RAINFOREST ALLIANCE

A JDE COMMON GROUNDS PROGRAMME PARTNERSHIP

ORIGIN ISSUE ASSESSMENT
COLOMBIA - COFFEE

Colombia is the world's third largest coffee producer after Brazil and Vietnam (FAOSTAT, 2018). Cultivation is concentrated in the Zona Cafetera, covering a large tract of the eastern Andean mountain range (Sustain Coffee, 2018). Over 530,000 smallholder producers account for approximately 70% of coffee production (FEDECAFE), cultivating an average of 1-2 ha (USAID, 2017). Arabica coffee is the only variety produced (GMAP, 2017), topping 14.1 million bags (USDA, 2020). Low coffee prices recently resulted in a slight decrease in coffee production area (Media, 2019).

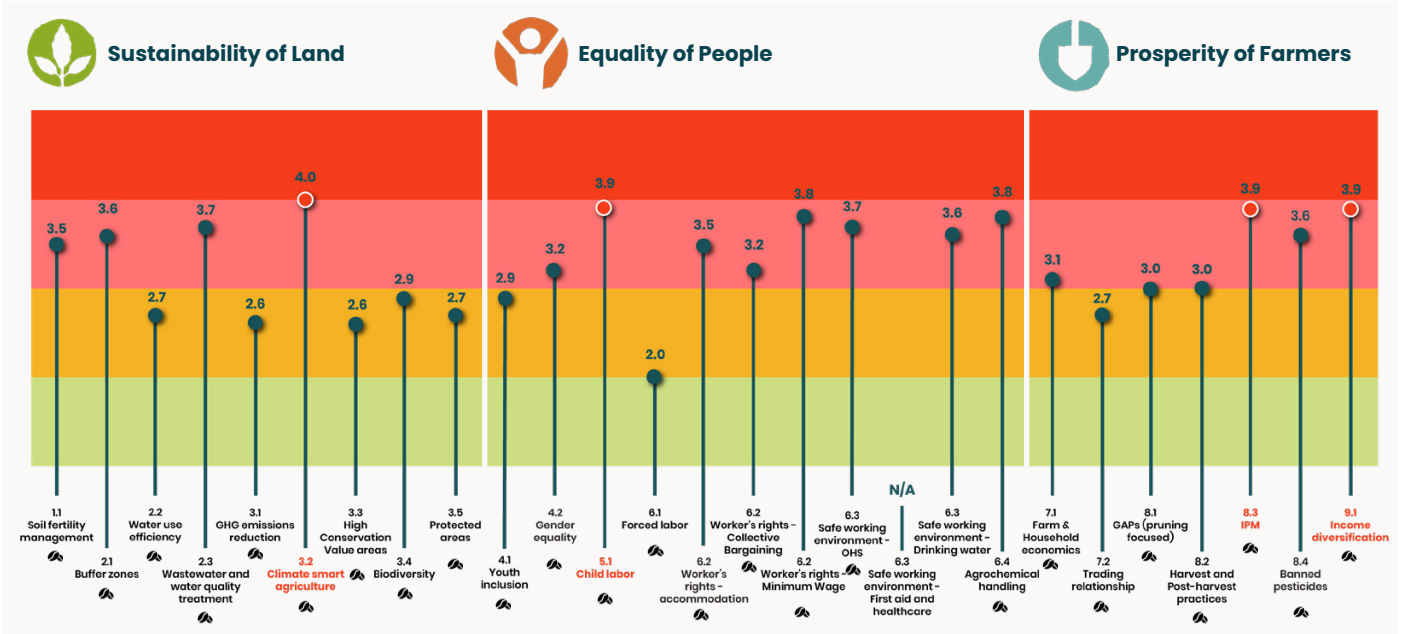
TOP ISSUES

The top issues identified are:

- **Climate Smart Agriculture (risk score 4.0/5)**
- **Integrated Pest Management (risk score 3.9/5)**
- **Child Labor (risk score 3.9/5)**
- **Income Diversification (3.9/5)**

Coffee production in Colombia is already affected by the impacts of climate change, and although projects exist to buffer the effects, coffee farmers are not able to adapt quickly enough **(Climate Smart Agriculture)**. Higher temperatures have led to higher incidence of pests and diseases, including the coffee berry borer, resulting in over-application of agrochemicals in a move to control the pest **(Integrated Pest Management)**. Although a recent new law tackling child labor has been passed, evidence exists that child labor remains an issue on Colombian coffee farms **(Child Labor)**. Low coffee prices over the past years have resulted in little financial capacity of smallholder farmers to diversify their farms, though some efforts exist **(Income Diversification)**.

Further details per topic are provided in a separate annex.



Range	Probability of the issue's occurrence
4.1 -5.0	High probability: Known to occur frequently
3.1 -4.0	Medium-high probability: Known to occur
2.1 -3.0	Medium-low probability: Could occur
1.0 -2.0	Low probability: Not expected to occur

JDE | Common Grounds

ORIGIN ISSUE ASSESSMENT METHOD SUMMARY

This Origin Issue Assessment (OIA) is compiled by the Rainforest Alliance as part of the JDE Common Grounds Initiative. The OIA is a desk-based 'early warning system' identifying potential issues related to coffee production in a country for each of the 23 JDE Common Grounds Responsible Sourcing principles. It focuses on the probability of occurrence, not necessarily on the severity of impacts. Three different data sources are used: i) country-specific law and legislation, (ii) recent evidence (media, reports, papers, UTZ audit results*), (iii) expert opinions survey**. The overall score is calculated based on these three types, however evidence is weighted higher (3x), than expert opinion (2x) and the law and legislation score (1x). The weighted scores are added up and divided by 6 to get the overall weighted risk score for each of the 23 issues.

