

How to improve sustainability in the coffee supply chain



Together with your supply chain partners you can make your products more sustainable

This brochure provides you with information and tools that you can apply when you want to improve the sustainability of your coffee supply chain. The information and tools in this brochure are based on research done by Wageningen University & Research and the Sustainability Consortium. Through surveys and content expertise priority themes and opportunities for action have been identified for more than 100 product categories, among others for coffee¹.

In 2018, an improvement cycle for coffee was conducted in the project Continuous Improvement of Sustainability of all agro-products sold in the Netherlands, which was partly funded by a public/private collaboration via the Top Sectors Agri & Food and Horticulture & Propagation Materials². This brochure contains a summary of the relevant sustainability themes and improvement options for the coffee supply chain.

- How is the coffee supply chain structured?
- What are the relevant sustainability themes?
- What initiatives can help making the coffee supply chain more sustainable?
- What improvement measures are relevant for social sustainability?
- Which improvement measures are relevant for the environmental sustainability?
- What are the best practices for making the coffee supply chain more sustainable?

How is the coffee supply chain structured?

Coffee beans are primarily produced in countries near the equator (the coffee belt). The Netherlands imports its green coffee beans from various countries, with most of the beans coming from Brazil, Colombia, and Peru³. The average farmer has 7.5 ha, 4.5 ha, and 3 ha of land in Brazil, Colombia, and Peru respectively. The initial stages of processing the cherries into green coffee beans are carried out in these countries. Traders then export the green beans to the consumer countries, where they are roasted, ground, blended, and packaged by coffee roasters.

Dutch companies also export some of their roasted coffee to other countries. Once the coffee is roasted and packaged, it is transported to distribution centres that serve supermarkets, catering companies and food service providers. The products reach the consumer via supermarkets, catering services and food service providers. The final step is the processing of the residual waste and packaging materials (see figure).

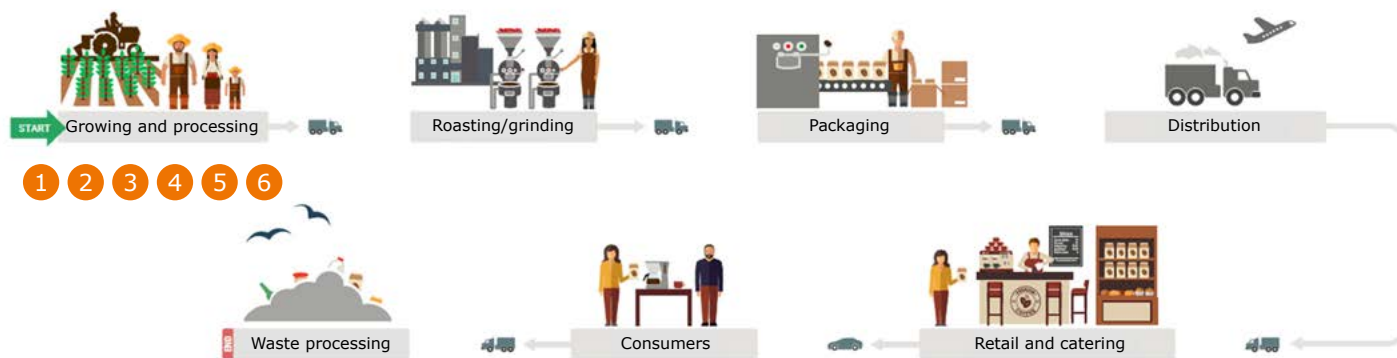


Figure Coffee supply chain (numbers correspond with the relevant sustainability themes below)

What are the relevant sustainability themes?

Six important sustainability themes have been identified for the coffee supply chain:

- 1 **The living conditions of smallholder farmers:** smallholder farmers have limited access to the market, loans, inputs, services, and knowledge. They also suffer from price fluctuations, small volume, and low incomes, which often results in them living in poverty.
- 2 **Child labour:** poor, smallholder farming families are unable to hire labourers and family members are frequently called upon to fulfil these roles. Children sometimes perform dangerous work and cannot attend school.
- 3 **Deforestation:** trees are cut down for two reasons: a) to grow new crops, and b) to use it for fuel. This results in the loss of ecosystem services and biodiversity.
- 4 **Climate change:** coffee contributes to climate change as greenhouse gases are released through deforestation, fertiliser use, wastewater processing, transportation of the green beans, and during preparation of the drink.
- 5 **Pesticide use:** the coffee plant is susceptible to diseases, resulting in the frequent use of pesticides. This has consequences for both humans and the environment.
- 6 **Water use and wastewater generation:** growing and processing the cherries requires a huge amount of water. This often leads to drought and the pollution of surface water.

What initiatives can help making the coffee supply chain more sustainable?

