

# ORIGIN ISSUE ASSESSMENT

## VIETNAM - COFFEE



Vietnam's coffee production has seen a major boost over the past 25 years, making Vietnam the world's second-largest coffee producer. An estimated 650,000 hectares is now under coffee cultivation, mostly of the Robusta variety, with an average yield of 2.4-2.6 tons per hectare (Nguyen, 2017). Due to favourable agroecological conditions, production is concentrated in the Central Highlands. Over half a million smallholder households are responsible for 95% of Vietnam's coffee production; 90% have farm sizes less than 2 hectares (Anh et al., 2019).

### TOP ISSUES

The top issues identified are:

- **Buffer Zones (risk score 4.4/5),**
- **Banned Pesticides (risk score 4.2/5),**
- **Soil Fertility Management (risk score 3.9/5),**
- **Harvest and Post-harvest Practices (risk score 3.9/5).**

In Vietnam, the excessive use of agrochemicals combined with poor attention paid to riparian zones has led to widespread pollution of natural systems (**Buffer Zones**). As such, it is common practice for coffee farmers to uniformly spray pesticides, including highly hazardous toxins, when pests are found on trees (**Banned Pesticides**). Moreover, declining soil fertility and erosion is witnessed as a result of higher-than-recommended fertilizer use and incorrect soil management (**Soil Fertility Management**). The Vietnamese export market is catered toward mainstream market, with a focus on productivity rather than quality harvesting and processing practices (**Harvest and Post-harvest Practices**).

Further details per topic are provided in a separate annex.