In case insufficient coffee specific information is found, other evidence related to the country's agriculture sector will be considered.

This icon indicates the evidence is coffee specific.

The OIA covers the overall coffee sector, making no distinction between, e.g. (i) smallholders and estates, (ii) sun-dried and washed-coffee, (iii) sun- and shade-grown coffee.

The data presented is accurate at the time of publication based on the information collected from the above sources. Neither RA nor JDE will be liable for damage as a result of inaccuracies in the information. For more information about the OIA's method, sources and expert surveys, please contact us at OIA@ra.org.

* Through 3rd party audits producer's compliance is evaluated against the UTZ Certification Standard (owned by the Rainforest Alliance). Audit reports provide insights on certification gaps for the analysis."

** Rainforest Alliance experts (country representative, thematic and coffee experts) and external expert(s) (e.g. National Coffee Platform representative) are surveyed.

SOIL FERTILITY MANAGEMENT	JDE Sourcing principle 1.1
Score	**3.5**
Law	In order to address declining soil fertility and soil degradation, the Ministry of Environment and Sustainable Development, together with other national and regional actors, are working in the implementation of the National Policy for Sustainable Soil Management (UNCCD, 2016), This encompasses soil inventories and soil quality monitoring, but also soil erosion control and improvement programs (OECD, 2015), fortified by the Policy for Sustainable Land Management (Aigos, 2017).
Evidence	Soil degradation in the coffee growing areas of Colombia ranges from light to severe (GMAP, 2017). On steep slopes in the Andean mountains, known coffee growing areas, most erosion occurs. The over-application of agrochemicals exacerbates this issue (Sustain Coffee, 2018). To overcome losses due to climate change and pest incidence, coffee farmers are known to intensify their activities, increasing soil degradation. Moreover, coffee farmers use only low rates of organic manures and bio-fertilizers (OECD, 2015). Yet, some instances of improvements can be found as with the FCC cooperative in Cauca. Its 750+ members shift toward organic production is inspiring other to do so as well (Fairtrade, 2017), similar to the ASOTATAMA cooperative (Media, 2018).
Prevailing expert opinion	Medium-low risk: In the coffee producing regions, some farmers manage their soils in an effective way; "Overall, farmers located within the traditional coffee growing areas have received training on soil management. It is those located in the southern, poorer areas that lack access to extension services and thus present deficient conditions" (Expert survey, 2020).

BUFFER ZONES	JDE Sourcing principle 2.1
Score	**3.6**
Law	With the creation of the Ministry of Environment in 1993, new regulations and national policies were enacted for environmental management in Colombia (Dutch Ministry of Foreign Affairs, 2018). Agricultural policies include a clause that stipulates agricultural frontiers to be separated from conservation zones (OECD, 2015). Development of Peasant Reserve Zones are meant to ensure involvement of local communities in the process.
Evidence	Due to climate change and incidence of pests such as the coffee berry borer, there is a risk that Colombian coffee production will gradually shift to higher elevations, leading to high sediment losses and agrochemical residues in runoff water (GMAP, 2017). Moreover, coffee farmers tend to compensate losses by intensification and clearing natural borders to increase field sizes. This diminishes buffer zones and causes damages to the environment (Media, 2020). Though, some improvements are seen for example through the initiative of Global Nature Fund and Lake Constance Foundation in collaboration with the Rainforest Alliance. Results of the Biodiversity Performance Tool and Biodiversity Action Plan, are farmers enlarging buffer zones and implementing vegetation corridors (Media, 2018).
Prevailing expert opinion	Medium-high risk: When looking at the country's coffee producing regions, it is unlikely that farmers maintain a pesticide and fertilizer non-application zone or buffer zone. "Certified producers will mostly have implemented these measures, non-certified farmers will mostly probably not manage buffer zones" (Expert survey, 2020).

WATER USE EFFICIENCY	JDE Sourcing principle 2.2
Score	**2.7**
Law	The National Development Plan (2018-2022) sets out a plan for increasing land under irrigation and aims to make existing irrigation schemes more productive and efficient through public-private partnerships (Ministry of Agriculture, Nature & Food Quality, 2020). The Intelligent Water Management (IWM) project in Colombia intended to contribute to improved water management among coffee farmers by information and sensitization campaigns, training, hardware investments, and an improved institutional environment. However, as part of the PPP, the government's commitment was not fully realized (Sustainable Water Fund, 2020).
Evidence	Efforts exist in the Colombian coffee sector to increase its sustainability in water use and irrigation. A first example is through JDE's initiative in Tolima and Cauca, together with Federación Nacional de Cafeteros de Colombia (FNC), Keurig Dr Pepper, and Rainforest Alliance, to empower coffee growing communities in water access and management (JDE, 2019); Another example is the Manos Al Agua project, a public-private partnership to face the problems of water imbalance and ensure sustainable coffee farming (Dutch Ministry of Agriculture, Nature & Food Quality, 2020). Though, inefficiencies in farm-level washing of coffee cherries lead to high water consumption and pollution of streams and rivers (Sustain Coffee, 2018).
Prevailing expert opinion	Medium-low risk: Water is available throughout the year but could pose an issue in the dry season. "The availability of water is changing - less predictable throughout the year, depending on the region" (Expert survey, 2020).

