



Fairfood Commodity Fact Sheet

Cocoa



General Information

- † The cocoa tree (*Theobroma cacao*) is originally from Central America and its seeds were highly valued by the Aztecs and the Mayas. In Europe, the drink *chocolatl* gained popularity in the 1600s.
- † Cocoa is currently produced for 90% by smallholders and is used in cosmetics, as a fertilizer, and in animal feed.
- † Cocoa trees are traditionally intercropped with shade providing trees used for food products or timber, and can mostly be found around the equator.
- † The cocoa tree yields two harvests a year, with an average bean yield of 300-500 to more than 1000 kg/ha per year. Weather conditions have an important impact on production and an estimated 1/3 of the world's cocoa crop is lost to pests and diseases every year.



Researched Solutions

Certification labels

- † Fairtrade
- † Organic/EKO
- † Rainforest Alliance
- † Utz Certified

Corporate Programs & Good Practice

- † Commitment to sustainable sourcing and certification labels

Multi-stakeholder initiatives


- † International Cocoa Initiative
- † World Cocoa Foundation
- † International Cocoa Organization
- † Round table - Sustainable Cocoa Economy
- † International Cocoa Verification Board

Major Chain Issues

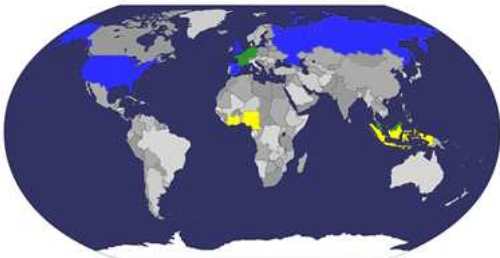
- † Insufficient income and income insecurity – Cocoa farmers are highly dependent on cocoa for family income. However, the productivity of the average smallholder in the cocoa sector is not optimal, because of 1) a lack of capital and technical training for farmers, and 2) crop losses due to variations in weather conditions, attacks of pests, and diseases. Besides problems with productivity, income is also affected by raised taxes, and the unsteady cocoa price on a global level and high price fluctuations on the local level. Currently, an average farmer lives on US\$ 0,82-1,37 dollars per day (based on a family of 6/7 people) in West-Africa.
- † Lack of access to financial services – Access to extension services (such as credit) is important to increase income and break the vicious circle that results from low farm productivity. In addition, the limited access of most cocoa farmers (90%) to information (on the market and prices) and training (on methods and farm management skills) have resulted in low productivity, efficiency and quality, and a limited bargaining power for cocoa farmers. The latter is also influenced by a lack of farmers' organization and the fact that the cocoa market (processing and trading) is dominated by only a few transnational companies. These issues are especially true for countries in West-Africa, such as Ivory Coast, Ghana, Nigeria and Cameroon and to some extent Ecuador.
- † Dominant market position – A small number of large processing companies control the majority of the cocoa value chain. The top five processors Cargill, ADM, Barry Callebaut, Petra Foods and Blommer together produce more than half of the chocolate semi-finished products like cocoa powder, butter and liquor. Chocolate manufacturing is also largely in the hands of five western TNCs, which together accounted for more than 56% of the finished chocolate product market at the start of 2010. The power of the cocoa farmer is further limited by a lack of farmer organization.
- † Unhealthy and unsafe working conditions – The application of pesticides without the use of protection gear, training and the appropriate material is causing illness among cocoa workers (and also children). Exposure to some of the pesticides might even lead to damage to the brain and nervous system.
- † Harmful Agricultural Practices – The use of monoculture has negative impacts, such as a loss of productivity, fertility and biodiversity (vicious cycle), the occurrence of weeds/ parasitic plants, and the spreading of diseases. This in turn increases the use of pesticides, insecticides and fertilizers polluting soils and water, and leads to pest resistance – the result is another vicious cycle of production loss.
- † Child Labor – Low school attendance by children is related to work on the family farm, given that poor farmers are unable to hire outside laborers. As such, most child labor takes place within the family structure. Child trafficking related to bonded forced labor and slavery are either absent or rare.

