



ASC Feed Standard Country Score Cards

Methodology and Rationale

Version 1.0

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Contents

Introduction	3
Datasets	4
Methodology and Rationale.....	9
Risk Factor: Ingredient Manufacturer legal.....	9
Risk Factor: Ingredient Manufacturer social	10
Risk Factor: Ingredient Manufacturer environmental.....	11
Risk Factor: Marine-Based Primary Raw Material legal	13
Risk Factor: Marine-Based Primary Raw Material social.....	14
Risk Factors: Marine-Based Primary Raw Material environmental	16
Risk Factor: Plant-Based Primary Raw Material legal.....	17
Risk Factor: Plant-Based Primary Raw Material social	19
Risk Factors: Plant-Based Primary Raw Material environmental	20

Introduction

The ASC Feed Standard requires a feed mill to conduct due diligence on its Ingredient Manufacturers (indicator 2.2.5) and its Marine and Plant-based Primary Raw Material Production (indicator 2.2.6) for various risk factors, as well as additional Due Diligence on its Plant-based Primary Raw Material Production for the risk of legal deforestation or conversion (indicator 5.1.5). Four different pathways may be used to determine the level of risk for each risk factor (Annex 3 and 6), and if one pathway does not result in low risk, another pathway may be chosen.

Pathway 1 is the Country Score Card and within the Feed Standard, reference is made to a Country Score Card on the [ASC website](#) that ranks the country risk level into low, medium and high risk, regarding the different risk factors. For countries scored low risk for the respective risk factors, no further Due Diligence steps are required for that particular risk factor by the feed mill. For any countries which do not score low risk for the respective risk factors, or do not yet have a Country Score Card, a different pathway is required to determine low risk.

If using the country score card to assess an Ingredient Manufacturer, the feed mill applies the country in which the Ingredient Manufacturer is based. For assessing Plant-based Primary Raw Material Production, it is the country in which the plant was produced/grown. For assessing Marine-based Primary Raw Material Production, the flag state of the species caught is used. If the flag state is not known, the feed mill uses the fishing area to identify the possible flag state(s) and then selects the country with the highest risk score.

This document explains the datasets, methodology and rationale behind the ASC Country Score Card. The Country Score Cards will be reviewed and updated on an annual basis. Feedback and suggestions can be sent to Standards@asc-aqua.org.

Datasets

The table below summarises the datasets used for the ASC Country Score Card.

Table 1: Summary of datasets used for Country Score Card

Dataset	Description
<p>The World Governance Indicators (2022)¹ by The World Bank Group is licensed under CC-BY 4.0</p>	<p>The Worldwide Governance Indicators (WGI) project reports aggregate and individual governance indicators for over 200 countries and territories over the period 1996–2021, for six dimensions of governance:</p> <ol style="list-style-type: none"> 1. Voice and Accountability 2. Political Stability and Absence of Violence/Terrorism 3. Government Effectiveness 4. Regulatory Quality 5. Rule of Law 6. Control of Corruption <p>These aggregate indicators combine the views of a large number of enterprise, citizen and expert survey respondents in industrial and developing countries. They are based on over 30 individual data sources produced by a variety of survey institutes, think tanks, non-governmental organisations, international organisations, and private sector firms.</p>
<p>Corruption Perceptions Index (2021)² by Transparency International is licensed under CC-BYND 4.0</p>	<p>The CPI ranks 180 countries and territories around the world by their perceived levels of public sector corruption. The results are given on a scale of 0 (highly corrupt) to 100 (very clean). Each country's score is a combination of at least 3 data sources drawn from 13 different corruption surveys and assessments. These data sources are collected by a variety of reputable institutions, including the World Bank and the World Economic Forum.</p>
<p>Traffic in Persons Report (2022)³</p>	<p>The U.S. Department of State prepares this report using information from U.S. embassies, government officials, nongovernmental and international organisations, published reports, news articles, academic studies, consultations with authorities and organisations in every region of the world, and information submitted to tipreport@state.gov.</p>