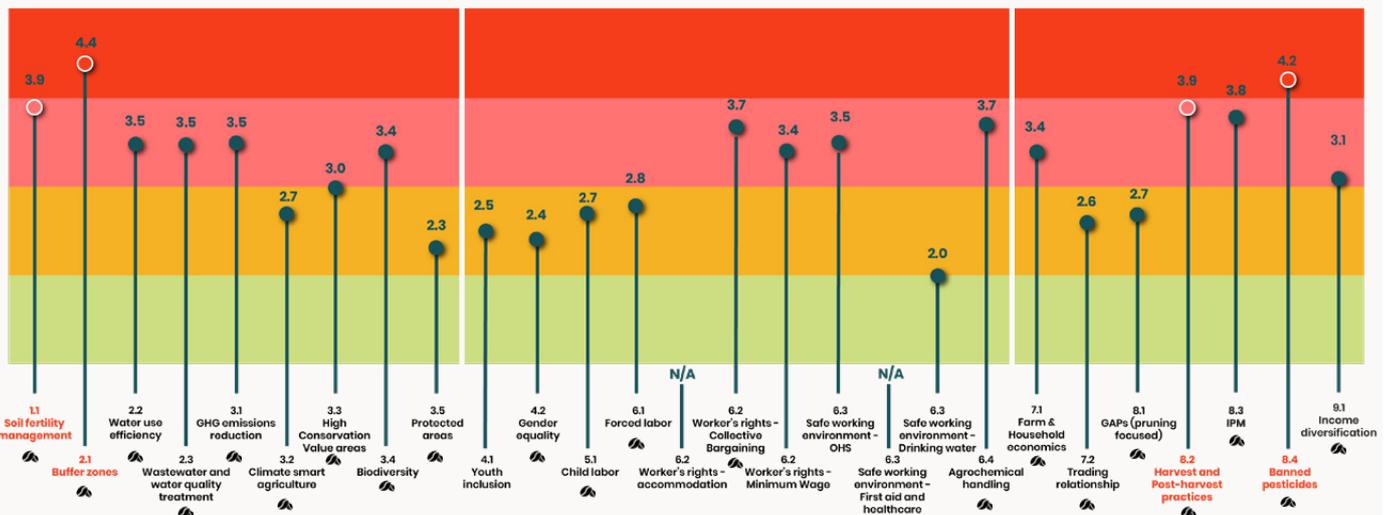
### Sustainability of Land



### Equality of People



### Prosperity of Farmers



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



**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](mailto: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	<b>3.9</b>	
Law	In a response to growing resource depletion and unsustainable land use, the government has recently initiated several policy reforms including agricultural restructuring, land consolidation and backing of improved practices. In 2014, the Vietnam Sustainable Coffee Plan was released by the government with a set of specific environmental directives (ICO, 2019). Enforcement remains limited.	
Evidence	Intensive fertilizer use has led to reduced soil fertility across Vietnamese coffee farms (Tiemann et al., 2018). Farmers lack clarity about nutrient requirements and consistently apply higher fertilizer loads than recommended, as is witnessed in the Central Highlands (World Bank, 2017), in a move to counterbalance declining soil fertility. More generally, wrong types of inorganic and fewer organic fertilizers are used (JDE regional insights, 2020). The long-term effects of overuse of agrochemicals are noticed in places like Lam Dong Province where farmers are exploring traditional farming methods once again (Le et al., 2020). In most other coffee provinces, a similar trend is witnessed (JDE regional insights, 2020).	
Prevailing expert opinion	High risk: "it is likely that most farmers do not know how to manage their soils, organic matter is decreasing, soil erosion is commonplace, and nutrients are wasted"; "Overuse of (synthetic) fertilizers is frequently witnessed" (Expert survey, 2020).	

BUFFER ZONES		JDE Sourcing principle 2.1
Score	<b>4.4</b>	
Law	Since 2015, a law is in place for environmental protection prohibiting untreated wastes and toxic chemicals to be discharged into soils, water bodies and air (World Bank, 2017).	
Evidence	Agriculture pollution risks are prevalent in the coffee sector (World Bank, 2017). Pesticide residues are found higher than the maximum allowable level in natural systems, with nearly 20% of pesticides classified as extremely hazardous. Pollution includes chemical packaging released into surrounding environments without proper treatment. Moreover, high fertilizer application rates are associated with leaching of nutrients, causing damage to biodiversity and water quality. (Gaitan-Cremaschi et al., 2018). Coffee smallholders are unaware of buffer zones and its role to limit and protect water bodies from agrochemical contamination; only a limited number of farmers actually plant coffee along streams (JDE regional insights, 2020).	
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" (Expert survey, 2020).	

WATER USE EFFICIENCY		JDE Sourcing principle 2.2
Score	<b>3.5</b>	
Law	The Vietnam Sustainable Agriculture Transformation Project (VnSAT) is underway, promoting the adoption of water-saving technologies to 62,000 small-scale coffee plantations in 5 provinces of the Central Highlands. Trainings such as Three Reductions, Three Gains (3R3G) and One Must, Five Reductions (1M5R) comprise cultivation techniques including water use; booking positive results in 2017 (World Bank, 2017). Confirmed by regional insights of JDE, research proved that the frequently used 1000L per tree and per round of irrigation was excessive and led the Ministry of Agriculture and Rural Development (MARD) to adjust irrigation standards to 400-500 L/plant/round in 2013 (Sustain Coffee, 2019). Monitoring, however, is limitedly enforced.	
Evidence	Some 87% of Vietnamese coffee is irrigated, mostly by groundwater. Average water use on conventional farms is 1,700 cubic meters per hectare, twice the amount for best practice (True Price, 2016). During dry seasons and droughts in the Central Highlands, water resources are sometimes depleted well before the replenishing rains (Sustain Coffee, 2019). Efforts to improve water use are seen country-wide including farmer field schools in Dak Lak Province (media, 2019) and new irrigation systems on coffee farms in Krong Nang District as part of the Production, Protection and Inclusion (PPI) Compact project (IDH, 2020). Climate change exacerbates the pressure on water resources.	
Prevailing expert opinion	Medium-high risk: "Water is becoming less available and availability is an issue during the dry season"; "Almost all farmers irrigate without measuring quantities, leading to over-use of water and depletion of groundwater resources" (Expert survey, 2020).	

