



Pineapple Value Chain
from Costa Rica to Germany

BASIC

Credit: SITRAP

Final Report
March 2016

Introduction

Worldwide pineapple production can be estimated at 22 million tonnes according to the FAO, two times more than in 1987. Around 70% of world production is consumed in the domestic or regional markets. Brazil and Thailand do not export any significant quantities of pineapples, whereas Costa Rica has multiplied its exports by 6 since 2001 to become the world's number one exporter of fresh pineapples, supplying 84% of international trade. The latter has been heavily controlled by the largest banana multinationals (Del Monte, Dole, Chiquita and Fyffes) for the past 20 years and is increasingly bearing the costs of price pressure from large retailers in Europe, especially German supermarkets and discounters. This in turns leads to growing social and environmental concerns and impacts in Costa Rica, which threaten the sustainability of the industry.

In the context, several civil society campaigns have been conducted in the past twenty years targeting German pineapple buyers, their commercial practices and consequences on producers and workers. In particular, Oxfam Germany published in April 2008 a report called "Bitter Fruit" which gathered testimonies in Costa Rica and analyse the supply chain towards German retailers.

The objective of this study is to update this analysis and provide new elements on the evolution of the pineapple value chain between Costa Rica and Germany over the past decade. It investigates German pineapple markets and value chains from a systemic perspective, looking at the potential consequences on the living conditions and environment of pineapple workers in Costa Rica.

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1. German pineapple market and value chains

a) The German food market

Germany is the biggest market for food and beverages in the European Union. According to Euromonitor International, grocery retailing reached sales of 240 billion Euros in 2015.¹

It is one of the very few European countries where households continuously increase their household expenditure on food, a tendency which accelerated since the economic crisis in 2008.²

In comparison with other major retail food markets in Europe, Germans are very price-sensitive consumers who also expect high quality products. As a result, the key characteristics of the German market are: consolidation, market saturation, strong competition and low prices³.

The overall breakdown of food sales by retail outlet in Germany can be estimated as follows:



Figure 1: Food sales by retail outlet in Germany
Source: BASIC, based on Euromonitor data (reported by USDA in 2014)

Discounters have been a prominent feature of the German retail market for the past 30 years: their market share has grown from 12% in the 1980s to 33% and above since the early 2000s, one of the highest proportion in world's food retailing. There is on average one discounter for every 5 231 people in the country, within a 10 to 15-minute drive of every German home⁴. The success of discounters is strongly driven by the development of private label food products focused on (low) price. While 20 years ago their offer was limited to a small range of products, they have today a wide portfolio in all consumer product areas, including fresh fruits.⁵

¹ USDA, Retail Foods in Germany, 2015

² Eurostat data (2004-12) analysed in 'The economic impact of modern retail on choice and innovation in the EU food sector', European Commission, September 2014

³ USDA Foreign Agricultural Services, The German Food Retail Market, 2012

⁴ Euromonitor International, Fresh Food in Germany, 2012

⁵ Euromonitor International, Overview of the Fresh Fruit, Vegetable and Floral Industries: Germany, April 2014

This is quite in contrast with the global situation in Europe where hypermarkets and supermarkets are the two main channels, accounting respectively for 35% and 33% of food sales, whereas discounters are only the third most popular distribution channel reaching 17% of market share (see diagram below).⁶

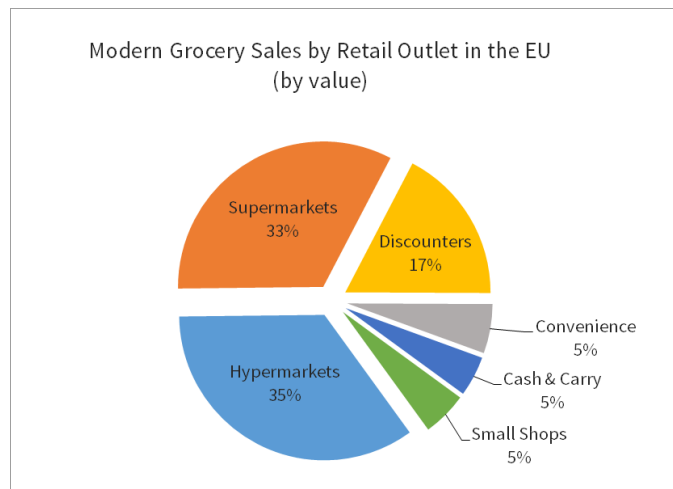


Figure 2: Modern grocery sales by retail outlet in the European Union
Source: BASIC, based on Planet Retail, European Grocery Retailing, May 2014

Because of the competition with discounters, traditional retail chains in Germany have strongly developed their private labels, (in 2011, the market share of private label products was above 40%).⁷

They have also created purchasing alliances through the development of buying groups and have started to develop their own discount banners.⁸

As a result, the German retail market is today dominated by 5 major retailers - Edeka, Rewe, Lidl, Aldi and Metro - which are positioned on the 3 distribution formats: supermarkets, hypermarkets and discounter stores (Aldi being a specific case focused on discounter outlet only).

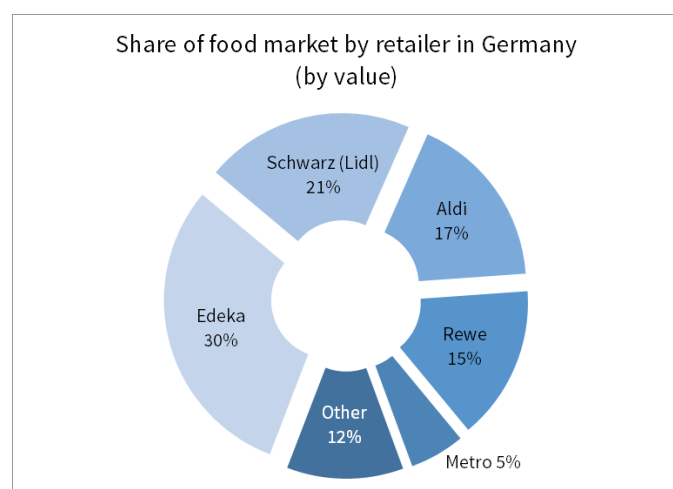


Figure 3: Food sales by retailer in Germany
Source: BASIC, based on data from Euromonitor and Lebbermittelpraxis (2014)

⁶ Planet Retail, European Grocery Retailing, May 2014

⁷ USDA Foreign Agricultural Services, 2012, op. cit.

⁸ Planet Retail, European Grocery Retailing, May 2014

The concentration of the German retail market is more pronounced than on average in Europe; to illustrate, in 2012, the sales of the top 5 retailers amounted to:⁹

- 61% of the consumer spending on food and drink (compared to 45% on average in the EU)
- 88% of the edible grocery sales of all modern retail groups (compared to 83% in the EU) – see diagram below

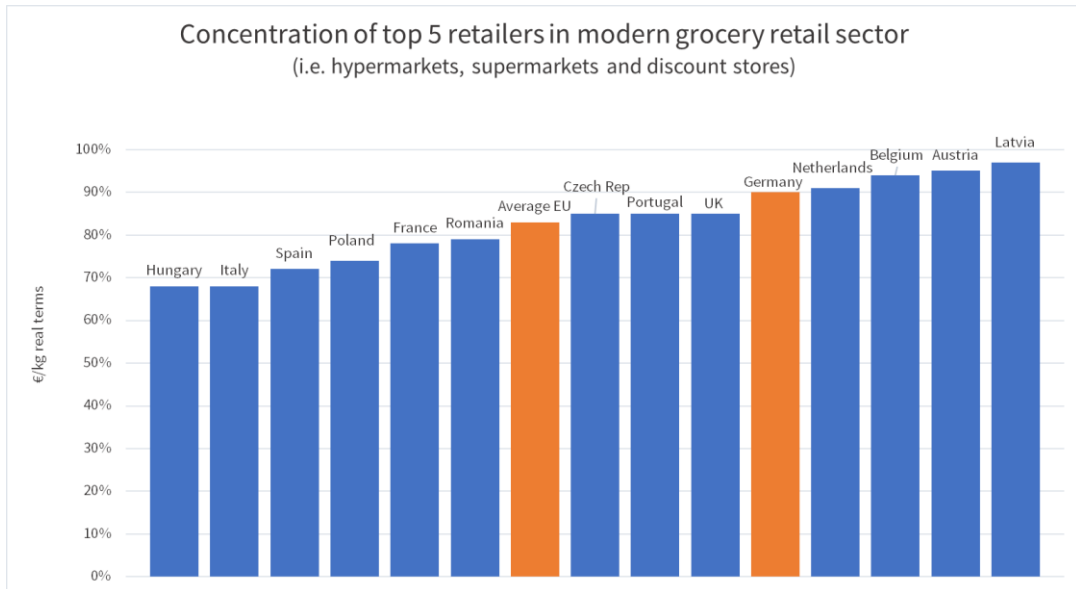


Figure 4: Concentration ratio of the top 5 retailers in the modern grocery sector

Source: BASIC, based on European Commission, *The economic impact of modern retail on choice and innovation in the EU food sector*, September 2014 (based on Planet Retail and Euromonitor data from 2012)

The 5 leading German retailers are also very strong outside German borders: they are among the ten biggest retailers in the EU who jointly represent almost 50% of modern food retail sales¹⁰ in Europe (see diagram below).