¹ [WGI 2022 Interactive > Home \(worldbank.org\)](https://www.worldbank.org/wgi/2022)

² <https://www.transparency.org/en/cpi/2021>

³ <https://www.state.gov/wp-content/uploads/2022/10/20221020-2022-TIP-Report.pdf>

	<p>The Department places each country in this Report onto one of four tiers, as mandated by the Trafficking Victims Protection Act (TVPA). This placement is based not on the size of a country's problem but on the extent of government efforts to meet the TVPA's minimum standards for the elimination of human trafficking (see page 58-61), which are generally consistent with the Palermo Protocol.</p>
<p>Global Slavery Index (2018), Walk Free⁴</p>	<p>The 2018 Global Slavery Index provides a country by country ranking of the number of people in modern slavery, as well as an analysis of the actions governments are taking to respond, and the factors that make people vulnerable.</p>
<p>Global Slavery Index for Fishing (2018), Walk Free⁵</p>	<p>For countries assessed in the Global Slavery Index 2016, each fishing country has been rated according to each of the following risk factors:</p> <ol style="list-style-type: none"> 1. Fishing outside of the vessel's national waters (officially known as Exclusive Economic Zones or EEZs) where industry may be subject to fewer regulations. 2. A dependence on distant water fishing. Distant water fishing potentially increases the vulnerability of the crew to exploitation because of the remote fishing locations where vessels often remain for extended periods of time, limiting the ability for monitoring/oversight by authorities. 3. High levels of vessel and fuel subsidies provided by the national government. High subsidies indicate a lack of competitiveness in a country's fishing industry and suggest likely pressure to cut costs. 4. Relatively low per capita GDP of the fishing country. This may reflect limited governmental capacity to monitor fleets and enforce fisheries standards and legislation and/or an increased likelihood that potential workers on fishing fleets are seeking work in an environment of limited economic opportunities. 5. Low average value of a fishery's catch per fisher. Low productivity fisheries have a more pressing need to reduce labour costs, as these are one of the few remaining costs that are not externally fixed. 6. Large scale unreported fishing by a country's fishing fleets. This represents weak fisheries governance and a lack of legal oversight. Illegal fishing, a major component of unreported fishing, causes billions of dollars in losses

⁴ <https://www.globallslaveryindex.org/>

⁵ <https://www.globallslaveryindex.org/2018/findings/importing-risk/fishing/>

	<p>to economies around the world each year, and poorly managed fisheries are lawless markets.</p> <p>These six characteristics reflect two major sets of drivers:</p> <p><i>National Fisheries Policy</i>: the first three variables identified above reflect a country's decision to build and, typically, subsidise distant water fishing fleets.</p> <p><i>Wealth and Institutional Capacity</i>: the last three variables identified in the analysis are indicative of a country's economic capacity to maintain decent working conditions and report on fishing activity.</p> <p>These ratings were transformed into a ranking of low, medium, or high vulnerability to modern slavery in the fishing industry, according to both National Fisheries Policy and Wealth and Institutional Capacity.</p>
<p>IUU Fishing Index (2021), Poseidon Aquatic Resource Management Limited and the Global Initiative Against Transnational Organized Crime⁶</p>	<p>The IUU Fishing Index provides a measure of the degree to which states are exposed to and effectively combat IUU fishing. The Index provides an IUU fishing score for all coastal states of between 1 and 5 (1 being the best, and 5 the worst).</p> <p>The IUU Fishing Index comprises a suite of 40 indicators, with each indicator relating to both a 'responsibility' and a 'type'. Coastal responsibilities relate to a state's management of its exclusive economic zone. Flag responsibilities relate to duties states should honour in managing their fleets. Port responsibilities relate to state control of fishing activity in ports. 'General' indicators are those that address responsibilities shared by all state types. Types of indicators relate to: 'vulnerability' – elements that increase the risk of IUU fishing occurring; 'prevalence' – where IUU fishing is known or suspected to take place ; and 'response' – measures taken by a state to combat IUU fishing. Data for the indicators are derived from primary (survey) and secondary (published) sources and meter or metre elicited expert opinion.</p>
<p>LandMark⁷ by World Resources Institute is licensed under CC-BY 4.0</p>	<p>LandMark is the first online, interactive global platform to provide maps and other critical information on lands that are collectively held and used by Indigenous Peoples and local communities. The global platform is designed to help Indigenous Peoples and communities protect their land rights and secure tenure over their</p>