WASTEWATER AND WATER QUALITY TREATMENT AT PROCESSING UNITS *	JDE Sourcing principle 2.3
Score	**3.7**
Law	Colombia has several laws and regulations in place regarding wastewater management from agriculture (MAAProject, 2020), with a plan to invest USD13 billion over the next 10 years to continue improving the water sector (Dutch Ministry of Foreign Affairs, 2018). Moreover, the agricultural department (LAN Bogota) of the Dutch embassy in Colombia strategizes on a transition towards a more circular coffee sector with the aim to reduce the external costs of coffee production by addressing water pollution, water use and other environmental and social impacts (Dutch Ministry of Agriculture, Nature & Food Quality, 2020).
Evidence	Coffee is a rainfed crop in Colombia, but post-harvest processing uses large volumes of water and loads the small streams at the headwaters of many rivers with organic waste (SEI, 2020). Most coffee producers have their own wet mills. This traditional coffee processing leads to high water consumption and water contamination (Sustain Water, 2018), sometimes transgressing the Colombian standards allowed for the coffee sector by roughly a factor ten (Sustainable Water Fund, 2020). Some projects already address these issues including the Manos Al Agua.
Prevailing expert opinion	Medium-high risk: Coffee is predominantly wet processed. When looking at the country's coffee producing regions it is unlikely that, at processing units, wastewater is treated and is of good quality before it is discharged into aquatic ecosystems or drainage systems. "A common problem in Colombia is the treatment of wastewater after wet processing. This has impacts for water quality downstream, but also for the water availability and soil health downstream" (Expert survey, 2020). *Inappropriate wastewater treatment was listed as a top-priority issue in the previous OIA Colombia (2017).

GHG EMISSIONS REDUCTION	JDE Sourcing principle 3.1
Score	**2.6**
Law	In 2018, Colombia adopted a law for climate change management which outlines provisions for the establishment of a 'National Program of Greenhouse Gas Tradable Emission Quotas' (International Carbon Action Partnership, 2021). Moreover, in November 2020, the Colombian Government announced that it will reduce its greenhouse gas emissions by 51% by 2030 compared to its current trajectory, setting off the promise of accelerated sustainable and resilient development (WWF, 2020).
Evidence	Over the last 10 years, Colombia has made great changes to the energy sector, now relying on hydroelectric power for 65% of its annual energy consumption (The Borgen Project, 2020). Recently, a project focusing on greenhouse gas emissions reduction has been approved by the World Bank, the Orinoquia Sustainable Integrated Landscapes Program (OSIL) including the BioCarbon Fund Initiative for Sustainable Forest Landscapes (World Bank, 2019). Other projects are under development targeting electricity and bio-ethanol production from mucilage, a waste by-product from processing coffee (Media, 2019; 2020). Coffee is typically sundried; energy is mostly used for pulping, although smallholders use manual devices for that too (Rodriguez et al., 2017).
Prevailing expert opinion	Medium-high risk: When looking at the country's coffee producing regions, it is unlikely that farmers use renewable energy sources, but it remains contested whether farmers use energy efficiently. "Farms don't have a choice of the energy source - they are either using municipal electricity or wood" (Expert survey, 2020).

CLIMATE SMART AGRICULTURE	JDE Sourcing principle 3.2
Score	4.0
Law	Colombia's 2030 Agenda for Sustainable Development includes commitments to adaptation and mitigation to climate change, with the agriculture sector having a leading role in this process (UNCCD, 2016). Moreover, the strategic guidelines (2018-2022) set out in the National Development Plan includes strategies aimed at encouraging the efficient use of rural land and promoting climate-smart agriculture models (Dutch Ministry of Agriculture, Nature & Food Quality, 2020).
Evidence	Climate change is having major impacts in the Colombian coffee sector, where unpredictable weather is putting many of the country's estimated 500,000 smallholder farmers out of business (Media, 2020; 2020; 2018). The effects of El Niño and La Niña phenomena appear to have become stronger, resulting in episodes of above-average drought and excessive rainfall (Sustainable Water Fund, 2020). Increased temperatures are also reported, along with more hillside erosion events because of rain (Media, 2018). Some farmers are adopting practices such as planting trees to reduce their vulnerability to these changing weather patterns (Conservation International, 2019). Projects, such as the Manos Al Agua project (Dutch Ministry of Agriculture, Nature & Food Quality, 2020), Olam's new coffee farmer training center in Southwest Colombia (Media, 2020), and CABI's new alert system for coffee berry borer surges (Media, 2019), spearhead climate smart coffee production.
Prevailing expert opinion	High risk: Climate change seems to have a negative impact on coffee production and farmers are not able to adapt quickly enough. "Climate change clearly affects coffee production and will continue to do so, especially in lower regions"; "Higher temperatures, increased rainfall and increased incidences of pest and disease outbreaks impact farms" (Expert survey, 2020).

FOREST AND HIGH CONSERVATION VALUE AREAS (HCVS)	JDE Sourcing principle 3.3
Score	2.6
Law	Colombia's Forest Law includes regulations to address access and tenure of forest resources, covering more than 30 million ha of forested areas where indigenous people reside (OECD, 2015). Moreover, goals to both reduce deforestation and plant millions of trees in deforested areas are set by the Colombian government. (Global Forest Watch, 2020). However, Colombia failed to reach its target of halving forest loss by 2020 (Media, 2020).
Evidence	Although tree cover loss rose dramatically in Colombia since 2015, due to a distinct wave of new commodity-driven deforestation and expanding small-scale agriculture (Global Forest Watch, 2020), most of the current coffee-growing land in Colombia has been in use for decades (SEI, 2020). Climate change and pest incidence pose a risk to native forest lands since farmers might move upwards and clear native forests to create new fields in order to cope with the changes (Media, 2020).
Prevailing expert opinion	Low risk: When looking at the country's coffee producing regions, it is unlikely that farmers have converted High Conservation Value areas to agricultural production or other land uses since January 1st, 2014. "There has been an increase in deforestation in Colombia over the past years, but little evidence that this has happened with coffee as a driver" (Expert survey, 2020).