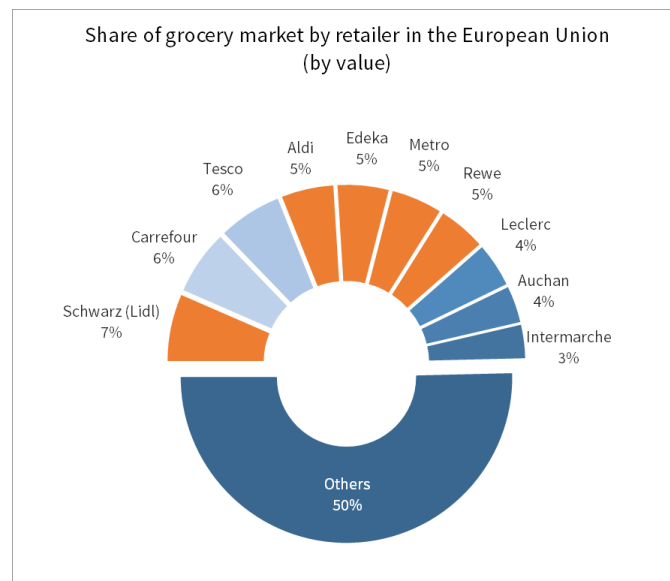


Figure 5: Share of modern grocery market by retailer in the European Union

Source: BASIC, based on Planet Retail, *European Grocery Retailing*, May 2014

⁹ European Commission, *The economic impact of modern retail on choice and innovation in the EU food sector*, September 2014

¹⁰ Planet Retail, *European Grocery Retailing*, May 2014

An emblematic change happened in 2014: **the Schwarz group, better known for its discount banner Lidl, has become the largest retailer in Europe** - supplanting the longstanding leaders Tesco and Carrefour - and Aldi, the other leading German discounters, has become the 4th largest (cf. previous diagram).

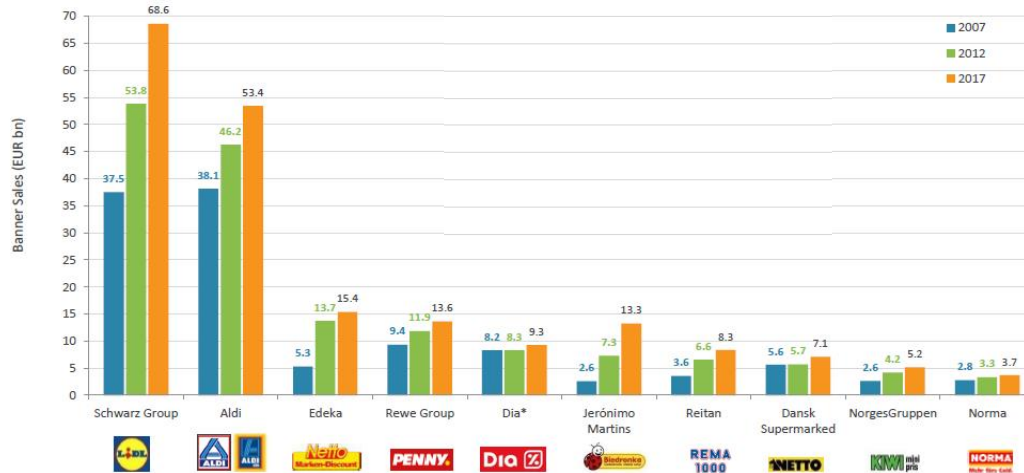


Figure 6: Top 10 Discount Store Operators in Europe by Total Sales, 2007-2017 (forecast)
Source: Planet Retail, European Grocery Retailing, May 2015

This illustrates the strong rate of expansion of discounters, not only in Germany, but more globally at the pan-European level (see above) and their growing influence in food value chains.

b) The German pineapple market

Germany consumes more fruit than any other country within the European Union, but the consumption per household is in a slight decline (like in several other European countries): it reached 81.5 kg per household per year in 2010, which is slightly below other EU countries. In comparison with average German food sales, fresh fruits are more often bought in modern retail channels, in particular discounters' outlets.

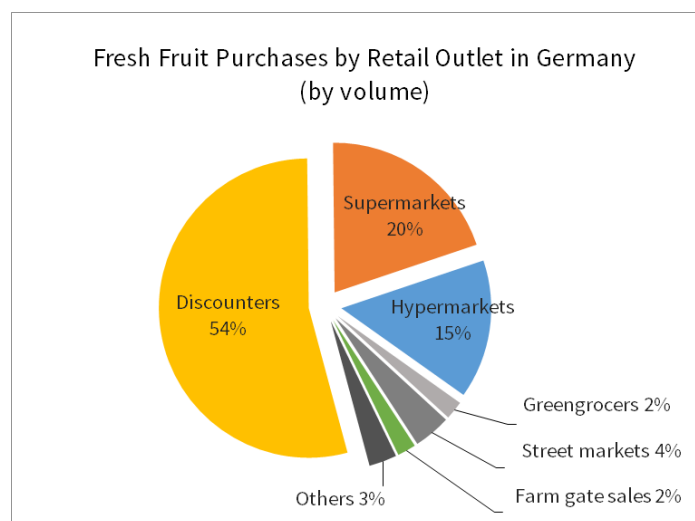


Figure 7: Fresh Fruit Purchases by Retail Outlet in Germany
Source: USDA, based on Fruchthandel Directory 2013

As shown in the diagram above, German consumers mostly buy fresh fruits in modern retail chains, almost 90%. Most notably, the **discounters have reached a 54% market share in the fresh fruit sector in 2013 (compared to only 38% in 1999)**, becoming the leading actors in the market.

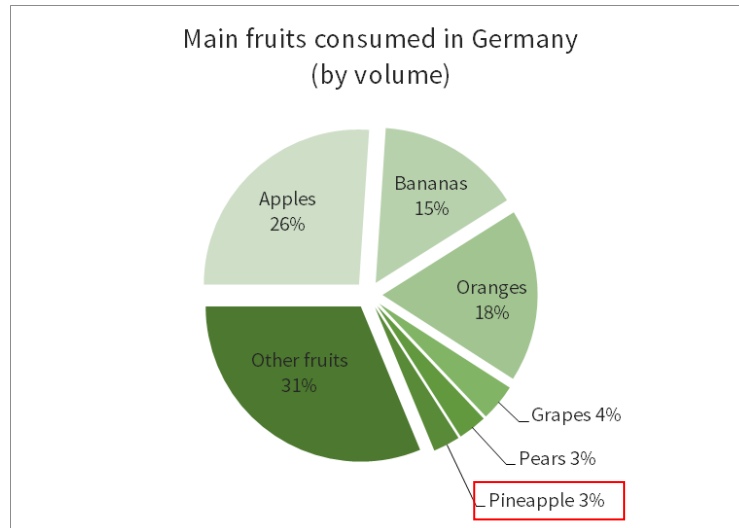


Figure 8: Main fruits consumed in Germany
Source: BASIC, based on AMI data (2011)

The main fruits consumed in Germany (including imports and domestically grown) are apples (26%) oranges (18%) and bananas (15%). Pineapple is the 6th most consumed fruits and accounts for roughly 3% of total consumption (see above).¹¹

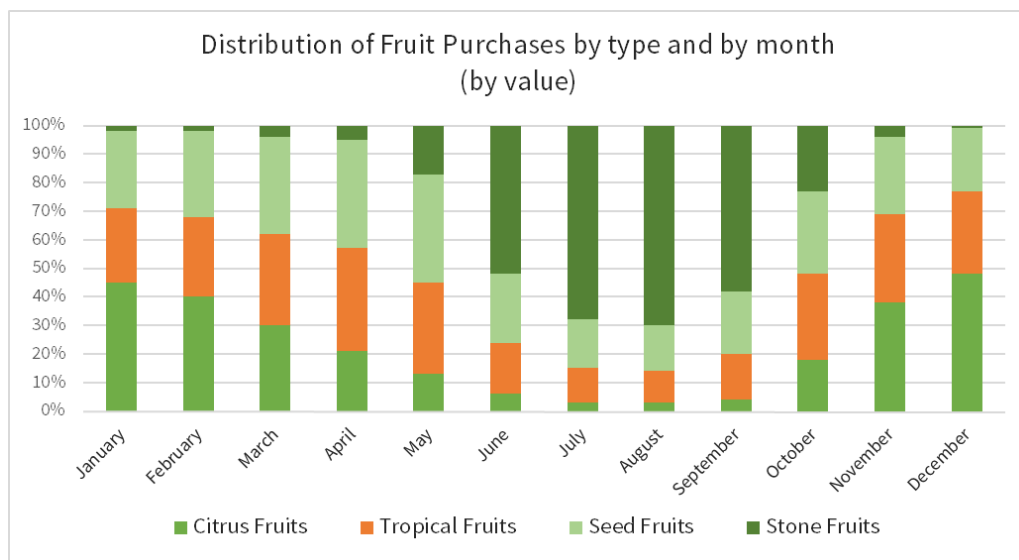


Figure 9: Consumption of fruits in Germany by type and month
Source: BASIC, based on AMI Markt Bilanz Obst (2014)

Along the year, **the consumption of fruits follows a two-seasons patterns** (see above diagram):

¹¹ CBI, Promising EU export markets for fresh pineapples, April 2014

- **From June to September**, the high-season for fruit production in Europe, the consumption of citrus (i.e. oranges, lemons), tropical fruits (i.e. bananas, mangos, pineapple) and seed fruits (i.e. apples, pears) is lowest, accounting for less than 50% of total fruit purchases.
- **From October to May**, these 3 categories account for more than 80% of German fruit consumption; during this 8-months season, tropical fruit purchases are quite stable, amounting to 30% of total fruit purchases.

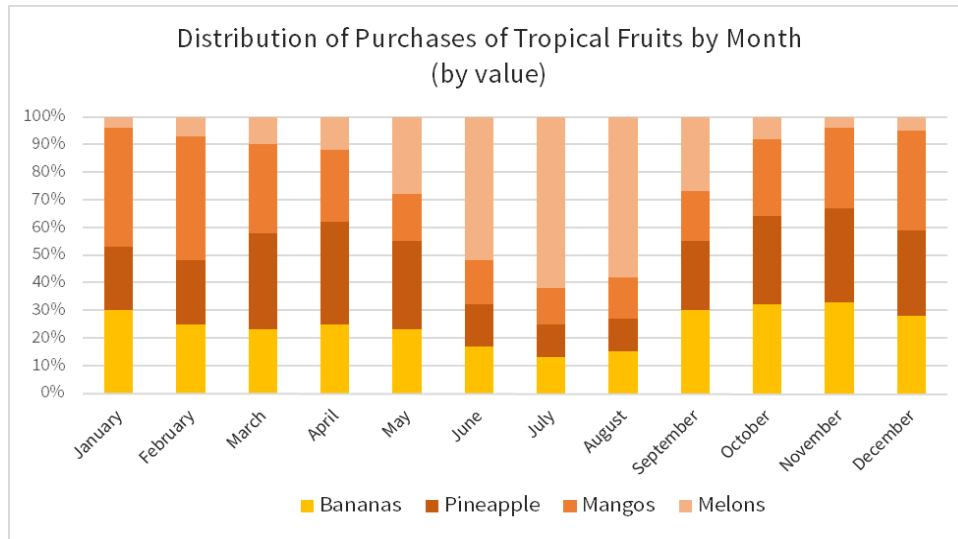


Figure 10: Consumption of tropical fruits in Germany by type and month
Source: BASIC, based on AMI Markt Bilanz Obst (2014)

Among tropical fruits, the **consumption of pineapple** globally follows the same trend as the wider category (cf. above diagram):

- From June to August, pineapple purchases are lowest, accounting for 10% to 15% of the tropical fruit category
- From September to May, the consumption of pineapple rises to 30%-35% of tropical fruit purchases (apart from January/February during the high season for mangos).