⁶ <https://iuufishingindex.net/ranking>

⁷ <https://www.landmarkmap.org/>

	<p>lands. LandMark provides several categories of data to show the land tenure situation for Indigenous Peoples and communities, as well as potential pressures on their lands, changes in land cover over time, and their contributions to protecting the environment.</p>
<p>Global Forest Watch⁸, World Resources Institute</p>	<p>Global Forest Watch (GFW) is an online platform that provides data and tools for monitoring forests. For example, the tree cover and tree cover loss dataset provided by GFW is a collaboration of the University of Maryland, Google, USGS, and NASA, and uses Landsat satellite images to map annual tree cover loss at a 30 x 30-metre resolution.</p>
<p>Deforestation Fronts: Drivers and Responses in a changing world – Full Report (2021), WWF⁹</p>	<p>This report provides a comprehensive analysis of deforestation connecting drivers and responses globally by taking a closer look at 24 “deforestation fronts” – places that have a significant concentration of deforestation hotspots and where large areas of remaining forests are under threat. The deforestation fronts were identified based on Emerging Hotspot Analysis using Terra-I datasets that detects land-cover changes in Latin America, Africa, Asia and Oceania from 2004 to 2017. The dataset was selected based on its temporal and spatial resolution and because it allows identification of vegetation loss due to anthropogenic causes (see Appendix 1 for a description of methods). In addition, to improve current understanding of deforestation from 2000-2018 and forest cover dynamics, forest cover maps were produced for years 2000 and 2018 by looking across five different datasets:</p> <ol style="list-style-type: none"> 1. ALOS PALSAR, forest and non-forests for non-boreal forests for 2007-2017 2. European Space Agency (ESA) Climate Change Initiative (CCI) global land cover map for 1992-2015 3. MODIS IGBP Global land cover for 2000-2015 4. Hansen/GFW examining tree cover loss for 2001-2012, Landsat derived, with updated data from 2012 to present 5. Terra-I, MODIS derived, detecting land-cover changes in Latin America, Africa, Asia and Oceania from 2004 to present

⁸ <https://www.globalforestwatch.org/>

⁹ <https://www.worldwildlife.org/publications/deforestation-fronts-drivers-and-responses-in-a-changing-world-full-report>

**Plow Print Report (2022),
WWF¹⁰**

In its seventh year, WWF's Plowprint Report analyses the rate of grasslands plow-up across the US, Canadian, and Mexican portions of the Great Plains. This analysis is based on the USDA's annual Cropland Data Layer, the Agriculture and Agri-Food Canada's Annual Crop Inventory, and Sentinel-2 satellite data classified using Google Earth's Engine for Mexico from two years prior to the release date. As a result, the 2022 edition analyses and reports on plow-up and conversion that occurred during 2020.

¹⁰ <https://www.worldwildlife.org/projects/plowprint-report>

Methodology and Rationale

The methodology and rationale for each of the risk factors within the ASC Country Score Card is described below.

Risk Factor: Ingredient Manufacturer legal

The risk that the ingredient manufacturer does not meet the following indicator: 1.1.1 legal licenses and permits, by operating in an area affected by poor regulatory oversight resulting in systematic violations of laws and regulation.

The WGI indicators were chosen as strong governance indicates strong regulatory oversight through the capacity of the government to effectively formulate and implement sound policies, and the respect of citizens/state for the institutions that govern economic and social interactions among them.