NATIVE VEGETATION AND ON-FARM BIODIVERSITY	JDE Sourcing principle 3.4
Score	2.9
Law	Colombia has created a system of land ownership rights that links biodiversity policy directly with social policy through the System of National Natural Parks, the indigenous people reserves, and the collective territories of Afro-Colombian communities (OECD, 2015). Moreover, the government established the Biodiversity Action Plan 2016-2030 to implement the National Policy for the Integral Management of Biodiversity and its Ecosystem Services (Minambiente, 2017).
Evidence	In Colombia, roughly two systems of coffee production exist according to Rodriguez et al. (2017), namely the conventional and the transitional. The intensive modern coffee system, which is prevalent at 47%, is based on synthetic products and decreases functional biodiversity of the agro-ecosystem. The transitional coffee production system is distinguished between farmers rationalizing synthetic supplies (38%) and using organic supplies (15%). This favors conservation of natural resources of the farm, such as soil, water, and biodiversity. Intensification of production practices caused by climate change has negative effects on environmental conservation (Media, 2020). Already, coffee's impact on terrestrial biodiversity is high (GMAP, 2017). Though, projects of WebConserva and LIFE-initiative indicate farmers' willingness to cultivate coffee by taking biodiversity principles at heart (Media 2018; 2020).
Prevailing expert opinion	Medium-low risk: When looking at the country's coffee producing regions, it is likely that farmers contribute to preservation of native vegetation and on-farm biodiversity. "Some contribution is made to maintain biodiversity, but overall shade cover is low in Colombia" (Expert survey, 2020).

PROTECTED AREAS	JDE Sourcing principle 3.5
Score	**2.7**
Law	Colombia has laws and regulations in place to protect natural conservation areas (MAAProject, 2020; Dutch Ministry of Foreign Affairs, 2018; OECD, 2015). Significant deforestation was found among 39 analyzed Protected Areas, indicating lack of law enforcement (Clerici et al., 2019).
Evidence	Broadly speaking, social and environmental conflicts continue to occur within protected areas and natural parks (Media, 2020). Although most land in use for coffee production has been cultivated for several decades, there exists a large risk for rate of expansion into natural areas and forest clearance (GMAP, 2017; SEI, 2020). A review by Mejia et al. (2019) on protected areas found that protected areas are more vulnerable to deforestation when remotely located. Protected areas closer to settlements and under collective use experience significantly less deforestation.
Prevailing expert opinion	Low risk: When looking at the country's coffee producing regions, it is unlikely that coffee is produced or processed in protected areas or their designated buffer zones. "The regional autonomous corporations in charge of protecting the environment have not allowed the movement of the agricultural frontier in protected areas" (Expert survey, 2020).

YOUTH INCLUSION	JDE Sourcing principle 4.1
Score	**2.9**
Law	Through the Youth Citizenship Act (2013), Colombia provides an "institutional framework" affecting young people and youth participation in society. Moreover, the Colombian National Development Plan (2018-2022) focuses on access to labor markets and decent income, with special emphasis on rural youth, women and indigenous people (IFAD, 2020). As such, field work shows that the general view of youth toward living and working in the countryside is its lack of appeal for education, health, work and leisure (Solidaridad, 2016).
Evidence	A lack of handover to the younger generation has been identified as a structural challenge to the Colombian coffee sector (Sustain Coffee, 2018; GCP, 2019). Coffee production is deemed less attractive and offers fewer opportunities compared to employment in the urban areas. The average age of coffee farmers lies between 42 and 56 years. Initiatives to promote coffee farming to youth are now developing, mostly involving some form of schooling, such as with the Sustainable Trade Platform (GCP, 2019), the Coffee-Kids Project (HRNS, 2019), an FAO-led project with Asoprocaffe coffee association (FAO, 2020) and "a new generation of coffee entrepreneurs" project (Colibri Foundation, 2019).
Prevailing expert opinion	Medium-low risk: When looking at the country's coffee producing regions, it is likely that participation of young farmers is promoted. "In general, cooperatives and the union promote that young people continue in the activity, but they do not want to do it because they work hard and are paid poorly" (Expert survey, 2020).

GENDER EQUALITY	JDE Sourcing principle 4.2
Score	**3.2**
Law	Colombia has ratified some important international agreements and conventions related to discrimination and equal renumeration (ILO Normlex; Gender Equality Observatory, 2020), though in effect, disparities remain (Gender Equality Observatory, 2020). In Colombia's National Development plan, the inclusion of women in the process of land formalization and the consolidation of the Social Property Planning plans are key (Dutch Ministry of Agriculture, Nature & Food Quality, 2020).
Evidence	Countrywide, participation in the labor force is different for women (57%) and men (81%) (World Bank, 2019), along with disparities in unpaid work time (Gender Equality Observatory, 2020). In addition, women face employment discrimination and sexual harassment in the workplace, as well as gender-based violence (Freedom House, 2020). In coffee, women farmers in particular lack access to information and on-farm decision-making control, for example to tackle pests or adapt to climate change impacts (Media, 2020). Though, projects by GCP (2020) and Olam (2020) target women specifically for trainings and support programs.
Prevailing expert opinion	Medium-high risk: Women sometimes do not have equal rights, responsibilities and opportunities. "Women participate quite actively in family farming activities, but this is hardly recognized and visualized"; "They still have limited access to land, services, inputs, information and leadership roles, though things are slowly changing. While women take up more tasks within coffee production, there is not more task sharing between husband and wife, leading to an increased workload for women. Projects try to address this gender unbalance, but often only focus on some aspects or barriers" (Expert survey, 2020).