WASTEWATER AND WATER QUALITY TREATMENT AT PROCESSING UNITS		JDE Sourcing principle 2.3
Score	<b>3.5</b>	
Law	Regulations exist pertaining to management and use of water resources, as well as on environmental protection and discharged objects (ESCAP, 2015). Though, WWF water risk filter (2020) states that treatment facilities are all but installed at plants and factories. Compliance of certified coffee exporters is enforced by monitoring law and standard parameters on proper wastewater treatment (JDE regional insights, 2020).	
Evidence	Most coffee is dry processed; only Arabica coffee is wet processed with a few exceptions for Robusta. Arabica represents 5-6% of total coffee production. Moreover, certified processing plants comply to wastewater standards (JDE regional insights, 2020). According to the IFC (2017) however, both the production and processing of coffee are known to have significant negative impacts on water quality, the first due to high use of fertilizers, pesticides and herbicides combined with soil erosion. Moreover, post-processing requires a large volume of fresh water, which is later released as a toxic wastewater potentially contaminating local watersheds and harming aquatic wildlife. Groundwater contamination in Vietnam is listed as a major environmental problem by WWF Water Quality Index.	
Prevailing expert opinion	Medium-low risk: "Water is predominantly dry processed"; "When looking at the country's coffee producing regions it remains contested that, at processing units, wastewater is treated and is of good quality before it is discharged into aquatic ecosystems or drainage systems" (Expert survey, 2020).	

GHG EMISSIONS REDUCTION		JDE Sourcing principle 3.1
Score	<b>3.5</b>	
Law	Next to signing and ratifying international agreements such as the UNFCCC and the Kyoto Protocol, Vietnam has government programs in place on energy saving and efficiency e.g. National Target Program on Energy Efficiency and the Law on Economical and Efficient Use of Energy.	
Evidence	UNDP (2019) reports suggest Vietnam's total renewable energy consumption lies at 35% and increasing. Though, coffee producers rely heavily on synthetic fertilizers (factory-made) and diesel (to power irrigation pumps) (IFC GMAP, 2020). Both the production and heavy use of fertilizers contribute to greenhouse gas emissions (World Bank Group, 2015).	
Prevailing expert opinion	Medium-high risk: "When looking at the country's coffee producing regions, it remains contested that farmers use energy efficiently and unlikely that farmers use renewable energy sources" (Expert survey, 2020).	

CLIMATE SMART AGRICULTURE		JDE Sourcing principle 3.2
Score	<b>2.7</b>	
Law	Vietnam introduced the Agricultural Restructuring Plan including directives to adapt to climate change i.e. introducing climate smart agriculture (World Bank Group, 2017). The GRENCoffee mobile App was launched in 2017 providing farmers with information on weather forecasts and other themes (Media, 2017).	
Evidence	An increasing trend of Climate Smart Agriculture is found in Vietnam (UN-REDD, 2019). Yet, the majority of CSA technologies have a low to medium adoption rate due to low availability of required inputs, high costs of installation, financial constraints and limited access to tailored information and guidance. ICRAF (2018), IDH (2019) and CGIAR (2019) report on coffee-based agroforestry systems being a widespread technique in climate change adaptation through shading and intercropping. Moreover, Vietnam's culture of favouring Robusta cultivation over Arabica varieties is seen as climate-smart since Robusta is more tolerant to heat than Arabica (media, 2016).	
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 is one of major challenges to coffee production mentioned and witnessed by most of farmers in terms of changing weather patterns and pest incidence" (Expert survey, 2020).	

FOREST AND HIGH CONSERVATION VALUE AREAS (HCVS)*		JDE Sourcing principle 3.3
Score	<b>3.0</b>	
Law	Vietnam has a law on Forest Protection and Development and a Forestry Development Strategy 2006–2020 in place (FAOLEX, 2020). Moreover, in 2016 the Prime Minister declared the closing of natural forests in the Central Highlands in a bid to save the ‘green lung’ of Vietnam (Media, 2016). Supported by the World Bank, a government program is ongoing to replant 90,000 hectares and transplant 30,000 hectares in 5 regions in the Central Highlands (USAID, 2017).	
Evidence	According to Global Forest Watch, Vietnam lost 669kha of humid primary forest, including in Dak Lak Province, between 2001 and 2019. Other areas where loss of humid primary forest is witnessed are in the provinces Dak Nong, Lam Dong and Gai Lai (JDE regional insights, 2020). The IFC (2017) confirms that the expansion of coffee has negatively affected the ecological balance of the region, and that the establishment of coffee plantations has been one of the driving forces of deforestation in Vietnam’s Central Highlands. Media (2016) and the World Bank Group (2015) also report on coffee area expansion to come at the expense of forest clearing. True Price (2016) however, says that most of the areal expansion of coffee happens on existing agricultural lands.	
Prevailing expert opinion	Medium-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”; “Some deforestation is still taking place, specifically in remote places” (Expert survey, 2020).  *Deforestation was listed as a top-priority issue in the previous OIA Vietnam (2017).	

