 2014:61).

It is disputed how much of the Ethiopian coffee might qualify as specialty coffees. Some experts think between 20 and 30% of the production (Minten et al. 2014:27), others say most of the production (Int. 28).

The Ethiopian government wants to develop specialty coffee from today's niche markets to become the mainstream. It stresses that the coffee of the country offers unique taste varieties, has a high quality, and comes nearly completely from organic production. Therefore, most of the Ethiopia harvest should become specialty coffee (Int. 26). By doing this, the government wants to achieve significantly higher prices for the coffee produced in Ethiopia. This would increase not only the income of farmers, but also the amount of foreign currency earned by exporting coffee.

Indeed, specialty coffee might increase the income of farmers significantly. In December 2019,

- commercial unwashed coffee, standard quality was traded 10-20 percent below New York ICE price.
- commercial washed coffee achieved prices 20 -100 percent higher than the standard ICE price.
- specialty coffee was traded 100 – 200 percent above ICE price (Int. 8).

Price differences between specialty and standard coffee can be even much higher if the coffee has high cup quality and the origin is connected to a story interesting for customers (e.g. Wild Forest Coffee). This combination leads to F.O.B. prices as high as 5.5 US-Dollar (Int. 20) and 6.5 US-Dollar (Int. 17) per kg green beans for specific single origin varieties of Ethiopian coffee. As this is significantly higher than the price for bulk coffee, the specialty market has the potential to be the most lucrative way for farmers cq. their cooperatives and unions to sell coffee. The problem is that the producer and trader have to find customers prepared to pay significantly higher prices for their coffee (Int. 13; Int. 14).

Not all specialty coffee is traded directly between cooperatives and coffee roasters. Many roasters specialised in high-quality coffee in Europe offer a wide variety of different international origins in their shops or online marketplaces. The large coffee trading companies responded to this rising market by making single origin coffee available for the small-scale companies. Many German roasters of specialty coffee have never visited the cooperatives they buy from, but purchase the single origin varieties from a multinational trader (Int. 2; Int. 4).

It is also possible to trade specialty coffee via ECX, but there the price differences between bulk coffee and specialty coffee are not very big (Int. 25).

Low market uptake

A precondition to selling higher value coffee at a better price is full traceability in the value chain, which can be guaranteed in the present Ethiopian trading system by direct trade between cooperatives and the roaster. Volumes traded this way are presently low (Int. 25).

Many buyers only want to purchase small amounts of high-quality coffee, which might lead to inefficient cost structures for the exporting unions and trader (Int. 18; Int. 26).

This low uptake is a major challenge for all people involved in the production and trade of specialty coffee. The market for single origin specialty coffee is very small (Int. 13; Int. 14; Int. 16; Int. 18; Int. 19; Int. 2; Int. 26; Int. 8; Int. 9).

This is a difficult situation for farmers. The investment of more time for growing, harvesting and processing and spending for improved infrastructure compared to the production of conventional quality coffee is often not lucrative for farmers (Int. 1; Int. 15; Int. 26). The farmers have extra cost to improve the quality of the coffee and pay certification fees. Despite these efforts, much of the coffee has to be sold on the conventional market for the standard price (Int. 1; Int. 16; Int. 17; Int. 18; Int. 19; Int. 20; Int. 21; Int. 22; Int. 23; Int. 24).

Therefore, it is still an open question what generates for an average farmer in a specific working conditions the highest income from coffee production, bulk coffee or specialty coffee (Int. 1).

6.4 Certified coffee

Over the past 20 years, a large number of voluntary initiatives have tried to improve the situation of people who grow coffee. One approach has been to try to improve

Future market size

There is a potential that the demand for specialty coffee might continue to rise as it has done during the last two decades. Whereas the Ethiopian government hopes over time to sell most of the coffee produced in Ethiopia as specialty coffee, market insiders only expect an increase to 10% of production sold as specialty coffee; or, if things are organised very well, 15% (Int. 2).