CHILD LABOR*	JDE Sourcing principle 5.1
Score	3.9
Law	Colombia has ratified a number of important protocols related to child labor (ILO; GMAP, 2017). And in 2019, Colombia made significant advancement in efforts to eliminate the worst forms of child labor, including institutional mechanisms for the enforcement of laws and regulations on child labor, though gaps may exist (USDOL, 2019).
Evidence	Although laws prohibiting child labor exist, the recruitment of children by illegal armed groups and related sexual abuse are serious problems in Colombia (Freedom House, 2020; GMAP, 2017). More critically, coffee is present on the List of Goods Produced by Child Labor (USDOL, 2020). Most of the coffee production occurs within a family economy scenario, which causes children and adolescents to work as unpaid family members to support their households, under informal economy conditions (Torres-Tovar et al., 2018). Together with underreporting, this makes the capacity of the Colombian state to confront child labor limited.
Prevailing expert opinion	High risk: Children under 18 years old perform hazardous work; Children are deprived of school because their families migrate due to coffee related activities; Children below minimum age (12/13 years) are involved in under-age child labor (not on their family farm) (for example migrating alongside their parents for seasonal labor); Children (younger than 14/15) are working more than 14 hours a week on their parents' farm, possibly resulting in children missing school at least a few weeks/more per year. "'While the Colombian government has made great improvements in tackling child labor recently, there are still some key gaps in both the legal framework as well as the implementation of policies" (Expert survey, 2020). *Child labour was listed as a top-priority issue in the previous OIA Colombia (2017).

FORCED LABOR	JDE Sourcing principle 6.1
Score	**2.0**
Law	Colombia has ratified the Forced Labour Convention and the Abolition of Forced Labour Convention (ILO). Furthermore, the Government of Colombia fully meets the minimum standards for the elimination of trafficking (US dep. Of State, 2020), and has decreed that forced labor is a criminal offense (International Labour Conference, 2019).
Evidence	Coffee is not found in the USDOL list of goods produced by Forced Labor in Colombia (USDOL, 2020). A research group of SOMO (2016) concludes that forced labor does not occur in the Colombian coffee sector. Moreover, Colombia Avanza and the COFFEE (Cooperation On Fair, Free, Equitable Employment) Project build the capacity of stakeholders in the Departments of Huila and Tolima to identify and document the nature and scope of child and forced labor, and it promotes mechanisms to seek remedy whenever violations occur (USDOL, 2020). Nationwide, the risk of forced labor arguably remains present, at a risk score of 72/100 (GMAP, 2017).
Prevailing expert opinion	Low risk: It is unlikely that forced labor happens in the country's coffee producing regions. (Expert survey, 2020).

WORKERS' RIGHTS AND DUTIES	JDE Sourcing principle 6.2
Highest score	**3.8**
ACCOMMODATION	
Score	**3.5**
Law	The Colombian minister of housing, city and territory has said that affordable housing is a focal point by the administration, including the Free Homes program for the most vulnerable members of society (Media, 2018). MADR also implements the Rural Housing Programme, seeking to improve the quality of life for rural households (OECD, 2015). Colombia has not ratified the Plantations Convention in which housing regulations are stipulated on farm (ILO).
Evidence	A common concern among coffee producers this year (2020) are both recruiting and housing workers (Media, 2020). Farmers have to invest in safety protocols and more beds in order to accommodate workers in shared lodgings. The on-farm housing is not popular among workers according to research by SOMO (2016), that found poor sanitary conditions of the camping houses and bad food quality. Especially during harvest season, the living conditions of seasonal workers are considered a potential health risk as they are on close quarters (Media, 2020).
Prevailing expert opinion	Medium-high risk: Where accommodation is/ living quarters are provided, these are not necessarily safe, clean or decent. "The workers' barracks are in barely acceptable condition, partly because of the workers themselves who do not take care of the facilities or keep them clean" (Expert survey, 2020).
COLLECTIVE BARGAINING	
Score	**3.2**
Law	Colombia has ratified important laws and regulations pertaining to freedom of association and collective bargaining (ILO) but while the existence of associations for employers and employees is allowed, they are not very common (L&E Global, 2020). Numerous killings of labor union activists and leaders have taken place by illegal armed groups (Freedom House, 2020). The ITUC Global Rights Index (2020) lists Colombia among the world's worst countries for workers, at 'no guarantee of rights'.
Evidence	The government and the coffee sector have focused their efforts on supporting the organization of coffee producers under various associative concepts, such as cooperatives and local committees of the FNC (SOMO, 2016). No workers' union of significance exists for the coffee sector that is responsible for collective bargaining. However, examples exist of agricultural worker representatives brokering deals with employers over worker's rights (ILO, 2016), but it is generally not safe for social leaders in the country (ITUC, 2020; Freedom House, 2020). Collective bargaining is considered reserved for trade-unions and employers (L&E Global, 2020). To address these issues, the COFFEE Project was established including a social compliance system and toolkit to enable coffee industry actors to address labor exploitation (USDOL, 2020). Non-conformities were not found during UTZ audits between 2015-2019 (RA, 2019).
Prevailing expert opinion	Medium-high risk: When looking at the country's coffee producing regions, it is unlikely that workers are fully aware of their rights and duties and that their employers adhere to those rights and duties including the right of collective bargaining. "Practically all contracts for coffee workers are informal (verbal), not implying abuse since they do exercise a high degree of bargaining power, but they often do not know their rights" (Expert survey, 2020).
MINIMUM WAGE	
Score	**3.8**
Law	Colombia has ratified the Protection of Wages Convention and the Equal Remuneration Convention, but not the Minimum Wage Fixing Convention (ILO). Colombia has a government-mandated minimum wage, and no worker in Colombia can be paid less then this mandatory minimum rate of pay. Employers are otherwise subject to punishment (Minimum-Wage, 2021).
Evidence	While demand is still present, coffee prices remain low, leading to a high percentage of farmers earning very little (Media, 2019) or even living under the poverty line at less than 2 USD a day (The Borgen Project, 2018). Price Risk Management mechanisms as used by the Los Andes Cooperative can ensure that farmers receive a minimum price (Media, 2019). For Colombian coffee workers, wages vary according to the annual production cycles and are based on the total weight harvested (SOMO, 2016). Their research points out that workers receive wages below the monthly legal pay.
Prevailing expert opinion	Medium-high risk: Most of the workers are paid the minimum wage or more; part of the workers is paid less than minimum wage. "This point requires clarification: workers are often not paid the minimum wage, but are offered lodging and meals, somehow compensating the lesser amount in Colombian pesos" (Expert survey, 2020).