The CPI score was chosen as low levels of corruption indicate strong regulatory oversight and less chance of licenses/permits obtained illegally.

Table 2: Indicators for ingredient manufacturer legal risk

ID	Indicator Name	Description	Dataset
1.1	Average WGI	The average total of the 6 WGI 2022 risk indicators.	WGI (2022)
1.3	CPI score	The CPI score.	CPI (2021)

The indicators were then ranked according to high risk (3), medium risk (2) and low risk (1). The WGI risk thresholds correspond to the country risk assessment process for SA8000¹¹. The CPI risk thresholds correspond to the colour gradient score on the CPI website. Countries without a score are ranked as medium risk (2).

Table 3: Indicator risk thresholds for ingredient manufacturer legal risk

ID	High risk (3)	Medium risk (2)	Low risk (1)
2.1 WGI Rank	<35	35 - 65	>65

¹¹ [Country Risk Assessment Process for SA8000 - SAI \(sa-intl.org\)](https://www.sai-intl.org/country-risk-assessment-process-for-sa8000)

2.3 CPI Rank	<30	30 – 60	>60
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The Ingredient Manufacturer legal risk is then calculated as the average total of the WGI and CPI rank, according to high risk (3), medium risk (2) and low risk (1).

Risk Factor: Ingredient Manufacturer social

The risk that the ingredient manufacturer does not meet the following Criteria: 1.3 appl. labour regulations, 1.4 forced labour, 1.5 children and young workers, 1.6 discrimination, and 1.13 grievance mechanism.

The WGI indicators were chosen as strong governance indicates strong regulatory oversight through the capacity of the government to effectively formulate and implement sound labour regulations, and the respect of citizens/state for the institutions that govern economic and social interactions among them.

The Traffic in Persons tier was chosen as countries which implement effective measures against human trafficking are less likely to have high incidences of forced labour.

The CPI score was chosen as low levels of corruption indicate strong regulatory oversight and less chance of bribes to government labour inspectors.

The Global Slavery Index score was chosen as its methodology includes vulnerability and government response factors to modern slavery which is indicative of the prevalence of both forced and child labour.

Table 4: Indicators for ingredient manufacturer social risk

ID	Indicator Name	Description	Dataset
1.1	Average WGI	The average total of the 6 WGI 2022 risk indicators.	WGI (2022)
1.2	TIP tier	The TIP tier	TIP Report (2022)
1.3	CPI score	The CPI score	CPI (2021)
1.4	GSI score	The GSI score	GSI (2018)

The indicators were then ranked according to high risk (3), medium risk (2) and low risk (1). The WGI risk thresholds correspond to the country risk assessment process for SA8000¹². The TIP risk thresholds correspond to the TIP tier category. The CPI risk thresholds correspond to the colour gradient score on the CPI website. The GSI risk thresholds correspond to the GSI rating descriptions. Countries without a score are ranked as medium risk (2).

Table 5: Indicator risk thresholds for ingredient manufacturer social risk

ID	High risk (3)	Medium risk (2)	Low risk (1)
2.1 WGI Rank	<35	35 - 65	>65
2.2 TIP Rank	Tier 3 Tier 2 Watch	Tier 2	Tier 1
2.3 CPI Rank	<30	30 – 60	>60
2.4 GSI Rank	CCC CC C D	BB B	A BBB

The Ingredient Manufacturer social risk is then calculated as the average total of the WGI, TIP, CPI and GSI rank, according to high risk (3), medium risk (2) and low risk (1).

Risk Factor: Ingredient Manufacturer environmental

The risk that the ingredient manufacturer does not meet the following Criteria: 1.17 appl. environmental regulations, 1.18 water use, 1.19 waste handling, 1.20 effluent handling. And Indicators: 3.4.2 GMO disclosure and 3.4.3 disclosure of medicinal additives.