Meanwhile, specialty coffee from Ethiopia is under pressure as other countries with easier markets also offer good coffee. The roasters look for a combination of specific qualities, quantities, reliable deliveries and consumer markets. To connect these things is very difficult (Int. 2; Int. 6; Int. 8).

Despite these problems of the farmers, the government wants to increase the quantity of specialty coffee and create incentives for direct trade between unions and importers (Int. 27; Int. 28).

Not all unions are convinced that the market will grow. Some of them nowadays support only part of their member cooperatives to improve quality and produce more specialty coffee, as they are afraid that there is no reward for the investment. The exclusion of other cooperatives from these support measures is not an easy decision within unions (Int. 16).

The situation might improve if cooperatives and unions could be better organised and equipped. This might include the use of specific digital tools to increase the transparency in the market and to reduce costs for trading single origin coffee. More trust into the value chain could support the creation of bigger markets and generate higher prices (Int. 7).

the situation through certification by standard systems (Fairtrade, UTZ/Rainforest Alliance, Organic). In addition, many of the large (international)

coffee companies have carried out their own projects, and some of the coffee from these projects carry their own labels (e.g. C.A.F.E. Practices from Starbucks or AAA from Nestlé). All these approaches are present in Ethiopia.

Nowadays, 50% of the world's coffee harvest is certified in some form, while at the same time poverty, child labour and ecological problems are widespread (Sachs et al. 2019:14).

The figures on certification in Ethiopia are at first sight similar to the global sector. Certified area cannot be simply added up due to possible double certification, but according to official figures 40% of harvested area is certified by Fairtrade alone. It's not clear how reliable these figures are. There are no figures available how much coffee is produced on the certified areas and how much of this is sold labelled by the standard. Harvested volumes on these Fairtrade areas are very low, according to data (Table 8).

organisations do not cover the poorest and for the most part unorganised farmers. The latter are not in a position to meet the requirements of the standards-setting organisations. Furthermore, it is sometimes not possible to distinguish the effects of standards from changes in the market that are taking place anyway (Panhuysen and Pierrot 2018:16-19).

The situation in Ethiopia seems to be similar to other countries. Additional problems arise as the low uptake of certified coffee leads to financial risk for farmers. They usually bear the costs of certification but have no sales guarantee. It is therefore very common that farmers or their cooperatives make payments for certification and audits without finding customers willing to pay a premium, and then have to sell the coffee on the conventional market.

In some cases, it's not the union who owns the certificate but the importer of the coffee. This has the advantage that the importer pays for the certification,

Table 8: Status of certification in Ethiopia 2016 (Fairtrade: 2015)

	RA	UTZ	Fairtrade	Organic	4c
Area Cultivated (ha)	40,900	22,677	207,975	159,850	11,655
Volume (tons)	15,166	30,488	18,025	85,650	6,333
% of total area	na	3.2	40	22.8	1.7
Number of farmers	18,270	3,628	145,963	na	6

Source: (Lernoud et al. 2019:149–51)

Another difficult issue is to judge the impact of certification on the income situation of farmers. On the global level, studies show that certification ensures greater transparency, as it makes it easier to trace where the coffee was grown. In some areas, there was evidence that farmers' incomes rose, their cooperatives or they themselves had better access to credit, and farmers' organisations were strengthened. There is also evidence that certification has led to more ecologically sound farming practices. On the other hand, it is still the case that the standards-setting

which might be specifically difficult for unions and cooperatives short of foreign currency. The disadvantages could lie with the unions, who depending on the importer - cannot sell to other buyers who might want to use labelled coffee. If the importer does not buy, the union then has to sell the coffee on the conventional market.

This brings farmers in a difficult situation. Certification will become the standard as more and more buyers demand transparent value chains (Int. 16; Int. 25). The driving force behind this

development are the private brands owned by the supermarkets (Int. 3).