SAFE WORKING ENVIRONMENT	JDE Sourcing principle 6.3
Highest score	**3.7**
OCCUPATIONAL HEALTH SAFETY*	
Score	**3.7**
Law	Legal standards for occupational health and safety are generally up to date for the formal sector, though this does not encompass agriculture (USSD, 2019). The Colombian government has not ratified the Occupational Safety and Health Convention, however several other related conventions were ratified (ILO). Laws related to the protection of workers from significant safety issues are not complete (GMAP, 2017), and there are no specific regulations which require regulated entities to enforce compliance with current legislation (Lexicology, 2020).
Evidence	The OHS related risk conditions for the production of coffee are rated 88/100 (GMAP, 2017). Research by Solidaridad (2016) and SOMO (2016) indicate that serious problems remain with regards to health and safety issues in the coffee sector. Examples include inability to go on sick leave, not being provided with PPE (51% according to SOMO), occurrence of work-related accidents (cuts, snake bites, poisoning). Common illnesses include constant colds due to difficult and changing weather patterns, headaches, and fungal infections caused by coffee pulp. Persistent pressure for sustainably produced coffee has, however, helped to promote OHS measures in Colombia, in close collaboration with the FNC (ILO, 2017).
Prevailing expert opinion	Medium-high risk: When looking at the country's coffee producing regions, it is unlikely that workers enjoy a safe working environment, where adequate steps are taken to prevent work related injuries. "Most workers work on steep slopes with very heavy loads; they do not hydrate adequately and do not like to use personal protection equipment" (Expert survey, 2020). *Unsafe working conditions was listed as a top-priority issue in the previous OIA Colombia (2017).
FIRST AID AND EMERGENCY HEALTHCARE	
Score	**N/A**
	At the moment, information collected on First Aid and Emergency Healthcare does not allow us to draw specific conclusions. Prevailing expert opinion: Medium-low risk: "When looking at the country's coffee producing regions, it is likely that workers receive first aid and emergency health care for treatment of work-related injuries. "The farms have basic first-aid kits with which to treat small wounds or things like that, for serious injuries for which the hospital is required, most of the workers are covered by the state's free social security - SISBEN" (Expert survey, 2020).
DRINKING WATER	
Score	**3.6**
Law	Acknowledging that rural development is still lacking, Colombia plans to invest USD 13 billion over the next 10 years in continuing improving the water sector (Dutch Ministry of Foreign Affairs, 2018). Access to improved water sources is not readily enforced, with situations sometimes dire in relation to COVID (Media, 2020).
Evidence	Rural access to safely managed drinking water service is 40% according to figures from UNWater (2020). Urban drinking water service is most often 'improved' but lacking still in rural areas (Dutch Ministry of Foreign Affairs, 2018). Some 1.6 million people are in need of clean drinking water in Colombia (UNOPS, 2020). Moreover, sanitation remains poor in the country as well, with little facilities in place for correct treatment of water before being tapped.
Prevailing expert opinion	Medium-low risk: When looking at the country's coffee producing regions, it is likely that workers have convenient access to safe drinking water.

AGROCHEMICAL HANDLING	JDE Sourcing principle 6.4
Score	**3.8**
Law	Colombia recently implemented national laws which improve chemical handling and safety (UNEP, 2020). Additionally, under the OHS regulation, employers must provide workers with protective equipment adequate to address the risks associated to performed tasks (Lexicology, 2020). Colombia is also signatory to the Chemicals convention.
Evidence	In a research by SOMO (2016), over half of all respondents stated that they were not provided with PPE (personal protective equipment: boots, gloves, hats, aprons, raincoats, spraying and lifting equipment), though did acknowledge their exposure to chemical and ergonomic risks. The not wearing of PPE is actually a common issue in non-conformity for certified farmers (SOMO, 2016), as UTZ audit results from 2015-2019 also show (RA, 2019). To overcome losses related to climate change and low prices, a trend is seen with farmers increasing the frequency of chemical pesticide sprays, resulting in more exposure by workers and families (Media, 2020). Intoxication risks due to agrochemicals is common among coffee growers (Rodriguez et al., 2017).
Prevailing expert opinion	Medium-high risk: When looking at the country's coffee producing regions, it is unlikely that agrochemicals are handled in the right way. "Unless producers are certified, they will most probably not use personal protection equipment"; "Yes, the workers have been trained, they do not like to use protective equipment, and highly toxic substances are used" (Expert survey, 2020).