Germany is by far the largest market in Europe for pineapple: it accounts for almost 20% of the total EU pineapple consumption (see diagram below).

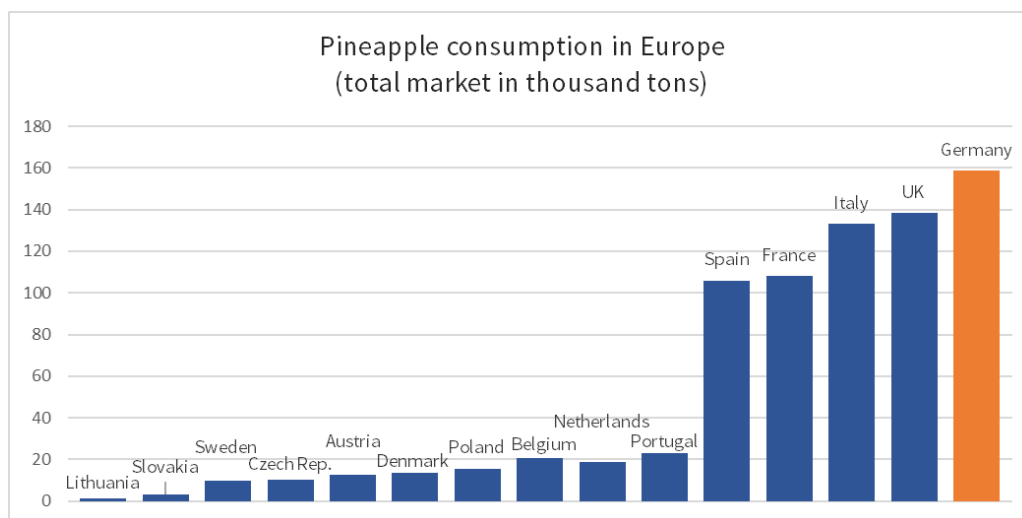


Figure 11: Main pineapple markets in Europe
Source: BASIC, based on Eurostat and Euromonitor data (2014)

Overall, the 5 biggest markets - Germany, UK, France, Spain and Italy - make up 80% of total EU pineapple consumption.

On a per-person basis, German consumers are only slightly above the EU average, reaching 1.8 kg per person and per year, compared to 1.6 kg in Europe (cf diagram below).

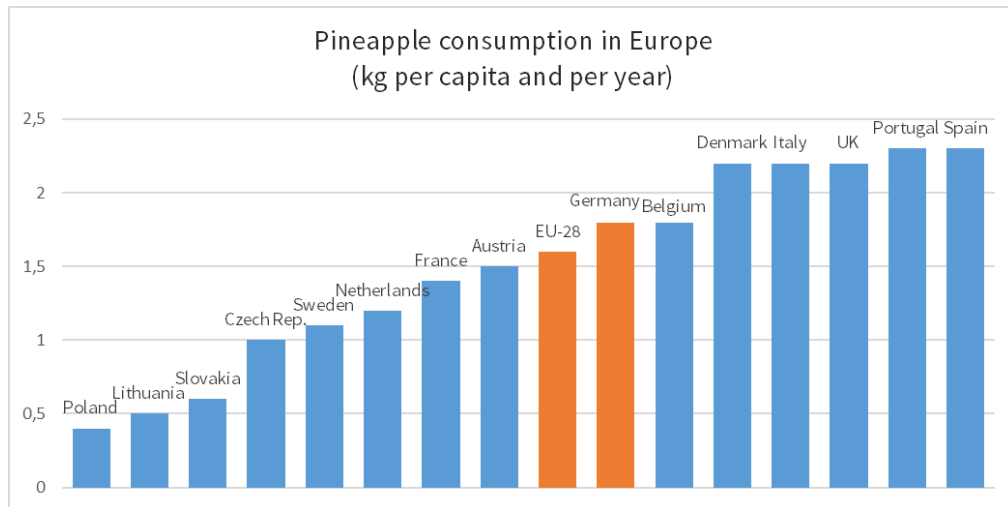


Figure 12: Average consumption of pineapple per person in Europe
Source: BASIC, based on Eurostat and Euromonitor data (2014)

In dynamic terms, the share of pineapples is expected to slightly decrease to 2.7% of the annual fruit consumption of German consumers in the coming years, whereas the sales of other tropical fruits are expected to increase.¹²

Families with children are the main consumers, being stimulated by supermarket promotion of German retailers, in particular discounters who sell more than 50% of pineapples in the country. Retailers place a great emphasis on the product's **price and cosmetic appearance**. This is why the main pineapple variety sold in Germany (and more globally in Europe) is the 'Extra Sweet', characterised by its **regular and steady quality, and produced in large plantations which bring significant economies of scale**¹³. The other varieties of pineapples are mainly sold in specialised exotic retail stores, restaurants and catering that attract wealthier consumers interested in paying an extra cost for good quality air freighted fruits.

German retail chains are also extremely concerned regarding the **safety of the fresh fruits they sell**, pineapple in particular. In addition to the HACCP¹⁴ preventive approach imposed by European legislation, most German retailers require products to have much lower MRLs (Maximum Residue Limits) of pesticides than the EU legislation¹⁵. Following the pesticide residue scandal uncovered by Greenpeace - in which Lidl was ranked worst - Lidl only allows fruit with a maximum of 30% of the allowed EU norm (100%) on authorised MRLs. In addition, Lidl limits the use of 4 different pesticides maximum and want to know their names. Edeka and Rewe allow 70% of the EU norm on MRLs.¹⁶

¹² CBI, Promising EU export markets for fresh pineapples, April 2014 op. cit.

¹³ USAID - ACED Project, End market study for fresh and dried fruits in Germany, 2012

¹⁴ Hazard analysis and critical control points is the food safety management system imposed by US and European legislation on all participants of the fresh fruit chain

¹⁵ USAID-ACED Project (2012): "If the MRLs are lower than the EU permitted level but higher than the retail chain's own standards, the latter often impose a penalty on the supplier and can exclude them from their list of suppliers for up to several months."

¹⁶ CBI, Promising EU export markets for fresh pineapples, April 2014 op. cit.

GlobalGAP certification, which has been developed and is managed by leading European retailers, is also a critical issue in the German fruit market¹⁷; producers who are not GlobalGAP certified have no chance to enter the market in a significant way, apart from small independent shops and green market traders (similar situation as in the UK and most northern European countries)¹⁸.

Retailers being the biggest distribution channel for pineapple in the country (selling almost 90% of volumes), all importers and distributors that supply them have to comply with their **stringent safety requirements**, making them mandatory for the whole sector in Germany.

c) The German pineapple value chain

Up to the late 1990s, the EU pineapple supply was dominated by French plantation companies based in Côte d'Ivoire, and Costa Rica was a minor origin.

Europeans in general, and Germans in particular, mainly consumed the pineapple variety called 'Smooth Cayenne' which originated from Western Africa. This variety accounted for 90% of the European market, compared with 10% for the former Costa Rican variety called 'Champaka'.

In 1996, a new hybrid variety called 'Extra Sweet' (or MD-2 in technical terms) was developed in Costa Rica and first introduced into the EU **by the Del Monte Company**. It brought considerable changes to the world pineapple trade.

Costa Rica has become by far the largest fresh pineapple (MD-2) exporter to Europe: its share of supplies to the EU has reached more than 85% whereas exports from Côte d'Ivoire have been reduced to less than 3% (see diagram below).

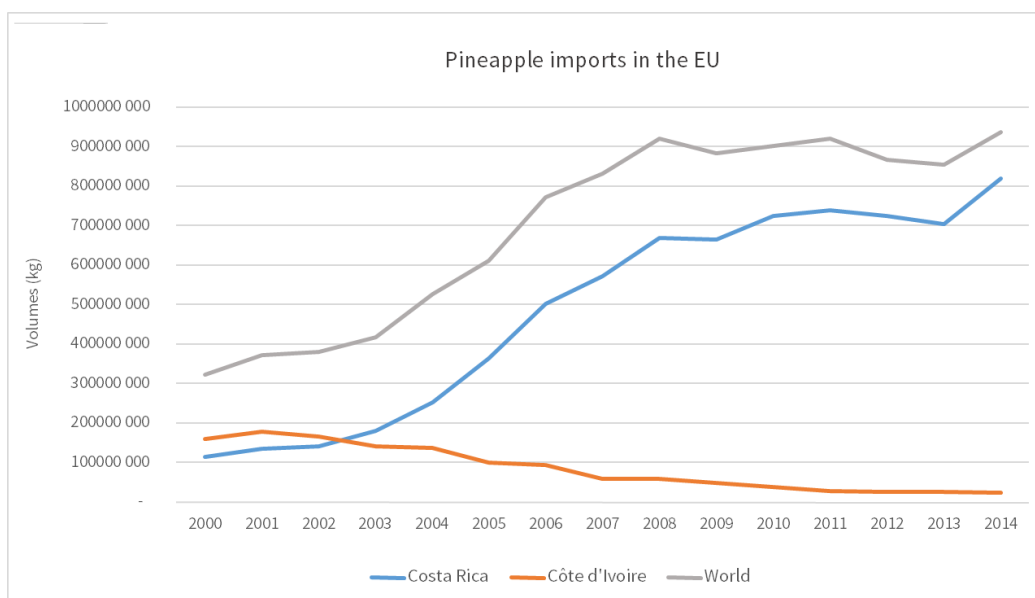


Figure 13: Volumes of pineapple imports in the EU
Source: BASIC, based on Comtrade data (2015)

¹⁷ GlobalGAP is a voluntary standard primarily designed to reassure consumers about how food is produced on the farm and to minimize environmental impacts, develop responsible approaches for workers health and safety (cf. USAID, 2012, op. cit.)