Unions are confronted with different demands from customers. American buyers for example often prefer a certification by Rainforest Alliance, European customers might want Fairtrade certification and organic coffee. Many customers want organic certified coffee, while others want to combine organic labelling with Fairtrade labelling. Others buy certified coffee but do not want to use a label. They pay the conventional price and no premium for the certified coffee (Int. 16; Int. 17; Int. 18).

Meanwhile, most of the coffee produced in Ethiopia is organic, but the farmers cannot afford to get certified (Int. 15).

Much of the certified coffee is not sold as certified, as unions find no customers prepared to pay premiums (Int. 20). In some regions, most of the certified coffee had to be sold on the conventional market, for various reasons (Int. 22; Int. 23; Int. 24).

A big problem for standard-setting organisations and reliability of audits is the present structure of the trade. Many farmers produce forest coffee, semi-forest coffee and plantation coffee. They mix this coffee. The same is done by the cooperative (Int. 10; Int. 19; Int. 21; Int. 22; Int. 23; Int. 24).

This makes it very difficult to set up a reliable value chain, which claims for example to trade only organic forest-coffee and reward this with specific premiums.

Limited influence on price

In the years 2006 to 2014, an in-depth analysis shows that certified green coffee achieves a higher price than noncertified coffee (Minten et al. 2015b: 10).

This seems to be a clear result, but from the farmer's perspective, the situation is more complicated. Most of the certified coffee was sold via cooperatives to

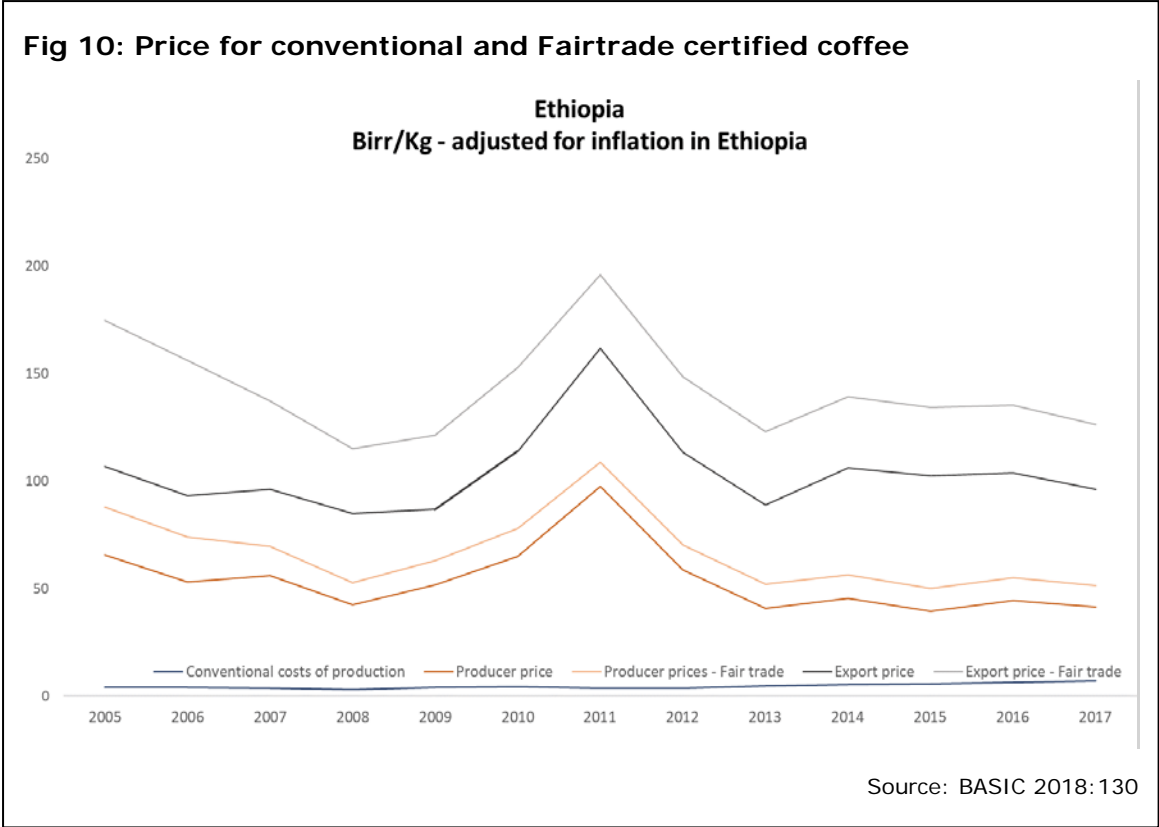
unions, which usually achieve higher export prices anyway. A significant part of this coffee comes from regions which due to well-known quality receive a premium for all produced coffee. If this is taken into account, the certification "did not lead to higher producer prices over the period considered" (Minten et al. 2015b: 12).