FARM & HOUSEHOLD ECONOMICS	JDE Sourcing principle 7.1
Score	**3.1**
Law	Very recently, the Colombian government brokered a historic agreement with the FNC at the start to establish the Coffee Price Stabilization Fund (el Fondo de Estabilización de Precios del Café) to combat low prices, including a minimum floor rate of COP 780,000 (USD $204) per carga (125kg) (Media, 2020). Since 2013, farmers also receive a guaranteed minimum share of 85-90% of the export price (Sustain Coffee, 2018). The Financing Fund for the Agricultural Sector (FINAGRO) will also provide loans with discounted payback terms and a special loan category that will offer funds to small growers to replant their coffee fields (USDA, 2019).
Evidence	Colombia has experienced a row of intense epidemics over the past years, their impacts exacerbated by low coffee prices affecting coffee farmers (Avelino et al., 2015). Some coffee farmers are making the expensive switch to other crops such as Hass avocados, citrus fruits, bananas, sugarcane, or illicit crops like marijuana and coca (Media 2019; 2020), resulting in a decline in total coffee growing area (Media, 2020). Others, though, have been diversifying into high-quality specialty coffee varieties over the last few years (Media, 2020). Many farmers see this as a way of increasing their profits and stabilizing prices, as the demand for specialty coffee continues to grow. Slim margins by some coffee growers are decreased by Fedecafe's obligatory fee at 15.3% of farmers' income, for marketing and selling coffee (Media, 2019). According to a report by IDH (2019), the living income gap for most small conventional producers in Colombia (0.5 - 5 ha) is too large to be solved with technical assistance and price support from buyers alone.
Prevailing expert opinion	Medium-high risk: Most coffee farmers are not sufficiently aware of the farm and household economics. "Most farmers do not reach a living income [...] and with low prices, often does not generate sufficient income for farmers to even cover cost of production"; "most farmers are subsistence farmers and are aware about their household economics" (Expert survey, 2020).

TRADING RELATIONSHIP	JDE Sourcing principle 7.2
Score	**2.7**
Law	The National Federation of Coffee Growers of Colombia, the biggest coffee farmers association worldwide, acts as a platform for exchange between farmers and provides marketing, extension services and subsidized inputs (Sustain Coffee, 2018). Colombia has a goal to be certified for its coffee nationwide by 2027 with strong governmental institutions working closely with different organizations to achieve this (The Borgen Project, 2018; ICO, 2019).
Evidence	A number of digital tools and initiatives that aim to strengthen the coffee sector and improve farmers' economic sustainability have been established (GSMA, 2017). Amongst these initiatives is the Coffee Information System (Sistema de Información Cafetera or SICA) supported by the FNC, offering transparency in the value chain by covering over half a million coffee farms. Related to this is the launch of the Smart Coffee ID card (Cédula Cafetera Inteligente), replacing cash exchange as a prepaid payment card in a move to improve security and safety of payments (The Borgen Project, 2016), though its uptake remains low (GSMA, 2017). Solidaridad (2020), among other initiatives promoting continuous improvement of sustainability practices at the farm level (Media, 2018; Media 2019), has rolled out its own digital strategy.
Prevailing expert opinion	Medium-low risk: When looking at the country's coffee producing regions, it is likely that coffee sourcing companies facilitate farmers to access key production inputs, such as plantlets, fertilizer and agrochemicals, but somewhat unlikely that coffee sourcing companies facilitate farmers to access services, such as credit and market information. "Most farmers are part of cooperatives. These cooperatives and increasingly traders, provide access to training, inputs and certification"; "most farmers have access to input and services, but that doesn't mean that they have the ability to afford it" (Expert survey, 2020).

GOOD AGRICULTURAL PRACTICES	JDE Sourcing principle 8.1
Score	**3.0**
Law	Colombia's National Development Plan (2018-2022) sets out to develop sustainable farming practices, following a nation-wide initiative to replace old and pest-susceptible coffee trees resulting in over 400,000 ha being replanted between 2012 and 2018 (Sustain Coffee, 2018). Most coffee growers are members of FEDECAFE and take advantage of the organization's educational programs, technical training, and sales support. FEDECAFE provides technical support to coffee producers through the extension service that assists growers on good practices for planting, harvest and post-harvest practices (USDA, 2019).
Evidence	The successful replantation program has reduced the average age of coffee trees from 15 to 7 years (USDA, 2019), along with increased productivity and plant density. Mono-cropping, however, is still highly present. Recently large organizations and co-ops have been promoting the use of more sun resistant coffee trees, exacerbating the vulnerability of coffee farmers to climate change (Sustain Coffee, 2018; Media, 2017). Farmer members of the Colombian Coffee Growers Federation (FNC) can participate in the organization's Specialty Coffee Program, which supports access to verification and certification, including Rainforest Alliance Certified, UTZ Certified, FLO Fairtrade, Nespresso AAA, 4C, and USDA Organic (GMAP, 2017). Among initiatives on sustainable farming are training facilities developed by Olam that give farmers access to training on organic and sustainable farming and good agricultural practices (Media, 2020); Cedro Alto coffee collective targets economic sustainability of coffee farming (Media, 2019); farmer schools provide trainings on plantation productivity (Colibri Foundation, 2018).
Prevailing expert opinion	Highly discrepant risk opinions*: most common expert estimates of the percentage of farmers in the coffee producing regions using good agricultural practices is 50 to 75%. "The National Coffee Growers Federation (FNC) has over 1000 agronomists providing technical assistance." (Expert survey, 2020). * The averaged risk score does not sufficiently reflect the wide discrepancy in expert opinion, ranging from low to high risk.