¹² [Country Risk Assessment Process for SA8000 - SAI \(sa-intl.org\)](https://www.sa-intl.org)

The WGI indicators were chosen as strong governance indicates strong regulatory oversight through the capacity of the government to effectively formulate and implement sound environmental policies, and the respect of citizens/state for the institutions that govern economic and social interactions among them.

The CPI score was chosen as low levels of corruption indicate strong regulatory oversight and less chance of bribes to government environmental inspectors.

Table 6: Indicators for ingredient manufacturer environmental risk

ID	Indicator Name	Description	Dataset
1.1	Average WGI	The average total of the 6 WGI 2022 risk indicators.	WGI (2022)
1.3	CPI score	The CPI score.	CPI (2021)

The indicators were then ranked according to high risk (3), medium risk (2) and low risk (1). The WGI risk thresholds correspond to the country risk assessment process for SA8000¹³. The CPI risk thresholds correspond to the colour gradient score on the CPI website. Countries without a score are ranked as medium risk (2).

Table 7: Indicator risk thresholds for ingredient manufacturer environmental risk

ID	High risk (3)	Medium risk (2)	Low risk (1)
2.1 WGI Rank	<35	35 - 65	>65
2.3 CPI Rank	<30	30 – 60	>60

The Ingredient Manufacturer environmental risk is then calculated as the average total of the WGI and CPI rank, according to high risk (3), medium risk (2) and low risk (1).

¹³ [Country Risk Assessment Process for SA8000 - SAI \(sa-intl.org\)](https://www.sa-intl.org)

Risk Factor: Marine-Based Primary Raw Material legal

The risk that primary raw material originates from areas affected by poor regulatory oversight resulting in systematic illegal fishing within the fishery.

The WGI indicators were chosen as strong governance indicates strong regulatory oversight through the capacity of the government to effectively formulate and implement sound fishing policies, and the respect of citizens/state for the institutions that govern economic and social interactions among them.

The CPI score was chosen as low levels of corruption indicate strong regulatory oversight.

Table 8: Indicators for Marine-Based Primary Raw Material legal risk

ID	Indicator Name	Description	Dataset
1.1	Average WGI	The average total of the 6 WGI 2022 risk indicators.	WGI (2022)
1.3	CPI score	The CPI score.	CPI (2021)

The indicators were then ranked according to high risk (3), medium risk (2) and low risk (1). The WGI risk thresholds correspond to the country risk assessment process for SA8000¹⁴. The CPI risk thresholds correspond to the colour gradient score on the CPI website. Countries without a score are ranked as medium risk (2).

Table 9: Indicator risk thresholds for Marine-Based Primary Raw Material legal risk

ID	High risk (3)	Medium risk (2)	Low risk (1)
2.1 WGI Rank	<35	35 - 65	>65
2.3 CPI Rank	<30	30 – 60	>60

¹⁴ [Country Risk Assessment Process for SA8000 - SAI \(sa-intl.org\)](https://www.sai.intl.org/country-risk-assessment-process-for-sa8000)

The Marine-Based Primary Raw Material legal risk is then calculated as the average total of the WGI and CPI rank, according to high risk (3), medium risk (2) and low risk (1).

Risk Factor: Marine-Based Primary Raw Material social

The risk that primary raw material is produced using forced labour or worst forms of child labour.

The WGI indicators were chosen as strong governance indicates strong regulatory oversight through the capacity of the government to effectively formulate and implement sound labour regulations, and the respect of citizens/state for the institutions that govern economic and social interactions among them.

The Traffic in Persons tier was chosen as countries which implement effective measures against human trafficking are less likely to have high incidences of forced labour.

The CPI score was chosen as low levels of corruption indicate strong regulatory oversight and less chance of bribes to government labour inspectors.

The Global Slavery Index score was chosen as its methodology includes vulnerability and government response factors to modern slavery which is indicative of the prevalence of both forced and child labour.

The National Fisheries Policy score was chosen as its methodology includes variables which reflect a country's decision to build and, typically, subsidise distant water fishing fleets which are a high risk for forced and child labour.