¹⁸ USAID - ACED Project, 2012, op. cit.

Consumers quickly turned their back to ‘Smooth Cayenne’ which was less sweet, less juicy and more difficult to store than **the ‘Extra Sweet’**. **The latter has become the standard variety** consumed all throughout Europe, generating a **triplification of pineapple consumption** which rose from 300 000 tonnes in 1990 to more than 900 000 tonnes in 2015 (see previous diagram).¹⁹

The trend is the same in Germany, the biggest pineapple market in Europe (see below).

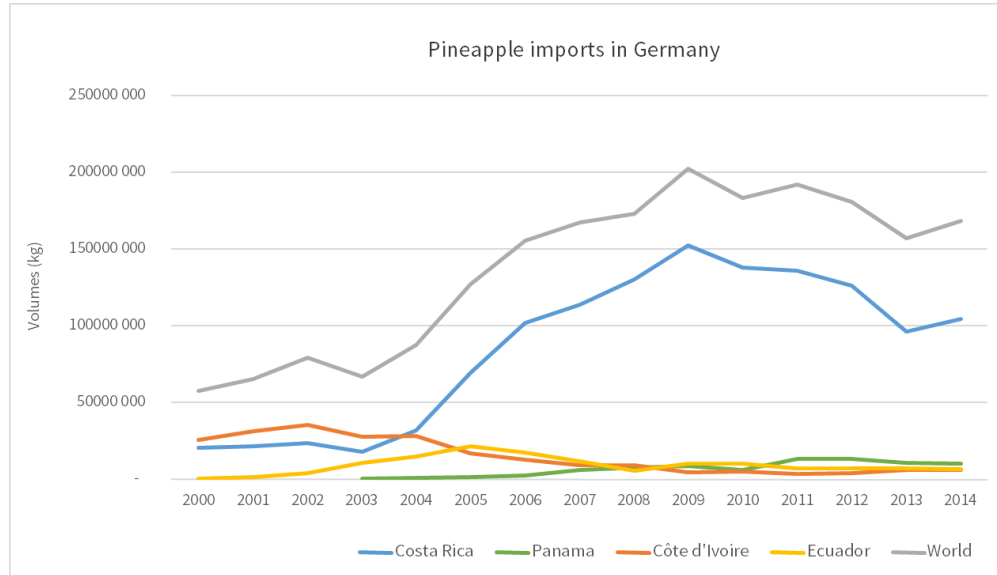


Figure 14: Volumes of pineapple imports in Germany
Source: BASIC, based on Comtrade data (2015)

The vast majority of pineapples consumed in Germany are ‘Extra Sweet’ coming from Costa Rica (at least 65%); other origins for this variety include Panama, Ecuador and Ghana. In addition, some ‘Smooth Cayenne’ is still imported from Cote d’Ivoire.

Pineapples must be harvested ripe on the plant in producing countries because they do not continue to ripen once they are cut.

In Europe in general, and in Germany in particular, more than **99% of the ‘Extra Sweet’ (MD-2) pineapples are supplied by sea transport**, often together with bananas. This is largely due to the large investments in (refrigerated) container lines since the 1990s which created a cheaper and very competitive alternative to the old “cold decks”. Over the past 20 years, the increase in imported pineapple by sea freight has turned supermarkets into key players in the sector and accelerated the disappearing of smaller players which are increasingly replaced by the companies able to sell huge volumes directly to retailers.

The other varieties are mainly transported by air freight, apart from some ‘Smooth Cayenne’ pineapples still shipped by sea from Côte d’Ivoire, the last country to do so (but they represent less than 1% of total EU volume sales, mostly for niche markets).²⁰

Belgium and the Netherlands are the two main entry points into the EU: the majority of pineapples enter via the ports of Antwerp (New Fruit Wharf) and Rotterdam. Both are major ‘transit hubs’ for the continent: more than **75% of pineapples is re-exported** whereas only 20-25% remains in the two countries to be sold to consumers.

¹⁹ CBI, Promising EU export markets for fresh pineapples, April 2014 op. cit.

²⁰ Ibid.

Antwerp and Rotterdam are equipped with modern cool storage facilities, distribution and ripening centres. Logistics are geared to reduce the lead-time, to handle very large volumes, and to reach the lowest possible costs. Importers based in Belgium and the Netherlands are able to supply pineapples all over Europe within a deadline of two days of ships docking and offloading the fruits. Other **ports that also serve as entry points for pineapples in Europe include Bremen and Hamburg in Germany**, Genova in Italy (Terminal Frutta) and Le Havre in France, whereas Sheerness in the UK is mainly the entry point for its domestic market.

The high volume **worldwide trade of pineapple is dominated by the 4 large banana multinationals: Dole, Del Monte, Fyffes and Chiquita. Pineapple exports are mostly in the hands of their large-scale plantations and their organised value chains, in particular from Costa Rica.** They also buy part of their pineapples supplies from independent plantations.

German retailers purchase most of their pineapples via annual tenders which are very competitive. Pineapples that are not sold through the large retailers generally end up on **wholesale markets** where they are destined for small grocery retailers, street markets, specialised (exotic) fruit retailers and ethnic shops.

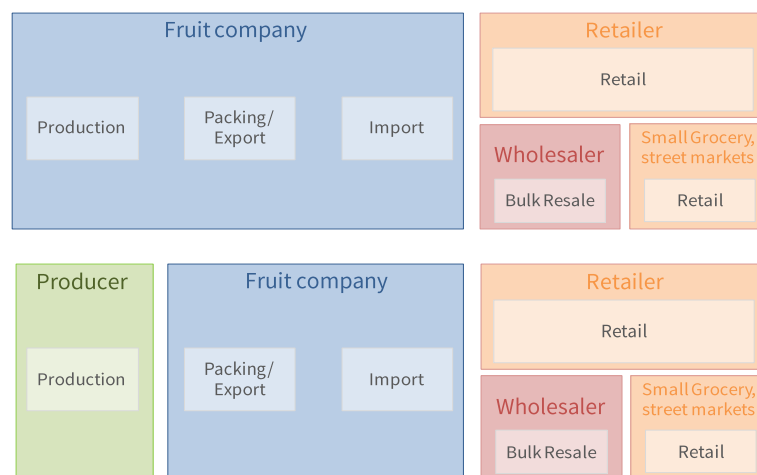


Figure 15: Main Pineapple value chains configurations in Germany
Source: BASIC, based on CBI (2014)

The following diagram summarizes the market share of the main pineapple importers in Germany:

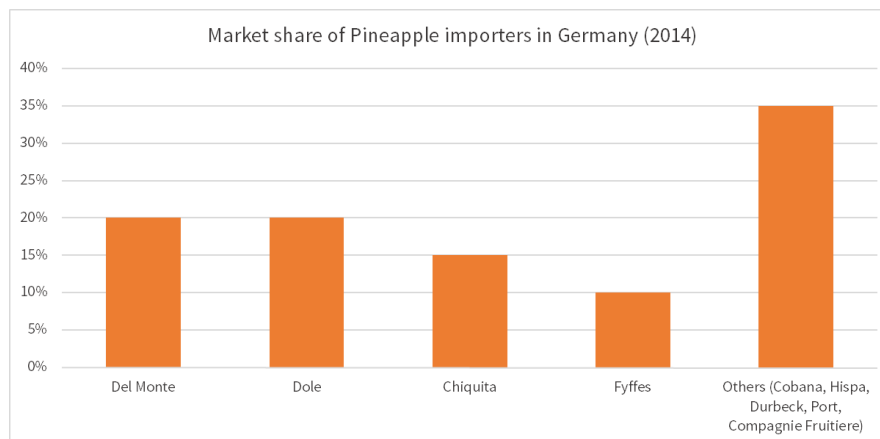


Figure 16: Market shares of main pineapple importers in Germany
Source: BASIC, based on European Commission (2014)

German retailers tend to multi-source and switch between suppliers, the main one being Del Monte, the leader of pineapple import in Europe, followed by Dole, Chiquita and Fyffes (in particular through its subsidiary Weichter). **Together, these 4 companies account for 65% of pineapple imports in Germany** (see previous diagram). Other national players include Cobana (in partnership with Banacol), Dürbeck T-Port, Hispa (mostly active in the Netherlands) and Compagnie Fruitière (which operates from France).