In 2013, Rainforest Alliance⁴, IDH⁵, and 4C⁶ founded the Global Coffee Platform (GCP)⁷. This platform aims to 'improve the livelihoods of millions of coffee farmers and reduce the environmental impact of the cultivation and primary processing of coffee'. In major coffee producing countries, such as Brazil and Vietnam, national coffee platforms have been established. Another initiative is the Sustainable Coffee Challenge (SCC)⁸, founded by Conservation International⁹ and Starbucks¹⁰. Its goal is to stimulate the demand for more sustainable coffee. Organisations such as Fairtrade have begun working with the concept of climate-neutral coffee¹¹. This involves implementing measures in the supply chain with the aim of reducing carbon dioxide and other greenhouse gas emissions, providing training in more efficient production

methods, and ensuring forest protection through systematic monitoring by groups of local residents. In addition to enacting specific measures, a portion of the greenhouse gas emissions will be compensated for outside of the coffee supply chain.

Other coffee certifications worth mentioning include Rainforest Alliance, Utz¹² (which has merged with Rainforest Alliance), the EKO certifications¹³, and the European Union organic certification¹⁴. There are also other certifications that are less well known in the Netherlands. A recent comprehensive overview can be found in the Coffee Barometer 2018¹⁵ which was created in collaboration with five NGOs that have a great deal of experience in the coffee supply chain: Conservation International⁹, COSA¹⁶, Hivos¹⁷, Oxfam Wereldwinkels¹⁸, and Solidaridad¹⁹.

What improvement measures are relevant for social sustainability?

A coffee supplier can improve the sustainability of the coffee product by purchasing beans from traders or cooperatives that:

- pay a fair price;
- train farmers to use good agricultural practices, with the aim of improving their production, their organisation, and their ability to meet their daily needs;

- work with farmers to establish beneficial payment and delivery terms;
- help ensure that children are able to attend/return to school.

It is possible to take these steps on your own or through implementing a certification programme such as Rainforest Alliance or Fairtrade.

Which improvement measures are relevant for the environmental sustainability?

The following are a few examples of potential technical measures:

- Planting shade trees between coffee plants;
- Conducting soil analyses for more efficient fertiliser use;
- Using wastewater from green bean processing in an anaerobic digestion facility in order to collect methane which can then be used as a fuel;

- Collecting rainwater;
- Composting the residual waste from green bean processing or reusing the beans residuals;
- Replacing electrical generators with solar panels in green beans processing facilities and roasting facilities;
- Using low-energy coffee makers that operate without coffee pods.



What are the best practices for making the coffee supply chain more sustainable?

Many businesses are working on making the coffee supply chain more sustainable. The following are some examples of potential best practices:

- Striving for maximum coffee bean traceability by implementing a track and trace system. This also makes it easier to estimate where sustainability risks lie. For example, see²⁰. This practice addresses all hotspots.
- Aligning with national and international sustainability initiatives (such as global and national coffee platforms and the Sustainable Coffee Challenge). This practice addresses all hotspots.
- Ensuring that the value distribution throughout the supply chain is fair, for example by keeping part of the added value within the country of origin (e.g. roasting). This is called FairChain: see the Moyee example²¹. This practice addresses hotspots 1 and 2.
- Improving the living income of farmers through diversification and long term contracts. This practice addresses hotspots 1 and 2.
- Implementing programmes that prevent deforestation for coffee cultivation, such as Fair Trade Max Havelaar and ICCO in Ethiopia²². This practice addresses hotspots 3 and 4.

Links

- 1 www.sustainabilityconsortium.org
- 2 www.wur.nl/nl/project/TU-16010-KV-1605-125-CIS.htm
- 3 www.cbs.nl/nl-nl/achtergrond/2015/42/achtergrondinformatie--en-handelsstromen--koffie-2015--
- 4 www.rainforest-alliance.org
- 5 www.idhsustainabletrade.com
- 6 www.4c-services.org
- 7 www.globalcoffeeplatform.org
- 8 www.sustaincoffee.org
- 9 www.conservation.org
- 10 www.starbucks.nl/responsibility/ethical-sourcing/coffee-sourcing
- 11 www.fairtradeoriginal.nl/update/onze-koffie-klimaatneutraal
- 12 www.utz.org
- 13 www.eko-keurmerk.nl
- 14 www.skal.nl/biologisch
- 15 www.globalcoffeeplatform.org/latest/2018/more-than-just-a-report-coffee-barometer-2018
- 16 thecosa.org
- 17 www.hivos.org
- 18 www.oxfamwereldwinkels.be/nl
- 19 www.solidaridadnetwork.org
- 20 www.wur.nl/upload_mm/8/6/4/d2381db2-ecb7-48d1-9d94-1392715be400_Notitie_EZ_Track%26Trace.pdf
- 21 www.moyeecoffee.com
- 22 maxhavelaar.nl/61/koffie-bos_programma



Colophon

Birgit de Vos, Wageningen Economic Research
E birgit.devos@wur.nl | T 06 133 139 68
I www.wur.eu/improve-sustainability
April 2019