HARVEST AND POST-HARVEST PRACTICES	JDE Sourcing principle 8.2
Score	**3.0**
Law	The Colombia coffee NAMA (Nationally Appropriate Mitigation Actions) strategy identifies four core areas for improvement including post-harvest efficiency (Sustain Coffee, 2018). Targeting 100% certification by 2027, FEDECAFE assists growers on harvest and post-harvest practices, including processing (USDA, 2019).
Evidence	In Colombia, coffee processing is mostly performed at farm level (Media, 2019) and involves sun-drying and washing the ripe cherries (GMAP, 2017). This washing practice often leads to water contamination (Sustainable Water Fund, 2018). Increasingly, experiments in processing are done that seek to find novel flavors in coffee, for example honey processing (Media, 2019). Such processing could add value to specialty coffee. COVID-19 is putting pressure on coffee growers, since finding laborers has become difficult, resulting in some growers leaving the cherries on trees and opting for a loss in yield (Media, 2020). Labor shortage was already an issue five years ago, when it became clear that this made it difficult to ensure coffee berries were picked at their ripest (Media, 2015). Fewer hands also meant that the coffee berry borer infestation was hard to keep in check.
Prevailing expert opinion	Highly discrepant risk opinions*: most common expert estimates of the percentage of farmers in the coffee producing regions using good harvest and post-harvest practices is 50 to 75%. "There are problems with the collection of green beans, a good wet mill is not yet made and there are no more facilities for dry milling"; "it is hard to implement quality control on the 100,000s of wet mills across the country" (Expert survey, 2020). * The averaged risk score does not sufficiently reflect the wide discrepancy in expert opinion, ranging from low to high risk.

INTEGRATED PEST MANAGEMENT	JDE Sourcing principle 8.3
Score	**3.9**
Law	The Integrated Pest Management Program, developed by the National Coffee Research Center in Colombia (Cenicafe)(Aristizabal et al., 2012), laid foundation to the governmental effort to replant susceptible coffee trees across Colombia (Avelino et al., 2015).
Evidence	Although the replanting scheme has worked, Colombian coffee farmers still over-apply fertilizers and pesticides (Sustain Coffee, 2018; Dutch Ministry of Agriculture, Nature & Food Quality, 2020), leading to risks for the environment and people. Some local efforts can be seen in biological protection, though this is not at large scale yet (FAO, 2015; Media, 2019). CABI and partners are working on an early warning system for pest outbreak (Media, 2019). They stress that biopesticides for CBB exist, but coffee farmers are often reluctant to use them as they are seen to be ineffective and slow to act. But the problem is often that they are applied at the wrong time (Media, 2020).
Prevailing expert opinion	High risk: Expert estimates of the percentage of farmers in the coffee producing regions applying Integrated Pest Management vary between <25 and 50%. "Pesticides are too common"; "Very little practiced properly, despite the efforts of CENICAFE"; "There are two main obstacles for implementation of IPM: 1. Farmers do not like carrying out monitoring of pests and diseases 2. The agrochemical industry interferes by having sales representatives that very often change the recommendations given by the FNC agronomists, resulting in the purchase of agrochemicals even if they are not needed" (Expert survey, 2020).

BANNED PESTICIDES	JDE Sourcing principle 8.4
Score	**3.6**
Law	Colombia has banned the use of endosulfan at national level (Finnwatch, 2016). Paraquat dichloride remains legal although it is listed as moderately hazardous and is banned in EU (Media, 2020). Following a warning by the WHO, Colombia also banned the herbicide glyphosate (Media, 2015). But, after signing a peace agreement with the Revolutionary Armed Forces of Colombia guerrillas, the government found an increase in illicit crops and planned to tackle this by spraying glyphosate (Media, 2018; 2019).
Evidence	The use of agrochemicals in the coffee industry contributes to soil degradation in the coffee growing areas of Colombia (GMAP, 2017). Fungicides including copper oxicloruro, cyproconazole, and triadimefon, known to be applied in order to treat tree varieties that are susceptible to leaf rust. Copper accumulates in soil and it can reach levels toxic to plants and other organisms in the environment. During UTZ audits (2015-2019), non-conformities were found and resolved among coffee producers. Country-wide, banned pesticides remain used, sometimes shipped from Europe (Unearthed, 2020).
Prevailing expert opinion	Highly discrepant risk opinions*. "The producers seek effectiveness and low cost, so they mostly make use of prohibited products of high toxicological category" (Expert survey, 2020) * The averaged risk score does not sufficiently reflect the wide discrepancy in expert opinion, ranging from low to high risk.

INCOME DIVERSIFICATION	JDE Sourcing principle 9.1
Score	3.9
Law	The OECD recommends Colombia to diversify its economy and move further than production of commodities (OECD, 2015), reducing its exposure to fluctuations in commodity prices; a shared goal by the government of Colombia (Media, 2017). In 2019, the government implemented the contract farming policy to create stable long-term linkages between small-scale producers and markets (OECD, 2020). In addition, the Coffee Price Stabilization Fund (FEPC) came into effect in February 2020, aiming to shield coffee growers against international price fluctuations (FNC, 2021). A minimum price per bag was already issued for registered coffee farmers under FNC (JDE regional insights, 2020).
Evidence	Although more diversified cropping systems are seen (FAO, 2015), diversification is sometimes unfeasible for a smallholder farmer with little financial means (Media, 2019). Coffee is still considered the main crop on which farmers have continuous dependency (Sustain Coffee, 2018). For many towns, coffee even remains the only source of income (Avelino et al., 2015). However, the practice of dispersing banana plants and avocado trees among coffee plants is becoming more common, especially on steep slopes (Media, 2017; 2018). The planting of additional crops is done by some farmers to reduce the risks of any one crop's failed harvest (Media, 2018).
Prevailing expert opinion	High risk: Expert estimates of the average percentage of the farmer's net income generated from coffee production vary between 60 and 80%, with 73% on average. "It is widely known that in most cases coffee production is not a profitable or economically viable business under current conditions. And most farmers lack resources to invest in making improvements in the management of their coffee farms or depend on handouts from projects that come and go" (Expert survey, 2020).