The Wealth and Institutional Capacity score was chosen as its methodology includes variables which are indicative of a country's economic capacity to maintain decent working conditions and report on fishing activity.

Table 10: Indicators for Marine-Based Primary Raw Material social risk

ID	Indicator Name	Description	Dataset
1.1	Average WGI	The average total of the 6 WGI 2022 risk indicators.	WGI (2022)
1.2	TIP tier	The TIP tier	TIP Report (2022)

1.3	CPI score	The CPI score	CPI (2021)
1.4	GSI score	The GSI score	GSI (2018)
1.5	National Fisheries Policy	The National Fisheries Policy score	GSI Fishing (2018)
1.6	Wealth & Institutional Capacity	The Wealth & Institutional Capacity score	GSI Fishing (2018)

The indicators were then ranked according to high risk (3), medium risk (2) and low risk (1). The WGI risk thresholds correspond to the country risk assessment process for SA8000¹⁵. The TIP risk thresholds correspond to the TIP tier category. The CPI risk thresholds correspond to the colour gradient score on the CPI website. The GSI risk thresholds correspond to the GSI rating descriptions. The GSI fishing risk thresholds correspond to the GSI fishing scores. Countries without a score are ranked as medium risk (2).

Table 11: Indicator risk thresholds for Marine-Based Primary Raw Material social risk

ID	High risk (3)	Medium risk (2)	Low risk (1)
2.1 WGI Rank	<35	35 - 65	>65
2.2 TIP Rank	Tier 3 Tier 2 Watch	Tier 2	Tier 1
2.3 CPI Rank	<30	30 – 60	>60
2.4 GSI Rank	CCC CC C	BB B	A BBB

¹⁵ [Country Risk Assessment Process for SA8000 - SAI \(sa-intl.org\)](https://www.sai-intl.org/)

	D		
2.5 National Fisheries Policy	High	Medium	Low
2.6 Wealth & Institutional Capacity	High	Medium	Low

The Marine-Based Primary Raw Material social risk is then calculated as the average total of the WGI, TIP, CPI, GSI and GSI fishing rank, according to high risk (3), medium risk (2) and low risk (1).

Risk Factors: Marine-Based Primary Raw Material environmental

The risk that primary raw material originates from unreported or unregulated fishing.

The risk that primary raw material originates from species that are IUCN endangered or critically endangered species.

The risk that primary raw material originates from species caught that appear in the CITES appendices.

The IUU Fishing Index indicators were chosen as they provide a good measure of the risk of IUU fishing. The indicator group 'Flag State' was selected as this is related to things states should do and their obligations in relation to IUU fishing that are specific to vessels they flag (i.e., that are on their vessel register). It also relates to the scope of the overall Marine Primary Raw Material assessment which uses the Flag State of the species caught to determine the country risk used. The indicator group 'General' was also selected as these indicators are not specific to flag, coastal or port state responsibilities, but provide a strong indication of IUU fishing risk.

Table 12: Indicators for Marine-Based Primary Raw Material environmental risk

ID	Indicator Name	Description	Dataset
1.7	Flag State (all types)	Flag state score (filtered by 'all types')	IUU Fishing Index (2021)
1.8	General (all types)	General score (filtered by 'all types')	IUU Fishing Index (2021)

The indicators were then ranked according to high risk (3), medium risk (2) and low risk (1). The IUU risk thresholds correspond to the IUU Fishing Index descriptions of the scores.

Table 13: Indicator risk thresholds for Marine-Based Primary Raw Material environmental risk

ID	High risk (3)	Medium risk (2)	Low risk (1)
2.7 Flag State (all types)	>2.5	2-2.5	<2
2.8 General (all types)	>2.5	2-2.5	<2

The Marine-Based Primary Raw Material environmental risk is then calculated as the average total of the Flag State and General rank, according to high risk (3), medium risk (2) and low risk (1).

Risk Factor: Plant-Based Primary Raw Material legal

The risk that primary raw material originates from areas affected by poor regulatory oversight resulting in systematic violations of land use or environmental laws and regulation within the plant-based primary raw material production.