Commodity Fact Sheet - Cocoa

Main Cocoa Producing Countries (2006-'09)



Main Cocoa Importers & Exporters (2005-'08)



■ Exporter
 ■ Importer
 ■ Importer/ Exporter

Companies involved	
Chain Link	Companies
Production	Mostly small farmers, but also Cargill, Mars, Kraft, Barry Calbaut.
Transportation	Cargill, ADM, Barry Callebaut, Petra Foods, Kraft, Mars, Nestlé, Hershey, Ferrero
Trade Agents	Cargill, ADM, Barry Callebaut, Petra Foods, Blommer
Processing	<p><u>Preparing the beans</u> – small holders on production site</p> <p><u>Grinding</u> - Cargill, Blommer, ADM, Barry Callebaut, Petra Foods</p> <p><u>Manufacturing</u> - Mars, Nestlé, Hershey, Kraft and Ferrero</p>
Brand Owners	Kraft, Mars, Nestlé, Hershey, Ferrero

Other Issues Identified in the Cacao Chain

- ‡ **Unfair import tariffs and quota** – Tariffs by the EU and US are unfair and distorting for cocoa growing countries (although this is less true for Africa, which is exempt of certain tariffs). The tariffs on higher value added quadrants prevent a number of developing countries from establishing a domestic refining industry, and promote the dependence on raw material exports. As a result, most of the added value goes to Western consuming countries that control the processing of cocoa.
- ‡ **Discrimination** – Women lack equal access to land and land ownership in relation to men. In West-Africa, only around ¼ of cocoa farms are owned by women. However, women are increasingly given access to land in return for labor, as heritage, through purchase, and by marriage.
- ‡ **Forced labor** – There is a lack of reliable data on the extent of the phenomenon in West-Africa. Research in Ghana shows that only in ¼ of the cases, debt peonage, a limitation of freedom, and violence by the producer were mentioned.
- ‡ **Corruption** – Most cocoa producing countries have a high level of corruption in general, and some specifically in the cocoa sector with reported smuggling practices from Ghana to Ivory Coast. These practices have a negative impact on the level of income of cocoa farmers.
- ‡ **Degradation of Natural Resources** – New plots have higher yields/ lower costs making it more attractive to deforest. Another factor that contributes to deforestation is insecure land tenure.



Cocoa – Production Chain Information

Cocoa Production

Most cocoa trees begin to bear fruit in the 5th year and are peaking from 10 years to 25 years old. The fruits of the tree grow as pods on the trunk and main branches. Ripening takes around 6 months with two harvests a year. The tree yields around 300-500 kilo to 1000 kilo (in case of a hybrid) per hectare per year with a total of 1500 kilos per hectare for a modern efficient plantation. Smallholders are the main producers of raw cocoa and harvest the product with family members and neighboring farmers cutting them off the tree and collecting the pods on the ground.

Transportation

In producing countries cocoa beans are transported by trucks, or by draft animals (small distances). In the import countries the cocoa is mostly shipped in jute bags (50-100kg), in bulk (in shipping containers) or mega-bulk (directly in the hold of the ship). Further transportation for domestic processing or re-export happens mostly by road, rail or water.

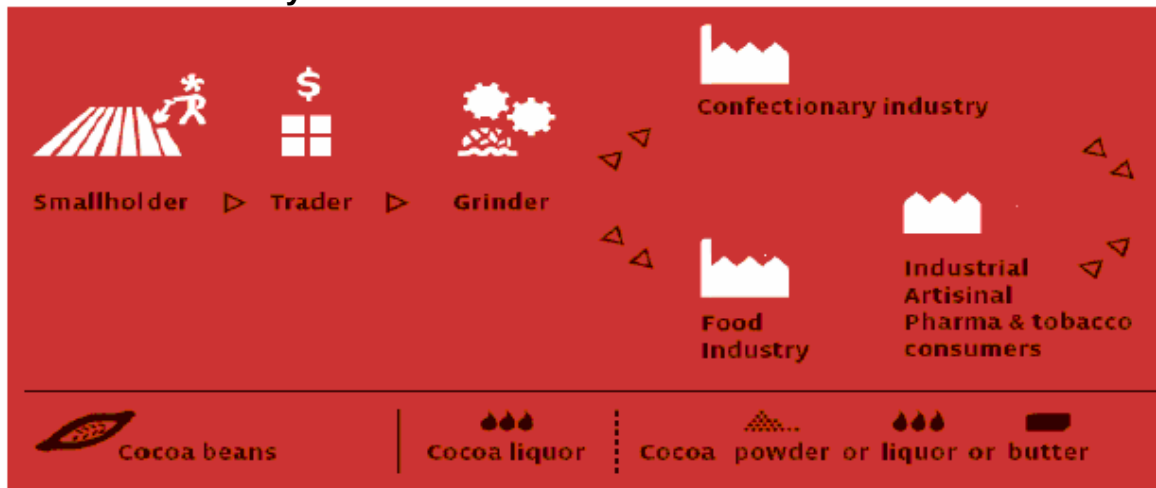
Processing in Production Country

The harvested cocoa pods are split to obtain the cocoa beans. The surrounding white pulp layer is then removed and the beans are stored in boxes covered with banana leaves to contain the heat and start the fermentation process (3-9 days). This process removes the bitter taste of the bean. The beans are subsequently dried in the sun (or by solar dryers), reducing them to half their weight. The shells are removed after two drying processes and the removal of extraneous materials (used as fertilizer or animal feed). The inside of the beans (nibs) are roasted to release their flavor and then ground to produce cocoa liquor. This process occurs either in the production country, or in the import country.