NATIVE VEGETATION AND ON-FARM BIODIVERSITY		JDE Sourcing principle 3.4
Score	<b>3.4</b>	
Law	Measures for protecting the environment and conservation of biodiversity have been integrated into government policies, plans and programmes for agriculture (CBD), including provincial recommendations for integrating indigenous timber species as shade trees on current coffee farms in regions such as Dak Nong and Lam Dong (ICRAF 2018). Yet, the government’s VnSAT project has seen little progress in its establishment of pilot coffee-based landscape management plans (World Bank, 2020).	
Evidence	Land conversion from tropical forests to coffee plantations has caused significant biodiversity losses, exacerbated by the popular practice of growing coffee in full sunlight (IFC, 2020; World Bank, 2015). Agroforestry systems offer ecological benefits, though farmers’ selection of tree species is based on their economic benefits, market access and farm proximity to main roads. Species less profitable but beneficial to coffee are therefore only found further from main roads and market (Phuong et al., 2018).	
Prevailing expert opinion	Medium-high risk: “When looking at the country’s coffee producing regions, it is unlikely that farmers contribute to preservation of native vegetation and on-farm biodiversity”; “More diversified systems are gaining grounds, though the challenge lies in retaining native species” (Expert survey, 2020).	

PROTECTED AREAS		JDE Sourcing principle 3.5
Score	<b>2.3</b>	
Law	Although still promoting cultivation of Arabica coffee, MARD has addressed the need to find solutions to maintain the coffee cultivation area stable at 600,000 hectares (ICO, 2019).	
Evidence	The IFC GMAP (2017) found no direct evidence of negative impacts on protected areas by coffee production in the coffee growing regions. This confirms the findings by Arafin (2017) that coffee plantations in Dak Lak Province are at distance from protected areas’ buffer zones. Though, USAID (2015) reports on favouring of agricultural use over natural forest cover and sanctioning of above-limit conversion of forests.	
Prevailing expert opinion	Medium-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”; “But, the entire coffee area is still under expansion, probably at the expense of rainforest and/or biodiverse hotspot areas” (Expert survey, 2020).	

YOUTH INCLUSION		JDE Sourcing principle 4.1
Score	<b>2.5</b>	
Law	Several media sources suggest that governmental programs striving to enhance youth participation and entrepreneurship among rural youth are ongoing through contests and trainings e.g. under the project One Commune, One Product.	
Evidence	33% of rural youth workers in Vietnam get their main source of employment from agriculture, although it often involves precarious and low-paid work (OECD, 2017). Multiple sources suggest that projects around youth inclusion in agriculture are ongoing unlike the media (2019) which state that the sector lacks young, educated, skilled and entrepreneurial people. The Vietnam Farmers' Union is now implementing technical training for young farmers and provides access to low-interest loans. High-tech farming innovations are also pushed forward by Microsoft and Vietnet Information Technology through programs such as "Youth Spark Digital Inclusion".	
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"; "Coffee farming is relatively good business in Vietnam, increasingly recognized by the youth and promoted through vocational schools and trainings" (Expert survey, 2020).	

GENDER EQUALITY		JDE Sourcing principle 4.2
Score	<b>2.4</b>	
Law	While the Government enacted a National Strategy on Gender Equality for the 2011-2020 period, Vietnam still retains a medium level of gender discrimination in social institutions (OECD, 2017). The government's Sustainable Agriculture Transformation Project met its target of 50% women participation (World Bank, 2020).	
Evidence	Plenty of evidence suggests that women inclusion and gender equality are high on the agenda of e.g. CCAFS, CGIAR and IFC for development and agriculture projects in the coffee sector. Although this might be true for projects, women representation in the workforce remains limited, with an inequality index of 'medium' according to Social Hotspot Database.	
Prevailing expert opinion	Medium-low risk: "Women partially have equal rights, responsibilities and opportunities"; "In Vietnam, the gender balance is improving although there is still room for improvement regarding female representation in lead positions or in tribal communities" (Expert survey, 2020).	