There is few direct sourcing of pineapple by German retailers (mainly Edeka) as opposed to other European countries such as the UK.²¹

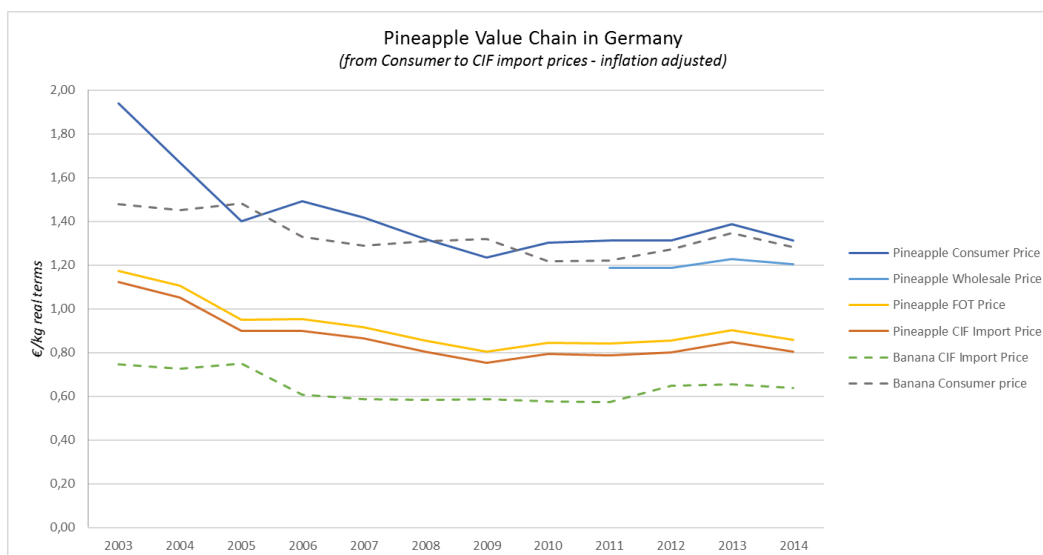


Figure 17: Pineapple value chain in Germany (2000-2014)
Source: BASIC, based on DEStatis, Eurostat, Comtrade and CIRAD data

As shown in the above diagram (based on public statistics published by DEStatis, AMI, Eurostat, Comtrade and CIRAD), **the strong upward trend in ‘Extra Sweet’ (MD-2) pineapple supply from Costa Rica induced a significant price fall on the market.** Reaching at a lower price than the ‘Smooth Cayenne’ variety, **pineapples have become accessible to almost everybody.** In Germany, discounters (Aldi and Lidl) have pushed up demand among their extreme price conscious consumers in the years 2003-2008.

After bananas, pineapples have become a popular tropical fruit at an affordable cheap price: on average, the consumer price per kg of pineapple has come down to the same level as the banana price over the past decade

The associated **CIF import price of pineapple into Germany (all origins being included) has dropped by more than 30% over the past decade**, from 1,17 € per kg in 2003 (once corrected for inflation) to little more than 0,8 € per kg in 2014.

By way of comparison, **the CIF import price of pineapple is now only 20% above the banana import price into Germany - the cheapest tropical fruit imported in the country - whereas it was 65% higher in 2003** (cf. previous diagram).

It also appears from these average statistics that the margin of German wholesalers and especially retailers on pineapples has remained stable over the past 10 years whereas the import price of the fruit into the country kept decreasing.

²¹ European Commission, DG Comp Merger Registry, Chiquita Brands International/ Fyffes merger procedure, 2014

The resulting import price for Costa Rican pineapples, which account for the vast majority of imports in Europe in general, and Germany in particular, **has almost halved over the past 15 years** as illustrated in the following diagram.

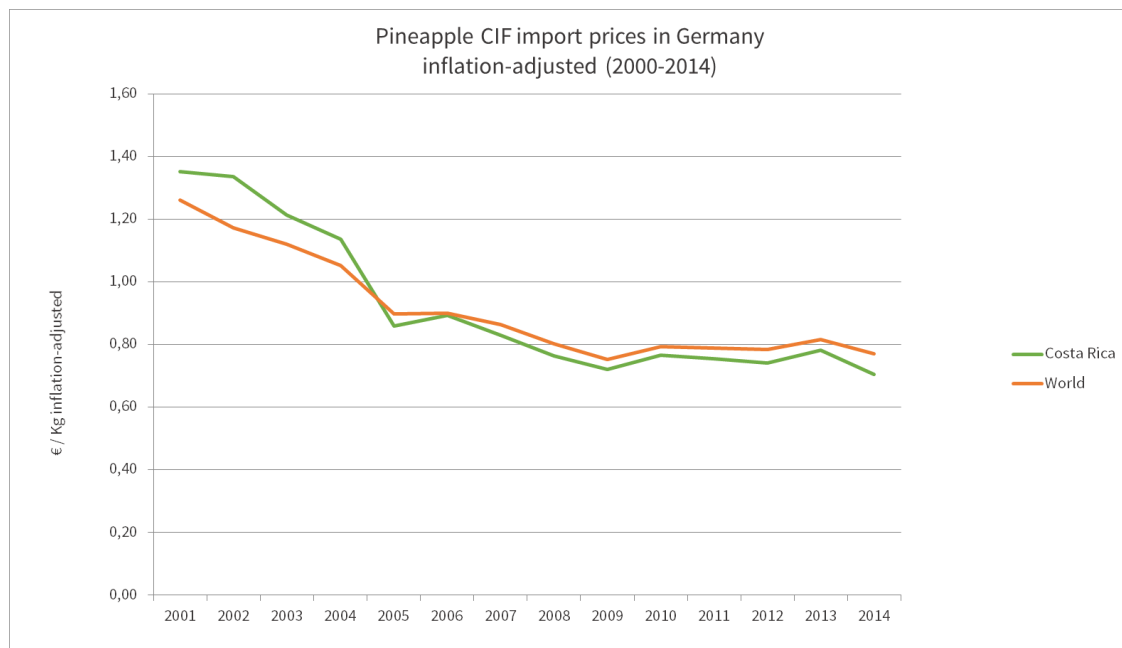


Figure 18: CIF Import prices of pineapples in Germany (2001-2014)
Source: BASIC, based on Comtrade data (2015)

KEY FINDINGS

- Germany is by far the biggest market for pineapples in the EU. The buying power of retailers in Germany, especially discounters, is more pronounced than in most other European countries. Almost 90% of fruits are sold through retailers, including more than 50% in discounters' outlets
- The consumption of pineapples in Germany has more than tripled since 2000 thanks to the development by the company Del Monte of a new variety called 'Extra Sweet' or PD-2 in Costa Rica. After bananas, pineapples have become since then a popular tropical fruit at an affordable cheap price for German consumers.
- The associated value chains are based on large-scale plantations and logistics which are heavily controlled by the 4 banana multinationals – Del Monte, Dole, Chiquita and Fyffes. Together, they account for more than 65% of pineapples imports in Germany, supplying retailers all year round.
- While the margins of retailers and wholesalers has remained stable over the past decade, the related import prices of pineapples from Costa Rica have almost halved since 2001, putting strong pressure on producers and workers to meet the stringent demands of retailers in Germany.

2. Pineapple production in Costa Rica

a) General overview of pineapple in Costa Rica

Pineapple cultivation in Costa Rica **started about 60 years ago** when the Southern Pineapple Corporation and the Banana Corporation in Costa Rica (Chiquita), tried to produce a hybrid variety, the Montelirio, to compete on international markets with the Smooth Cayenne variety produced in Cote d'Ivoire. This hybrid having failed to be competitive, Costa Rica's largest pineapple producer, the Pineapple Development Corporation (PINDECO), a subsidiary of Del Monte, introduced two new varieties developed by the Pineapple Research Institute of Hawaii: first the Champaka in the early 1980s, and most importantly **the 'Extra Sweet' (also called MD-2) in 1996. The latter proved to be hugely successful:** the new 'Extra Sweet' variety attracted consumers very quickly in Europe and the USA, not only because of its sweet taste, but also because of its regular and steady quality and juiciness. **Building on this success, Del Monte, and later Dole, quickly expanded its production** in the southern Pacific coastal regions of Costa Rica. With the introduction of new technologies and their increased dominance in world pineapple supply chains, the production and the export of pineapple in Costa Rica has exponentially increased in the last two decades.²²

Thanks to the 'Extra Sweet' variety, **Costa Rica has become the world's number one exporter of fresh pineapples, supplying 84% of international trade. Exports grew from \$142 million USD in 2001 to \$865 million USD in 2014**, 46% going to Europe and 53% to the USA. The sector directly employs 26,600 people and exports are currently spread across 170 exporting businesses and 72 packing plants. **Pineapples are now Costa Rica's second biggest agricultural export after bananas** (which replaced coffee as the primary agricultural export in the 1990s).²³

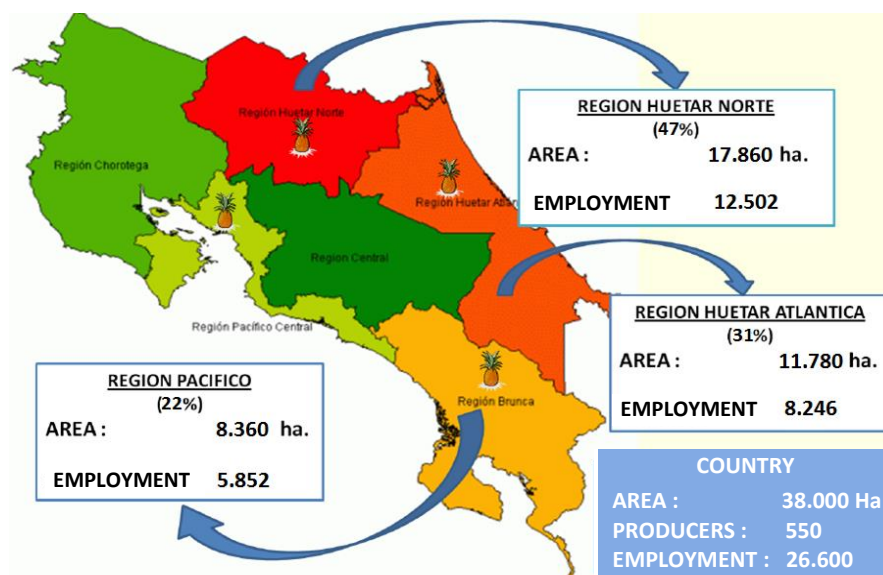


Figure 19: Pineapple production in Costa Rica
 Source: BASIC, adapted from Canapep (2015)

²² Yuan V., La piña en Costa Rica – informe de sector, December 2011

²³ <http://canapep.com/estadisticas/> accessed on 21/01/2016

Pineapple production is still mainly concentrated in the southern Atlantic and Pacific coastal regions of the country, but is expanding rapidly in the north of Costa Rica. The dramatic increase in the value of the region's land reflects the increase in the value of pineapple. In 2016, over 38 000 hectares of land were being used for pineapple cultivation (see previous diagram).