The WGI indicators were chosen as strong governance indicates strong regulatory oversight through the capacity of the government to effectively formulate and implement sound policies, and the respect of citizens/state for the institutions that govern economic and social interactions among them.

The CPI score was chosen as low levels of corruption indicate strong regulatory oversight and less chance of licenses/permits obtained illegally.

The LandMark legal security of Indigenous and community rights scores were chosen as they provide a snapshot of the legal security of Indigenous and community lands based on a review of national land and resource rights laws. Countries which provide strong legal protection to such land ownership are less likely to have violations of land use.

Table 14: Indicators for Plant-Based Primary Raw Material legal risk

ID	Indicator Name	Description	Dataset
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1.1	Average WGI	The average total of the 6 WGI 2022 risk indicators.	WGI (2022)
1.3	CPI score	The CPI score.	CPI (2021)
1.5	LandMark legal security of Community rights	The average score for the 10 indicators of the legal security of community lands.	LandMark (2022)
1.6	LandMark legal security of Indigenous rights	The average score for the 10 indicators of the legal security of Indigenous lands.	LandMark (2022)

The indicators were then ranked according to high risk (3), medium risk (2) and low risk (1). The WGI risk thresholds correspond to the country risk assessment process for SA8000¹⁶. The CPI risk thresholds correspond to the colour gradient score on the CPI website. The LandMark risk thresholds correspond to the colour gradient score on the LandMark website and countries for which LandMark deems not applicable (N/A) are ranked as low risk (1). Countries without a score are ranked as medium risk (2).

Table 15: Indicator risk thresholds for Plant-Based Primary Raw Material legal risk

ID	High risk (3)	Medium risk (2)	Low risk (1)
2.1 WGI Rank	<35	35 - 65	>65
2.3 CPI Rank	<30	30 – 60	>60
2.5 LandMark legal security of Community rights	≥3	2-2.9	<2
2.6 LandMark legal security of Indigenous rights	≥3	2-2.9	<2

¹⁶ [Country Risk Assessment Process for SA8000 - SAI \(sa-intl.org\)](https://www.sa-intl.org)

The Plant-Based Primary Raw Material legal risk is then calculated as the weighted average total of the WGI (35%), CPI (35%) and LandMark ranks (both 15%), according to high risk (3), medium risk (2) and low risk (1).

Risk Factor: Plant-Based Primary Raw Material social

The risk that primary raw material is produced using forced labour or worst forms of child labour.

The WGI indicators were chosen as strong governance indicates strong regulatory oversight through the capacity of the government to effectively formulate and implement sound labour regulations, and the respect of citizens/state for the institutions that govern economic and social interactions among them.

The Traffic in Persons tier was chosen as countries which implement effective measures against human trafficking are less likely to have high incidences of forced labour.

The CPI score was chosen as low levels of corruption indicate strong regulatory oversight and less chance of bribes to government labour inspectors.

The Global Slavery Index score was chosen as its methodology includes vulnerability and government response factors to modern slavery which is indicative of the prevalence of both forced and child labour.

Table 16: Indicators for Plant-Based Primary Raw Material social risk

ID	Indicator Name	Description	Dataset
1.1	Average WGI	The average total of the 6 WGI 2022 risk indicators.	WGI (2022)
1.2	TIP tier	The TIP tier	TIP Report (2022)
1.3	CPI score	The CPI score	CPI (2021)
1.4	GSI score	The GSI score	GSI (2018)

The indicators were then ranked according to high risk (3), medium risk (2) and low risk (1). The WGI risk thresholds correspond to the country risk assessment process

for SA8000¹⁷. The TIP risk thresholds correspond to the TIP tier category. The CPI risk thresholds correspond to the colour gradient score on the CPI website. The GSI risk thresholds correspond to the GSI rating descriptions. Countries without a score are ranked as medium risk (2).