If the cooperatives find buyers for the certified coffee, they receive a premium. At least part of this premium is given as a second payment or dividend to farmers, usually one third of the premium. The rest of the premium is used to cover costs of cooperatives and unions or invested into social projects. During the observed period, two thirds of the certified farmers got such a second payment which improved over time. The overall effect of the certification and farmer income was low, which might explain why certification schemes are not expanding more rapidly in Ethiopia (Minten et al. 2015b: 12–22).

Other research led to more differentiated results. A comparison of different certification schemes showed a mixed picture. According to a study conducted in the Jimma and Kaffa region the highest price observed was achieved by farmers working with the certification of Rainforest Alliance, followed by farmers certified by Fairtrade and Organic. Meanwhile, farmers which were certified by Fairtrade and Organic "did not receive a higher price for dry coffee but they do receive the highest price for fresh coffee cherries" (Mitiku et al. 2017: 10).

Regional characteristics might influence the differences between the certification systems which might not be typical for the whole country. In the observed region, the coffee income of farmers certified by Rainforest Alliance was highest, while, even compared to non-certified farmers, Organic certified farmers have the lowest income from coffee. The latter receive a

higher price for their coffee, but the yields per hectare are significantly lower. Coffee income from Fairtrade farmers is much higher than revenues of comparable groups not least due to the good price paid by cooperatives. Concerning household income, Organic farmers have a similar income than non-certified farmers, while Fairtrade farmers have the lowest total income. One reason for the low income of Fairtrade farmers might be that they invest more labour into coffee and less into other activities (Mitiku et al. 2017:11-13).



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In the observed region, certification led to lower poverty rates, specifically for farmers certified by Rainforest Alliance. But, as in other studies, the comparison

between the different groups might be problematic. The farmers certified by Rainforest Alliance had a very specific and exclusive trading system for specialty coffee handled in a very short value chain. Additionally, these farmers received a lot of training and could further improve the quality of the product (Mitiku et al. 2017:14).

According to all interviewed cooperatives and most of the unions, the first step to improve the impact of certification systems would be the take-up of all certified coffee by customers. Presently, a large part or even most of the coffee is sold on the conventional market. Therefore, farmers get no premium which reduces their potential income.