Processing in Import Country

The three cocoa products (cacao butter, powder and liquor) that are extracted from the liquor are used to make chocolate. First, the different ingredients are mixed to form dough and are then blended, grinded and kneaded. An emulsifying agent, such as soy lecithin, is added to stabilize the liquidity of the chocolate, resulting in liquid chocolate. This liquid is poured into molds (after tempering) and cooled down to form different chocolate products. This process occurs at the manufacturer.

Chain Link – Main Players



Main players in the cocoa production chain. (TCC, 2009)

Conclusions:

The cocoa production chain is not sustainable. Sustainability issues are related to the dominant position of grinders and chocolate manufacturers in the cocoa sector, the environment, child labor and the socio-economic situation of smallholders. Special attention needs to be paid to sustainability in African growing countries, due to their large market share, as well as sustainability issues in Western transnational companies (grinding and manufacturing).

Additional Comments:

Original Document: Starke, M. (2010) *Sector report Cacao 4.0*, Fairfood International

Selected References:

- Adebusuyi, B.S., 2004. *Stabilisation of Commodity Market of Interest to Africa*. [online]. Available at: <http://www.q24.org/Adebusuyi.pdf>.
- Asogwa, E.U. Dongo, L.N., 2009. Problems associated with pesticide usage and application in Nigerian cocoa production: A review. *African Journal of Agricultural Research*. 4 (8), pp. 675-683. Available at: <http://www.worldcocoafoundation.org/scientific-research/researchlibrary/documents/Asogwa2009.pdf>.
- Belsky, J.M., Siebert, S.F., 2002. Cultivating cacao: Implications of sun-grown cacao on local food security and environmental sustainability. *Agriculture and human values*. Volume 20(3), pp. 277-285.
- Berkum, S. van, 2009. *Tariff Escalation and EU Agricultural Imports. An Assessment of Selected Products*. The Hague: LEI Wageningen UR.
- Bisseleua, H., S. Klasen and W. Kumase, 2008. *Opportunities and Constraints in Agriculture: A gendered analysis of cocoa production in Southern Cameroon*. University of Göttingen and GTZ [online]. Available at: <http://www.eldis.org/go/topics/resource-guides/gender&id=56146&type=Document> (abstract only).
- IITA, 2002. Child labour in the cocoa sector of West Africa. A synthesis of findings in Cameroon, Côte d'Ivoire, Ghana, and Nigeria. Available at: <http://www.globalexchange.org/campaigns/fairtrade/cocoa/IITACocoaResearch.pdf>.
- Kazianga, H. Masters, W.A., 2006. Property rights, production technology and deforestation: cocoa in Cameroon. *Agricultural Economics*. Issue 35, pp. 19-26.
- Norde, Duursen, Van, 2003. Identifying and assessing convergences of interest for stakeholders in the Ghanaian cocoa chain, in order to attain increased farm income and wider sustainable production. Available at: http://www.fairventures.com/storage/docs/convergences_of_interest.pdf.
- Nyemeck, J.B. & Gockowski, J. & Nkamleu, G.B., 2007. *The Role of Credit Access in Improving Cocoa Production in West African Countries*. African Association of Agricultural Economists (AAAE), Second International Conference, 20-22 August 2007, Accra, Ghana 52095. Available at: <http://ageconsearch.umn.edu/bitstream/52095/2/Nyemeck.pdf>.
- Rice, R.A. Greenberg R, 2000. Cacao Cultivation and the conservation of Biological Diversity. *Ambio* 29 (3) May 2000. Available at: <http://nationalzoo.si.edu/ConservationAndScience/MigratoryBirds/Research/Cacao/whitepaper.pdf>.
- Shapiro, H.Y. Rosenquist, E.M., 2004. Public/private partnerships in agro forestry: the example of working together to improve cocoa sustainability. *Agroforestry Systems*, Volume 61(1-3), pp. 453-462.
- Tropical Commodity Coalition, 2009a. *Sweetness follows, A rough guide towards a sustainable cocoa sector, 2nd edition*. Tropical Commodity Coalition [online]. Available at: <http://www.teacoffeecocoa.org>, publications.