CHILD LABOR		JDE Sourcing principle 5.1
Score	<b>2.7</b>	
Law	Vietnam has ratified the Minimum Age Convention, 1973 (No. 138) and the Worst Forms of Child Labour Convention, 1999 (No. 182) (NORMLEX-ILO). The Borgen Project (2015) affirms that a lot has been done in order to stop child labor in Vietnam and the flow of Vietnamese children trafficked into modern slavery around the world. However, IFC GMAP (2019) reports on child labor remaining a problem particularly in rural areas. Enforcement of Vietnam's child labor regulations is considered ineffective.	
Evidence	Coffee is listed on the US Department of Labor's (2018) List of Goods Produced by Child Labor. Though, it is stressed that it's listed in part due to Vietnam's commitment to investigate and combat this issue. The risk of child labor in the agricultural sector remains very high according to Social Hotspot Database with a high percentage (60-80%) of total child labor in agriculture (US SD, 2019). IFC denoted that child labor has been a historic issue in Vietnam, though not reported recently. The incidence of child labor is seen especially during peak harvesting season and within ethnic minority groups (JDE regional insights, 2020).	
Prevailing expert opinion	Medium-low risk: "Child labor occurs to a certain extent in the country's coffee producing regions"; "Children sometimes help their families with light work on the field a few weeks per year during harvest season. This could interfere with their schooling specifically when combined with seasonal migration" (Expert survey, 2020).	

FORCED LABOR		JDE Sourcing principle 6.1
Score	<b>2.8</b>	
Law	Although Vietnam ratified the Forced Labour Convention 1930, and a national law prohibits forced or compulsory labor, there are reports of forced labor for men, women and children in the country (IFC GMAP, 2017). Vietnam's labor code definition does not explicitly include debt bondage (US SD Country Reports on Human Rights, 2019). The US SD Trafficking in Persons Report (2019) stipulates that significantly fewer victims were found than in previous years, identifying significant efforts by the Vietnamese government in eliminating trafficking.	
Evidence	Coffee is not listed on the US Department of Labor's List of Goods Produced by Forced Labor, but it is indicated as a medium risk by Social Hotspot Database and Human Rights Watch reports forced labor in coffee plantations. Human trafficking gangs seem to still be operational (US SD, 2019).	
Prevailing expert opinion	Medium-low risk: "It is unlikely that forced labor happens in the country's coffee producing regions"; "Sporadically, forced military labor occurs during coffee harvest" (Expert survey, 2020).	

WORKERS' RIGHTS AND DUTIES		JDE Sourcing principle 6.2
Highest score	<b>3.7</b>	

ACCOMMODATION	
Score	<b>N/A</b>
	At the moment, information collected on accommodation does not allow us to draw specific conclusions. Prevailing expert opinion: Medium-low risk, "Coffee workers and their family are responsible for their own accommodation" (Expert survey, 2020). Farm owners either arrange accommodation for (migrant) workers or pay workers a package including accommodation (JDE regional insights, 2020).

COLLECTIVE BARGAINING		
Score	<b>3.7</b>	
Law	Numerous sources indicate that Vietnam performs poorly on workers' rights to collective bargaining, freedom of association and right to organize. However, Vietnam has recently ratified the Right to Organize and Collective Bargaining Convention, 1949 (No. 98), - in 2019 (ILO). According to US SD Country reports on Human Rights (2019), the constitution affords the right to associate and the right to demonstrate but limits the exercise of these rights, including by preventing workers from organizing or joining independent unions of their choice and limiting freedom of association by not allowing trade unions full autonomy in administering their affairs.	
Evidence	Vietnam has seen its ratings on respect for workers' rights worsen to a level 5 (rank 0 to 5+) in ITUC's Global Rights Index, listing 'no guarantee of rights' and a rise in attacks on workers' rights in law and practice. The Freedom House (2020) ranks Vietnam 1/12 for associational and organisational rights. According to the IFC (2017) there are no known coffee unions in Vietnam. Alternatively, ICO (2019) report that 71 coffee cooperatives have been set up in the Central Highlands and other regions. Unofficial trade unions and forms of collectives are widespread including youth and women's organisations (JDE regional insights, 2020).	
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"; "Seasonal laborers are integral to the coffee industry, these workers are probably not aware of their rights" (Expert survey, 2020).	