Today, Dole, Pindeco (subsidiary of Del Monte), Anexco (subsidiary of Fyffes), Banacol and Grupo Acon are amongst the large pineapple landowners. There are also 550 smaller pineapple producers in Costa Rica, most of them supplying or leasing land to Dole or Del Monte (down from over a thousand small and medium producers 10 years ago).²⁴

The production of **the 'Extra Sweet' pineapple requires large areas of land and considerable financial resources (around \$20 000 USD per hectare on average)**²⁵. The fact that this variety was first launched by Del Monte in Costa Rica has set a high 'standard' in terms of farm size (up to 15 000 ha). **The example of Del Monte was later copied and developed by the all other large fruit companies - Dole, Chiquita and Fyffes - first in Costa Rica, then in Panama, Ecuador and Honduras.** As a result, the large banana multinationals have acquired strong control over the world trade of fresh pineapples, channelling the supply to minimize lead times to consumer.

These companies achieved large economies of scale in Costa Rica, producing pineapples for a market dominated by one variety. They have done large investments in technology, logistics, (market) research and promotion campaigns. All large exporters in the country have their facilities for washing, sorting, cooling, packaging, bar-coding/labelling and shipping the pineapples in refrigerated containers to distribution centres close to the supermarket outlets. By maximising added value, their business model enables them to deal evenly with the increasing buying power of EU supermarkets (e.g. Lidl, Tesco, Carrefour and Aldi) with which they have fixed contracts.

b) Social and environmental impacts in the Costa Rican pineapple sector

The pineapple industry in Costa Rica employs approximately 26 600 people as direct employees (see previous diagram):

- the agricultural (production) component of the pineapple industry requires a labour force all year long, with 0,5 to 1 labourer working per hectare²⁶.
- the agro-industrial (processing) component consists of the packing plants, which require at least 14 operators for approximately 200 crop hectares.

Pineapple production also generates indirect employment associated with marketing, transport, packing and other sectors associated with the industry.

The country has one of the **highest pineapple yields** of all producer countries (up to 80 to 100 tonnes per hectare and more), **but it is also a relatively high-cost producer**, with wage costs being amongst the highest in Latin America. The minimum wage (set by law in agriculture) currently stands at 9 509 colones (almost 16 euros) per day for a working day of eight hours.²⁷

²⁴ International Labor Rights Forum, The sour taste of Pineapple: How an Expanding Export Industry Undermines Workers and Their Communities, October 2008

²⁵ OIT, Nicaraguense en el Norte: condiciones laborales y practicas de contratacion, 2013

²⁶ Ibid.

²⁷ Costa Rican Government, Decreto Ejecutivo No. 38728-MTSS, 10 November 2014

To offset this lack of competitiveness, **most farms operate on a piece rate work system that is applied across the whole production process, from the field to the pack house**, paying workers on a price rate basis. As a result, pineapple workers often **perform tasks for 10 to 12 hours a day** (both in the field and packing plants) to provide the services required by their employer and because the rate is often so low that it is very difficult to earn a living wage in an 8-hour shift.²⁸

The **lack of employment stability** is also often reported by Costa Rican unions as well as the disproportionate use of **temporary contracts and subcontracting** which can notably prevent workers from joining a union. These practices are often used to increase the labour flexibility and meet the changing requirements of buyers whilst keeping costs to a minimum.²⁹

By law, workers can form unions, but in practice unionized people are often pressured by management (because of the long history and culture of anti-union in the Costa Rican fruit industry) and union influence is declining.

In addition, **a high number of Nicaraguan migrants, potentially the majority of pineapple workers in the country, are reported working in Costa Rican plantations**, being frequently employed by a subcontracted recruiter with often no contract, which prevents them from accessing social security and health and safety measures.³⁰

The main reasons given for this situation by Costa Rican plantation owners are³¹:

- the **constant fall in buyers' prices who demand for every-low prices, especially in Europe**; and the shift of responsibility on workers by producers who argue that 'the wages are determined by the need to keep the export price of pineapples below a given benchmark in order to stay in business against competitors',
- The **tightly managed and demanding time schedule** imposed by buyers to implement the so-called 'just- in-time pineapple'.

In sanitary and environmental terms, the constant pressure to produce a high yield and a perfect pineapple of a uniform size and colour has resulted in production practices that can strongly impact the health of workers because of the significant use of chemicals.

Reports of ill health among pineapple workers stem largely from the misuse of pesticides and fungicides on plantations. The problem is more acute in Central America largely because diseases are more of a problem and require more spraying.³²

Interviews in pineapple farms in Costa Rica suggest that workers consider the use of pesticides as an accepted part of the production process, and something they just have to get used to, thereby **shifting the main responsibility for safety on them if they do not fully protect or stay in the field where they can be endangered**. The situation appears to be somewhat different in pack houses, where health and safety requirements are often more strictly adhered to (one explanation being the fact that supervisors have more of a presence compared to the field).³³

²⁸ ILRF, The sour taste of Pineapple: How an Expanding Export Industry Undermines Workers and Their Communities, 2008 op. cit.

²⁹ Ibid.

³⁰ Ibid.

³¹ Ibid.

³² Ibid.

³³ Ibid.

c) The pineapple value chain in Costa Rica

Together with other factors, the **downward trend of pineapple prices in Germany contributes to increasing pressure on Costa Rican** workers to give up the better conditions they have obtained over the years in the name of fiercer competition between producers and producer countries to supply the retailers.

To analyse further this situation, we have modelled and estimated the **value that is left for Costa Rican pineapple producers** based on the CIF import price in Germany and the EU (based on Comtrade and Eurostat data), deducting a conservative estimation of:

- the shipping costs, insurance and freight
- and the margins published by the major importers operating between Costa Rica and Europe: Chiquita, Fyffes, Dole and Del Monte.

An example of estimation for the year 2014 is provided below:

CIF import price of pineapples	-	Conservative estimation of shipping & insurance costs	-	Conservative estimation of importers/exporters margins	=	Conservative estimation of the unit value of exported pineapples (FOB)
1,07 US\$/kg	-	0,27 US\$/kg	-	0,11 US\$/kg	=	0,69 US\$/kg

Figure 20: Calculation Model of the unit value of exported pineapples from Costa Rica to Germany
Source: BASIC

The results for Costa Rican pineapples exported to the EU and Germany are provided below:

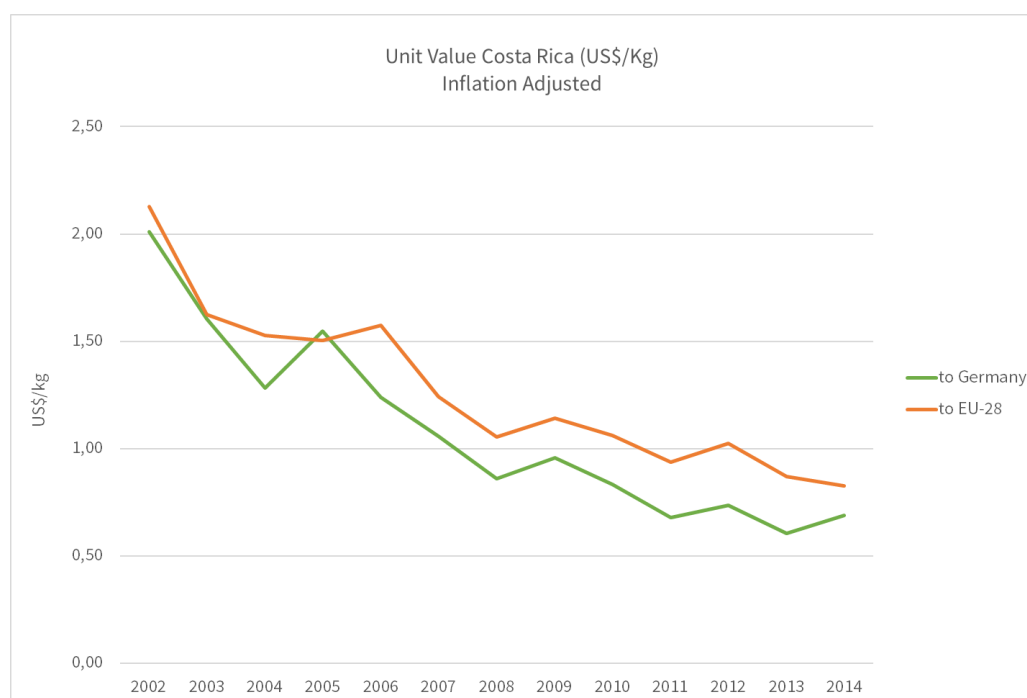


Figure 21: Evolution of the unit value of Costa Rican pineapples exported to Germany (2002-2014)
Source: BASIC based on data from Comtrade, Sopisco, import companies and literature review

The above estimations show the **sharp decrease of value left for Costa Rican producers since 2002 once corrected for domestic inflation:**

- the **average unit value of pineapple exported to the European Union dropped by 60%** between 2002 and 2014 (from \$2,13 USD per kg in 2002 to \$0,83 USD per kg in 2014).
- the **average unit value of pineapple exported to Germany dropped by 65%** over the same period (from \$2,01 USD per kg in 2002 to \$0,69 USD per kg in 2014).

Moreover, as illustrated in the diagram above, **the unit value of pineapple exported to Germany has been roughly 20% lower than the EU average over the past 10 years.**

This demonstrates the **significant pressure on prices exerted by the German market** which leaves **less and less value** for the producing stage of the chain in Costa Rica and **“pays” 20% less than the average European market.**

To fully understand the consequences on producers and workers, it is important to confront the declining price trends illustrated in the previous analysis with the **strong increase of production costs and living costs** in Costa Rica over the past decade.