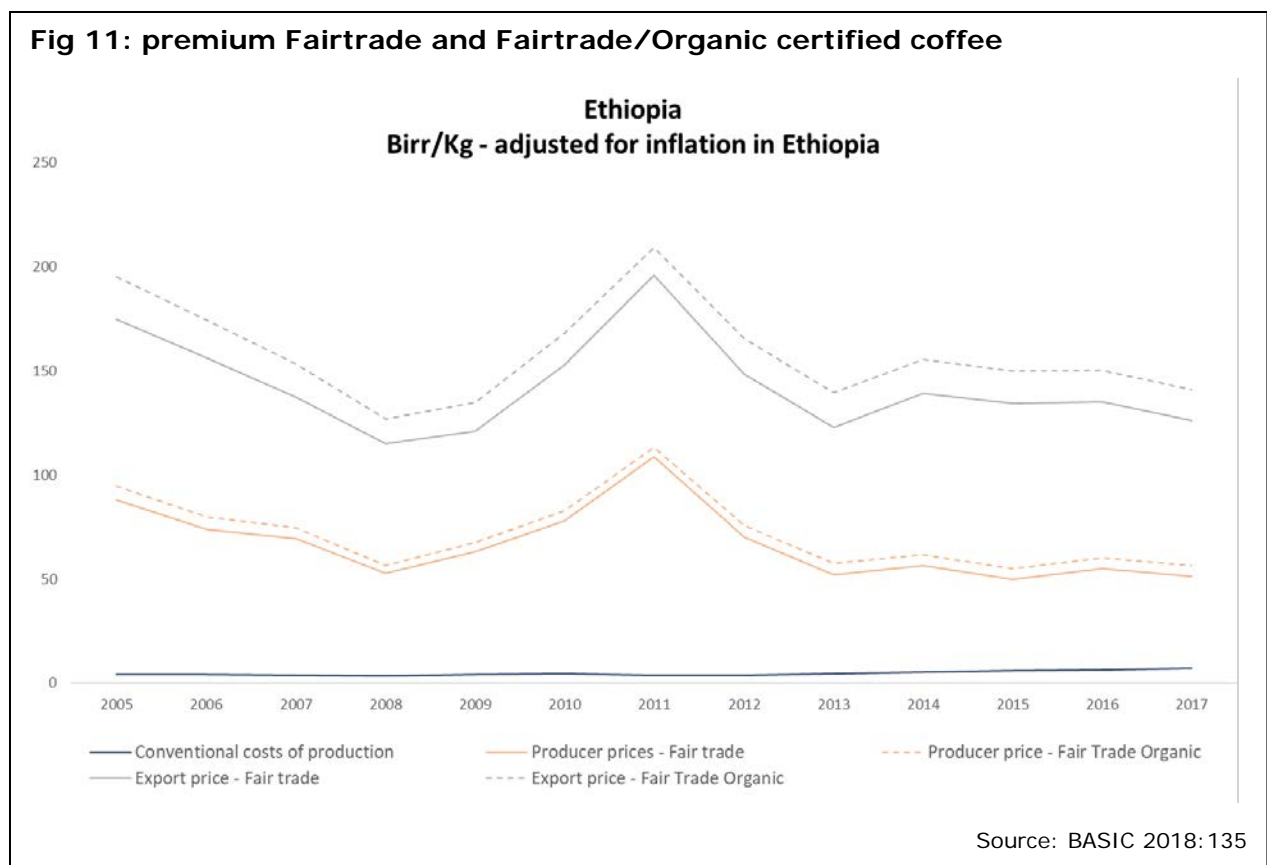
Even if this wouldn't be the case, the impact might be limited as the higher price (e.g. in terms of a guaranteed world market price through the minimum price system of Fairtrade) and the premiums are relatively low (see Fig 10.). On the other hand, it has to be acknowledged that certification improves transparency in the value chain. The

communication of specific production criteria combined with audits and the pressure to implement transparent structures can stipulate farmers and cooperatives to improve their organisation. Additionally, income from premiums is an important factor in financing the management structures of cooperatives and unions (Int. 16; Int. 17; Int. 18; Int. 20).

From a buyer's perspective, the certification might open additional

markets and might show that the seller at least tries to control production systems on the ground (Int. 11; Int. 2; Int. 9).

If farmers respectively their organisations invest into organic certification additionally to Fairtrade, the premium is a little bit higher, but again not significantly (see Fig 11).



7. Recommendations

Many papers were written about the Ethiopian coffee market, and these papers include recommendations on how to improve the situation of farmers, processors and traders.⁵ This paper focused on the potential impact of different value chains on the income of cocoa producers.

Infrastructure

A first measure to improve the income of farmers would be to lower their costs. Presently, the insufficient road infrastructure in many coffee producing regions make inputs and the transport of coffee expensive. State authorities have an important role to improve the present situation.