MINIMUM WAGE		
Score	<b>3.4</b>	
Law	Although Vietnam has not ratified the Protection of Wages Convention 1949 and the Minimum Wage Fixing Convention 1970 (NORMLEX-ILO), few workers are found to earn below the minimum wage (World Bank, 2016). Wages may be determined by agreement between the workers and the employer (employment contract) as well through collective bargaining agreement (Wage indicator 2019).	
Evidence	Numerous sources including the World Bank, ILO, Fair Wear, Wage Indicator and Media report on inconsistencies and non-compliance in minimum wage payments to workers among men and women in Vietnam. Social Hotspot Database rebukes this and scores Vietnam as 'low risk' in comparing wages in the agriculture sector to the country minimum wage. No details concerning minimum wage paid to workers in the coffee industry are found.	
Prevailing expert opinion	Medium-low risk: "Most workers are paid the minimum wage or more"; "The minimum wage in Vietnam remains low" (Expert survey, 2020).	

SAFE WORKING ENVIRONMENT		JDE Sourcing principle 6.3
Highest score	<b>3.5</b>	
<b>OCCUPATIONAL HEALTH SAFETY*</b>		
Score	<b>3.5</b>	
Law	Vietnam has ratified the Occupational Safety and Health Convention, 1981 (no. 155), and passed a new law on Occupational Safety and Health in 2016 (ILO). Enforcement of Labor laws remains ineffective according to US SD (2019).	
Evidence	The US SD Country report on Human Rights (2019) for Vietnam states that on-the-job injuries due to poor health and safety conditions and inadequate employee training remains a problem. Farmers' awareness on occupational health and application of personal protection when being in close contact with pesticide has been improved though still is limited (Arafin, 2017).	
Prevailing expert opinion	<p>Medium-low 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"; "Availability and use of protective equipment is limited in Vietnam's coffee sector, where application of agrochemicals is widespread" (Expert survey, 2020).</p> <p>*Unsafe Working Conditions was listed as a top-priority issue in the previous OIA Vietnam (2017). Topics addressed in the 2017-version have been broken down into more specific themes and greater focus is put on coffee-specific evidence for this version.</p>	
<b>FIRST AID AND EMERGENCY HEALTHCARE</b>		
Score	<b>N/A</b>	
	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"; "Health centres in the villages are well organized" (Expert survey, 2020).	
<b>DRINKING WATER</b>		
Score	<b>2.0</b>	
Law	The WHO (2019) explains that progress is made by the Vietnamese government toward national targets for drinking water, sanitation and hygiene. As such, water safety plans became mandatory for Vietnam's 68 water suppliers in 2012. UNICEF is supporting training for the implementation of these plans in rural areas (Media, 2015).	
Evidence	Vietnam ranks 64 out of 180 countries (1 being top performer) on Yale's Environmental Performance Index for Drinking Water. The WHO (2017) scores rural population using at least basic drinking-water sources at 93%. Likewise, UNDP reports that 95% of the Vietnamese population uses improved drinking water sources. This positive evidence is substantially countered as well. The Water Project (2016) lists poor rural areas as being neglected in drinking water improvements: only 39% of the rural population has access to safe water and sanitation. WWF also ranks Vietnam relatively low at 72/195 (195 being top performer).	
Prevailing expert opinion	Low risk: "When looking at the country's coffee producing regions, it is likely that workers have convenient access to safe drinking water" (Expert survey, 2020).	

AGROCHEMICAL HANDLING*		JDE Sourcing principle 6.4
Score	<b>3.7</b>	
Law	The use of Personal Protective Equipment (PPE) is officially included in Vietnamese legislation i.e. PPE should be provided to workers who come inside the pesticide production area.	
Evidence	The World Bank (2017) reports that it is still common among many farmers to completely ignore the risks, safety instructions, and protective guidance when applying pesticides. Jacob's Douwe Egberts emphasizes the importance of PPE in their coffee sustainability project by encompassing work safety trainings and providing equipment to farmers in the Central Highlands (media, 2018). However, media sources (2020, 2019) also suggest that the equipment provided to farmers is often not used since PPE is found uncomfortable to wear or considered insufficient to actually protect against agrochemicals.	
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"; "Agrochemicals are often overused without enough attention paid to the negative (health) effects" (Expert survey, 2020).  * Inappropriate Pesticide Handling was listed as a top-priority issue in the previous OIA Vietnam (2017). Topics addressed in the 2017-version have been broken down into more specific themes and greater focus is put on coffee-specific evidence for this version.	