Since 2012, the Montpellier-based CIRAD (International Research Centre on Agriculture for Development) conducts an **experimental analysis of the evolution of costs**, from production up to the import of bananas (the reference year being 2001) which is **also applicable to pineapples** given the similarities in production systems and the facts that both are often transported together in the same container liners.³⁴

The results show that, between 2001 and 2015 (see diagram below):

- Costs of shipping have increased by 233 %
- Costs of inputs (fertilizers and agrochemicals) have increased by 195 % on average
- Costs of packaging materials have increased to a lesser extent by 150 % on average

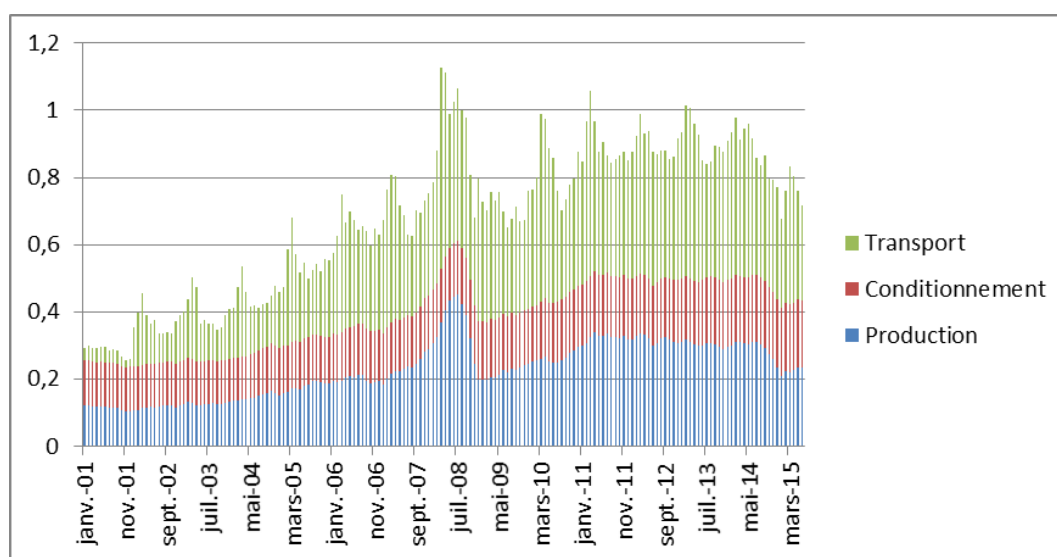


Figure 22: Banana cost index per stage (European Import Supply Chains)

Source: CIRAD (2015)

³⁴ CIRAD, “Coûts intermédiaires de la filière banane d’importation en Europe : Répartition et évolution”, Novembre 2012

In addition, **the costs of compliance with quality, sanitary and environmental standards have also significantly increased over the past decade.** This is all the more relevant with regards to the European market because of the stringent standards demanded by food retailers in most countries. Such standards lead to more formal and complex methods for monitoring quality (e.g., risk assessment and risk management systems) and growing implementation, compliance and certification costs that are mainly incurred by producers³⁵.

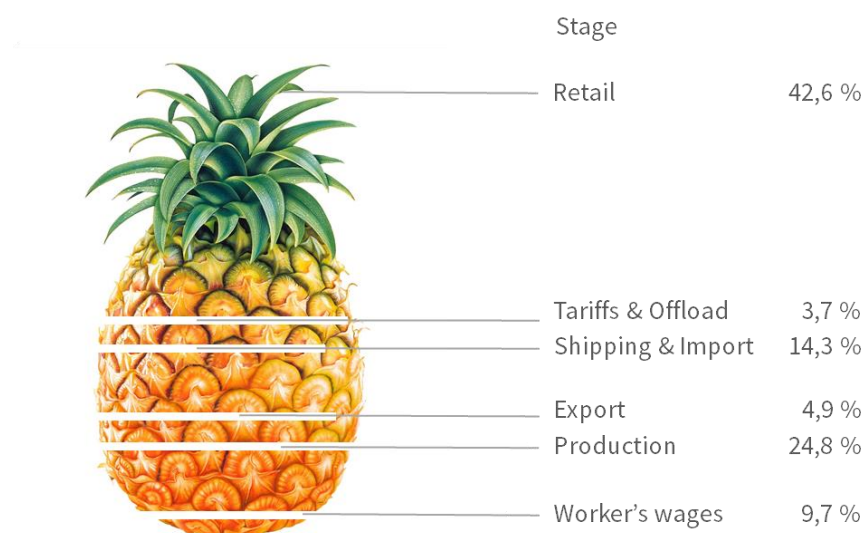
Finally, over the same period, as stated earlier, one of the key trends that impacted pineapple producers and workers is the **significant increase in living costs.** This is best evidenced by the evolution of the national consumer price index which is calculated on the basis of the **costs of food, health, education, housing, transport and communication. In Costa Rica, the consumer price index has increased by 218 % since 2001.**³⁶

This translates into the following diagram which shows the value breakdown along the pineapple chain between Costa Rican suppliers and German buyers, from workers' wages up to retailers' margins for an average producer.

The estimations in this diagram are based on the calculations detailed in the previous chapters (value chain breakdown detailed in figure 17 and modelling of costs detailed in figure 21).

They were completed with estimations of production costs and workers' wages compiled by researchers of the University of California, the EARTH University and EcoAgriculture Partners who analysed the business models of 44 pineapple farms from all sizes which represent 30% of the total Costa Rican production.³⁷

As illustrated below, workers only earn on average 9-10 % of the total value of pineapple while retailers manage to capture roughly 43 %.



*Figure 23: Pineapple value breakdown between Costa Rica and Germany
Source: BASIC based on data from Eurostat, CIRAD, Comtrade, Sopisco and literature review*

³⁵ Hatanaka et al., Third-party certification in the global agrifood system, 2005 ; Common Fund for Commodities, 2006

³⁶ Economic Commission for Latin America (ECLA)

³⁷ Kellon, D., R. León, and R. Marsh. 2011. Pineapple producer perspectives and policy implications to promote ecologically sustainable production of pineapple in Costa Rica. Ecoagriculture Report. Washington, DC: EcoAgriculture Partners

In order to ensure long term sustainability, the buyers of Costa Rican pineapple should take into account for their price setting these estimations, but also the additional hidden costs which are currently ignored by the market: job losses in rural areas, workers and producers earning less than the living wage/income, tax evasion, and the damage related to emissions of greenhouse gases (which contribute to climate change), use of chemicals, water pollution and abstraction, air pollution, soil degradation, waste not recycled, loss of biodiversity...

d) Unfair Practices issues in the Costa Rican pineapple sector

The UK-based organization Feedback organized a mission to Costa Rica in August 2015 to investigate how UTPs may occur in the pineapple and banana sectors in Costa Rica and their potential consequences on workers (the weakest links in the chain).³⁸

Firstly, interviewees **suggested that a number of organisations are frequently selling pineapples below production cost to Europe through the wholesale market**, thereby distorting the international market and creating downward pressure on other producers and exporters. This led the large producers and exporters in Costa Rica to sell under fixed contracts with clients in order to avoid the negative consequences, whilst smaller producers who opt for spot sales to the open pineapple market end up quite vulnerable. Ultimately, these spot sales at very low prices, sometimes below production cost, create instability in the wider pineapple market and contribute to the price pressures from supermarkets.

Secondly, the six pineapple producers interviewed highlighted that **retailers are demanding an increasing number of certifications**, but the prices they pay do not reflect the increased cost to them. In addition, respondents stressed that **quality claims are not uncommon** and can affect negatively their business. The tolerance for quality in Europe is very low, meaning that even if two crates of pineapple show signs of quality problems, the entire container can be rejected.

If quality standards are not a UTP tool per se, **the fact that quality claim risks are almost entirely borne by producers raises questions**. Indeed, the producers and exporters located far from Europe have a limited capacity of appeal or arbitration according to interviewees. They have to accept lower prices or do not get paid at all if volumes are rejected; in this latter case, pineapples are not always destroyed (they are burnt only when health or sanitary issues are at stake, otherwise they are sold on less profitable markets in cases of bad cosmetic appearance).

In reaction, the largest Costa Rican exporters have developed traceability procedures which allow them to know exactly when temperatures have not been optimum in the supply chain, leading to degradation of the product in order to challenge potential claims.

Interviewees also pointed out frequent **last minute cancellations or reductions of orders**. Fortunately, **secondary markets for pineapples are very lucrative in Costa Rica** and demand is high for juicing and other processes. However, despite being able to sell the produce, the supplier is forced to incur additional costs due to these changes (or to reduce the amount of casual labour force that would usually be hired for harvesting because juice companies supply their own labour).

³⁸ Feedback, Unfair Trading Practices in Costa Rica's banana and pineapple industry, 2015 - unpublished

Finally, one large pineapple producer and exporter reported that there was **a great deal of Unfair Trading Practices occurring with supermarkets operating within the Central American region**. He reported that supermarkets in Central America, in particular the subsidiaries of Wal-Mart, would regularly claim rebates from false quality claims, cancel orders, reduce prices at the last minute ask and for **loyalty fees (also called ‘participation money’)** to access their shelves.

e) Conclusion

Based on the above analysis, it appears that the **Costa Rican pineapple producers and workers are being caught in between two strong systemic trends**: the pressure on prices driven from consumer markets on the one hand, and the ever increasing costs on the other. In the name of fiercer competition to supply retailers, they are bearing the costs of the global pineapple market, putting at risk the sustainability of the sector in most producing countries.

Although German retailers cannot be blamed for being the sole responsible for the situation, the study shows that they are significantly contributing to it (even more than several other European countries) and have an important responsibility to use their leading role in the chain to find systemic solutions to ensure the long-term sustainability of the sector.

KEY FINDINGS

- Costa Rica is the world’s number one exporter of fresh pineapples, supplying 84% of international trade. Its exports have been multiplied by 6 since 2001. Its production is heavily controlled by the banana multinationals (Del Monte, Dole, Chiquita and Fyffes) and two large Costa Rican companies (Banacol and Grupo Acon). These companies benefit from large economies of scale, producing pineapples for a market dominated by the ‘Extra Sweet’ variety through tightly controlled supply chains from productions up to distribution centres that are close to the supermarket outlets.

- The pineapple industry in Costa Rica employs approximately 26 600 people as direct employees and is relatively high cost in wage terms compared to other countries. To offset this lack of competitiveness, most farms operate on piece rate, temporary work and subcontracting. As a result, pineapple workers often perform tasks for 10 to 12 hours a day in order to try to earn a living wage. The industry also employs very large numbers of Nicaraguan migrants who are most vulnerable to pressures from employers. In addition, the constant pressure to produce a high yield and a perfect pineapple of a uniform size and colour has resulted in production practices that can strongly impact the health of workers because of the significant use of chemicals.