Processing

Small and often inefficient processing units for washing coffee or for hulling of sun-dried beans have an impact on farmers' income. The sector needs a strategy to reduce avoidable costs. All stakeholders of the sector should discuss this strategy, the government and the financial sector could play an important role by supporting companies to invest into more efficient structures.

Reform of the trading system

More reliable grading could support the market position of Ethiopian coffee, specifically on the market for high quality

speciality coffee. The bureaucratic obligations around trading coffee in Ethiopia are an additional cost factor, which could be significantly reduced. The trading systems need further reforms, and specifically the role of the ECX needs to be redesigned to allow more direct trading connections. Additionally, the lucrative domestic market should be further developed and opened for a legal trade with high quality coffee.

Strengthening of cooperatives and unions

To improve agricultural practices and first processing on farms, farmers need more training and support for necessary investments. This could lead to an increase of the quantities of high-quality coffee. In a next step, they would need a reliable trading system without the negative influence of traders only interested in foreign currency and not in building a stable and sustainable Ethiopia in coffee sector. Strong and efficient cooperatives and unions could play an important role during the transformation of the sector, but need support to become stronger.

Responsible buyers

National and international buyers of coffee should support the implementation of transparent value chains which reward good quality with better prices. This has to include programs to guarantee a living income, e.g. by flexible premiums or fixed minimum prices.

⁵ See (Herhaus et al. 2014) and (Ethiopian Coffee and Tea Authority 2018).

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Quotes from an Analysis of the Ethiopian Coffee and Tea Authority

Strategic issues

Based on a review of past strategies, interviews with value chain actors, and feedback from stakeholder workshops, key strategic issues have been identified for production and extension. These issues do not include everything mentioned during document reviews and discussions, but rather are reflective of the top-priority issues that need to be addressed urgently before assessing other problems.

These strategic issues are:

1. Low adoption of good agricultural practices (GAP)
2. Low productivity due to old age of coffee trees
3. Weak extension system and lack of coffee-specific extension services
4. Lack of supply and distribution system for seeds and seedlings, financial services, and other inputs (including equipment and fertilizer)
5. Environmental degradation from coffee production
6. Insufficient participation and benefit to women and youth in the value chain

Source: (Ethiopian Coffee and Tea Authority 2018:60)

The following strategic issues have been identified as the primary causes of low quality among Ethiopian coffees.

1. Poor post-harvest practices by farmers
2. Poor processing, management, and price risk practices by primary processors (and exporters)
3. Inadequate processor infrastructure and investment

(Ethiopian Coffee and Tea Authority 2018:75)

To grow value-addition and roasting in Ethiopia, the following strategic issues must be addressed. Otherwise, Ethiopia will continue to produce low-quality roasted coffee and import soluble and decaffeinated coffee and packaging materials, and potential roasters, especially women and youth, will be discouraged from entering the sector.

1. Limited capacity and knowledge among value-addition and roasting actors
2. Limited access to finance and land, plus inadequate value-addition technology
3. Limited access to high-quality coffee for value-addition

(Ethiopian Coffee and Tea Authority 2018:86)

To improve foreign earnings and value chain efficiency, five strategic issues have been identified regarding Ethiopia's coffee marketing sector.

1. Weak enforcement of marketing regulations
2. Lack of transparency and high administrative costs throughout the marketing process
3. Insufficient marketing centers and poor market services
4. Weak capacity of marketing actors and large numbers of unreliable exporters
5. Weak Ethiopian coffee marketing strategy, including branding, segmentation, and promotion

(Ethiopian Coffee and Tea Authority 2018:94)

Some of Ethiopia's biggest challenges affect the entire coffee sector, including research, production and extension, processing, value-addition, marketing, and social and environmental sustainability, specifically:

1. Large informal domestic coffee market
2. Inadequate coffee sector information system
3. Inadequate funds for coffee sector investment
4. Inadequate institutional linkage and accountability – between public, private, and international actors

(Ethiopian Coffee and Tea Authority 2018:111)



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