FARM & HOUSEHOLD ECONOMICS		JDE Sourcing principle 7.1
Score	<b>3.4</b>	
Law	According to ICRAF (2018) and the World Bank (2020), the Vietnam Sustainable Agriculture Transformation Project is contributing towards increasing incomes among coffee farmers and raising awareness on environmental and economic benefits from coffee intercropping practices.	
Evidence	According to a country report by USDA Foreign Agriculture Service, falling coffee prices sometimes push farmers to switch to other cash crops such as black pepper, avocado or passion fruit. Additionally, the majority of coffee farmers still in debt with banks due to previous loans (Media, 2017). Research in the Central Highland's Dak Lak Province suggests that low-quality inputs result in large expenses on bad harvests for smallholder coffee producers (Anh et al., 2019). Unskilled and fragmented labor add to the struggle to meet international requirements for growing coffee, with 4C seen as the baseline production requirement.	
Prevailing expert opinion	Medium-low risk: "Some coffee farmers are not sufficiently aware of the farm and household economics"; "But, farmers are generally aware of cost/benefit relations and keep basic records of farm business" (Expert survey, 2020).	

TRADING RELATIONSHIP		JDE Sourcing principle 7.2
Score	<b>2.6</b>	
Law	The Government has played an active role in developing the coffee sector of Vietnam e.g. the 2014-2020 Coffee Rejuvenation Plan for the Central Highlands (FFTC, 2016); government financing schemes for farmers; and farmer support in connecting with processing facilities and sale systems.	
Evidence	According to USAID (2017) data sheets, the coffee sector's competitiveness leads to the vast majority of smallholder coffee farmers being in tight value chains with close and stable links to the market. Value chain actors increasingly work together according to the World Bank (2017) and schemes exist by e.g. ICO (2019) to improve small-scale farmers' access to finance. Nguyen & Sarker (2018) offer contrasting evidence from Dak Lak province in that the lives of Vietnamese farmers have not been improved because of high risks in the production environment and market conditions including risks in price volatility.	
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, and to services, such as credit and market information" (Expert survey, 2020).	

GOOD AGRICULTURAL PRACTICES		JDE Sourcing principle 8.1
Score	<b>2.7</b>	
Law	The Sustainable Coffee Development Plan and the Sustainable Agriculture Transformation Project are major steppingstones in the promotion of sustainable coffee farming practices in Vietnam, including replacement of unproductive coffee trees (World Bank, 2020). ICRAF (2018) reports on similar government’s intentions but lacking enforcement.	
Evidence	Although GAP is gaining grounds, in part through agroforestry, the tendency to cultivate coffee in monoculture still persists (True Price, 2016; Gaitan-Cremaschi et al., 2018). According to ICO (2019), 30% of the total coffee growing area of Vietnam was certified by sustainable development initiatives in 2017. MARD noted 50% of total coffee volume being certified in 2017.	
Prevailing expert opinion	Medium-low risk: “Expert estimates of the percentage of farmers in the coffee producing regions using Good Agricultural Practices range between 25% and >75%”; “Vietnamese coffee farmers have made quite some progress in applying GAP” (Expert survey, 2020).	