- While the margins of German retailers and pineapple importers have remained stable over the past decade, the unit value left for production in Costa Rica has dropped by 65% since 2002. This is putting strong pressure on producers and workers to meet the stringent demands of retailers in Germany and the rising costs of production and costs of living in Costa Rica. This results in retailers and pineapple multinationals capturing respectively 43% and 44% of the total value of pineapple while the workers share doesn’t even reach 10%. This situation is further worsened by several Unfair Trading Practices generated by European buyers on Costa Rican producers (loss sales, quality claims, order cancellations...).

Appendix A: Methodological note

Scope and objectives

The objective of the study is to bring together different strands of evidence (both qualitative and quantitative) on pineapple value chains between Costa Rica and Germany, and its social and environmental impacts in Costa Rica

Theoretical approach

To conduct the investigation, we have combined two disciplines/bodies of research: Global Value Chain analysis and impact assessment.

In comparison with other approaches, the theory of global value chains takes a radically new view on international trade³⁹:

- Its focus is on the **whole range of activities** from production to consumption and the linkages binding them (from production to advertising, marketing, retailing, and the final disposal of the product), whereas traditional economic trade theory only focuses on supply and demand.
- It investigates the **interactions between the configuration of global chains** (input-output, nodes, territories, governance and institutions....) **and their economic determinants** (supply and demand, value and cost breakdown, price dynamics, income distribution...)
- It investigates the **institutional context of power relations in which trade is embedded**, the characteristics of economic governance and share of value, with key agents setting the rules of the game, while economic trade theory assumes that 'buyers and sellers in different markets meet each other as independent agents'.

Global Value Chains are modelled through 4 main dimensions⁴⁰:

- their **input-output structure**,
- their **geographical coverage**,
- **their governance structure**, the barriers to entry and co-ordination systems along the chain,
- the **institutional framework** surrounding the chain, i.e. the conditions under which key or 'lead' agents influence other agents through their control of market access and information.

In addition, an extensive review of impact assessment studies (using social, environmental and health approaches) was conducted in order to investigate the long-term consequences in Costa Rica. A particular attention has been given to analyse and differentiate outputs from outcomes/effects and impacts (and to test underlying assumptions).

³⁹ Gibbon, Bair and Ponte (2008) "Governing Global Value Chains: An Introduction," *Economy and Society*, Vol. 37, pp. 315-338

⁴⁰ Gary Gereffi, John Humphrey, and Timothy Sturgeon. "The Governance of Global Value Chains." *Review of International Political Economy* 12, no. 1 (February 2005): 78-104

Methodology

To conduct the research, we investigated the following points:

GEOGRAPHICAL SCOPE	AREA OF RESEARCH	SOURCES OF INFORMATION
GERMANY	Food retail market trends and distribution channels	Planet Retail, Euromonitor, Kantar, CBI, interviews with experts
	Pineapple value chain: volumes and origins; consumer prices, wholesale prices, CIF and FOT import prices (see diagram below)	Eurostat, Comtrade, CIRAD, AMI, DEStatis
	Pineapple chain structures and their evolution	European Commission, FAO, CBI, Global Value Chain studies (Duke Univ.), interviews with experts in Europe
COSTA RICA	Shipping & import costs, export costs, unit value of pineapples in the country, workers' wages, costs of production	Comtrade, Sopisco, annual reports of international traders, European Commission, ministries of agriculture, finance and labour in Costa Rica
	Social and environmental impacts (labour rights, working conditions, income, health & security, pollutions, etc.), especially on small farmers and workers	FAO, PAN UK, Banana Link, ILO, Consumers International, ministries of labour and agriculture in Costa Rica
	Unfair Trading Practices in the narrow sense (i.e. cancellation of orders at short notice, quality claims, delay of payments, etc.)	Anonymised interviews in producing countries
	Costs of sustainable production	Fairtrade International

Limitations

The world pineapple market has always been heavily globalised, therefore buyers quite easily shift from one supplier to another, while keeping consistent quality pineapples. In addition, exporters in producing countries distribute their sales and risks as much as possible between clients and consumer countries in order to maximize their gains and/or reduce their losses.

In this context, the links between pricing trends in Germany and the working and living conditions of pineapple workers are most often indirect. The correlation between the two has been investigated through the analysis of long-term trends in global value chains.

In order to analyse pineapple global value chains, the main limitation addressed in this study is the reliability of price and cost data. In order to reduce uncertainties as much as possible:

- prices have been tracked from retail up to the import stage,
- costs have been estimated from the production stage down to the import stage.

The reliability and transparency of data has been considered too low beyond these boundaries, preventing from analysing prices and costs all along the chain.

This is why the concept of unit value has been chosen to investigate the transmission of price pressure in exporting countries, in particular because of the lack of reliability of export statistics (see the section below for further details).

Incoterms⁴¹: prices and costs along the chain

Prices and costs along the pineapple chains have been respectively tracked and estimated for the following incoterms stages:

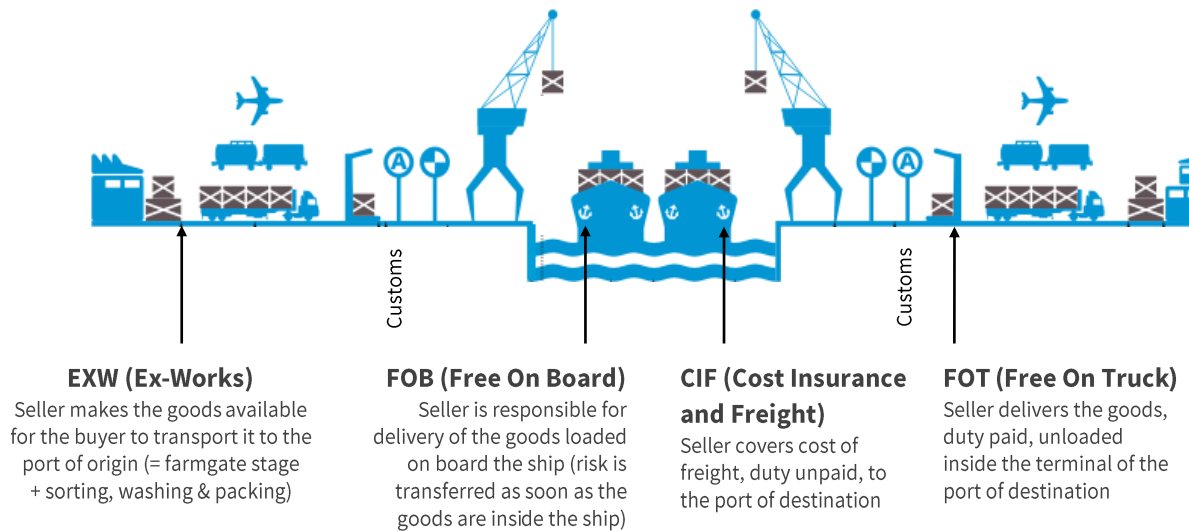


Figure 24: Incoterm Stages

Source: BASIC

Unit Value of exported pineapples

In order to address the lack of transparency on prices and costs along the chain, the concept of 'unit value of pineapple exported' was used in this study to investigate the transmission of price pressure down the chain on farmers and workers.

The first reason for this approach is the greater reliability of data on flows of specific products in the databases of UN Comtrade, especially for Germany.

Moreover, the flows of pineapples transiting by third countries before entering consumer countries cannot be identified in the data of exporting countries, because the latter can only record the first port of destination of the fruit, whereas Eurostat identifies re-exports among European countries.

⁴¹ pre-defined commercial terms published by the International Chamber of Commerce (ICC) that are widely used in International commercial transactions and procurement processes

In order to offset these limitations, we have estimated the unit value of exported pineapple, based on the import prices of pineapples in Europe, using the following formulae:

$$\text{Estimated Unit Value of exported pineapples (FOB level)} = \frac{\text{CIF Value of imported pineapples (Comtrade...)}}{\text{Volume of imported pineapples (Comtrade...)}} - \text{Estimated Unit costs between FOB and CIF (shipping, insurance, margins...)}$$

The unit value of pineapples exported represents the money left in Costa Rica once all costs of insurance, freight and average margins of traders have been deduced from the CIF import price of pineapples. Insurance and freights were estimated on the basis of:

- the experimental work conducted by CIRAD (and cross-checked with experts),
- data from Sopisco and industry experts,
- gross margins declared in the annual reports of the main international importers (Chiquita-Fyffes, Dole and Del Monte).

Import prices

Pineapple Import Prices for each country have been calculated dividing the import value by the import volumes both recorded by the UN Comtrade database (used by the World Trade Organisation).

The FAO database has not been used for calculating pineapple import prices because it doesn't take into account re-exports among European countries (unlike the Eurostat and UN Comtrade databases).

Retail and wholesale prices

Retail prices and wholesale prices of pineapple have been sourced from AMI (ex-ZMP).

Nominal prices and real prices

Real prices have been calculated by adjusting for inflation the nominal prices at the different stages of the chain (export, import and retail). Inflation rates are based on the Consumer Price Index (CPI) in each country; they have been sourced from:

- DEStatis for Germany
- ECLA/CEPAL (Economic Commission for Latin America) for Costa Rica

Volume units

Volumes of pineapples are expressed and measured either in tonnes or kilogrammes or standard boxes of 11,65 kg of pineapples.

Appendix B: List of acronyms

CIRAD	International Research Centre on Agriculture for Development
CIF	Cost Insurance and Freight (incoterms)
EC	European Commission
EU	European Union
FAO	Food and Agriculture Organisation
FOB	Free on Board (incoterms)
FOT	Free on Truck (incoterms)
ILO	International Labour Organization
ISO	International Standard Organisation
IUF	International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations
UNCTAD	United Nations Conference for Trade and Development
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNIDO	United Nations Industrial Development Organization
USDA	United States Department of Agriculture

Acknowledgement

This study has been commissioned by Oxfam Deutschland



Produced by:



With the support of:



This document has been produced with the financial assistance of the European Union.
The content of this study are the sole responsibility of the authors and can under no circumstances be regarded as reflecting the official opinion of Oxfam Germany.