HARVEST AND POST-HARVEST PRACTICES		JDE Sourcing principle 8.2
Score	<b>3.9</b>	
Law	As the total coffee producing area has reached its target size, provincial authorities are currently focusing on improving post- harvest processing practices and increasing product certification (ICRAF, 2018) i.e. value-added processing.	
Evidence	There is plenty of evidence on poor harvest and poor post-harvest practices in e.g. Dak Nong Province (The World Bank 2016, 2017 & 2018). Poor processing technologies of beans make low value of products; poor post-harvest technologies (that is, drying, storing, and processing) and poor marketing contribute to low value of Vietnamese coffee at international markets. Such issues are exacerbated by high rates of pesticide use and timing of application e.g. leading to contamination of end-products. Moreover, shortage of skilled labor during harvest season hampers coffee yields (Anh et al., 2019)	
Prevailing expert opinion	Medium-high risk: Expert estimates of the percentage of farmers in the coffee producing regions implementing good harvest and post-harvest practices range between <25% to 75%”; “The Vietnamese coffee system is built on lower quality production methods such as berry ‘ripping’ techniques” (Expert survey, 2020).	

INTEGRATED PEST MANAGEMENT		JDE Sourcing principle 8.3
Score	<b>3.8</b>	
Law	Vietnam has a decree in place to prioritize the development of productive varieties and [coffee] breeds that are able to resist pests and climate change, as well as policies to invest in projects of pest surveillance, prevention, and control. A national mobile app (Thuoc BVTV) was launched in 2019 by IDH and the Department of Plant Protection enabling farmers to easily identify appropriate pesticides for crops such as coffee (IDH, 2019).	
Evidence	It is common practice to spray pesticides bought from local stores to suppress both stem borer beetles and the Roya fungus (World Bank, 2017). Occasionally, organic methods are used. Farmers often treat the soil before planting, and spray uniformly (34%) or when pests are found (64%) (World Bank, 2017). IPM techniques are not common. Anh et al. (2019) report on some successes in developing better pesticide use practices but concludes this is still not the case for the majority of smallholder coffee farmers. Growing nutrition and soil imbalances make it easier for pests yet more difficult for natural predators to exist (World Bank, 2015).	
Prevailing expert opinion	Medium-high risk: “It is estimated that less than 25% of farmers in the coffee producing regions apply Integrated Pest Management, though expert opinions vary”; “Most farmers lack IPM plans and (preventively) spray agrochemicals” (Expert survey, 2020).	

BANNED PESTICIDES		JDE Sourcing principle 8.4
Score	4.2	
Law	Farm surveys point to a lack of functioning control over banned pesticides (media, 2019). An adequate legislative and organizational infrastructure to carry out these responsibilities (such as recently banning glyphosate) seem to be in place yet enforcement and coordination remains limited (Pham, 2013).	
Evidence	IFC GMAP (2019) recognizes that most coffee farmers use pesticides on their farms including so-called 'Bad Actor' pesticides according to Pesticide Action Network. Pesticide misuse in agriculture is also reported by Media (2015, 2019), listing experience-based (over-)spraying by farmers; incorrect use; and illegal importing from China. Confirmed by the World Bank (2017), the use of banned pesticides includes methyl parathion, methamidophos, and carbofuran. A study by MARD in 2010-2011 showed that some 20% of farmers violated regulations pertaining to banned pesticide trading and use.	
Prevailing expert opinion	Medium-high risk: "When looking at the country's coffee producing regions, it is likely that banned pesticides are still used on farms"; "The control on the use of banned pesticides is insufficient" (Expert survey, 2020).	

INCOME DIVERSIFICATION		JDE Sourcing principle 9.1
Score	3.1	
Law	MARD has exerted influence over the development of 100,000 ha of diversified farm systems i.e. coffee plantations with additional industrial crops such as durian, pepper, avocado and shade trees, mostly in the Central Highlands. Farmers are reportedly well aware of the environmental and economic benefits of agroforestry and intercropping practices (UN-REDD, 2019, ICO, 2019).	
Evidence	Intercropping for income diversification is widely practiced and increasingly adopted e.g. for pepper (USAID, 2017). FAO (2017) as well as media (2017) recognize the growing practice of cultivating coffee underneath a shade canopy, in order to diversify incomes and reduce the strain from sunlight for the coffee plants. This practice has been studied both in the Central Highlands (Nguyen & Sarker, 2018) and in the Northern Mountain region of Vietnam (Nghiem et al., 2020), with positive results.	
Prevailing expert opinion	Medium-high risk: "It is estimated that the average percentage of the farmer's net income generated from coffee production is 69%"; "Coffee is by far the dominant crop, though steadily farmers opt for more diversification with for example pepper and fruit trees" (Expert survey, 2020).	