Table 17: Indicator risk thresholds for Plant-Based Primary Raw Material social risk

ID	High risk (3)	Medium risk (2)	Low risk (1)
2.1 WGI Rank	<35	35 - 65	>65
2.2 TIP Rank	Tier 3 Tier 2 Watch	Tier 2	Tier 1
2.3 CPI Rank	<30	30 – 60	>60
2.4 GSI Rank	CCC CC C D	BB B	A BBB

The Plant-Based Primary Raw Material social risk is then calculated as the average total of the WGI, TIP, CPI and GSI rank, according to high risk (3), medium risk (2) and low risk (1).

Risk Factors: Plant-Based Primary Raw Material environmental

The risk that primary raw material originates from areas resulted from illegal deforestation/conversion.

The WGI indicators were chosen as strong governance indicates strong regulatory oversight through the capacity of the government to effectively formulate and

¹⁷ [Country Risk Assessment Process for SA8000 - SAI \(sa-intl.org\)](https://www.sa-intl.org/)

implement sound environmental policies, and the respect of citizens/state for the institutions that govern economic and social interactions among them.

The CPI score was chosen as low levels of corruption indicate strong regulatory oversight and less chance of bribes to government environmental inspectors.

The GFW data for natural forest cover was used. Countries with higher forest cover are classified as being at higher risk here considering that commodities for aquaculture feed is produced in these jurisdictions. The higher the percentage of forest cover, the more likely it is that commodity production and commodity expansion might result in significant deforestation events. Countries with low forest cover are considered lower risk since the production of specific agricultural commodities is less likely to expand into the remaining forest areas. The focus lies on natural forests since plantation forests are already a commodity production that is not relevant for aquaculture feed and because the deforestation debate does not focus on them.

Table 18: Indicators for Plant-Based Primary Raw Material environmental (illegal D/C) risk

ID	Indicator Name	Description	Dataset
1.1	Average WGI	The average total of the 6 WGI 2022 risk indicators.	WGI (2022)
1.3	CPI score	The CPI score.	CPI (2021)
1.7	GFW Natural forest cover as of 2010	The share of the landmass that is covered in natural forests. Plantations are excluded from this figure.	GFW

The indicators were then ranked according to high risk (3), medium risk (2) and low risk (1). The WGI risk thresholds correspond to the country risk assessment process for SA8000¹⁸. The CPI risk thresholds correspond to the colour gradient score on the CPI website. The GFW forest cover thresholds correspond to the high-risk definition used by Forest 500.¹⁹ Countries without a score are ranked as medium risk (2).

¹⁸ [Country Risk Assessment Process for SA8000 - SAI \(sa-intl.org\)](https://www.sai-intl.org/country-risk-assessment-process-for-sa8000)

¹⁹ https://forest500.org/sites/default/files/forest_500_country_selection_methodology_2022.pdf

Table 19: Indicator risk thresholds for Plant-Based Primary Raw Material environmental (illegal D/C) risk

ID	High risk (3)	Medium risk (2)	Low risk (1)
2.1 WGI Rank	<35	35 - 65	>65
2.3 CPI Rank	<30	30 – 60	>60
2.7 Risk due to high forest cover	>30%	20.0-29.9%	0-19.9%

The Plant-Based Primary Raw Material environmental (illegal D/C) risk is then calculated as the weighted average total of the WGI (40%), CPI (40%) and forest cover (20%) rank, according to high risk (3), medium risk (2) and low risk (1).

The risk that primary raw material originates from areas resulted from legal deforestation/conversion.

The GFW data for natural forest cover was used. Countries with higher forest cover are classified as being at higher risk here considering that commodities for aquaculture feed is produced in these jurisdictions. The higher the percentage of forest cover, the more likely it is that commodity production and commodity expansion might result in significant deforestation events. Countries with low forest cover are considered lower risk since the production of specific agricultural commodities is less likely to expand into the remaining forest areas. The focus lies on natural forests since plantation forests are already a commodity production that is not relevant for aquaculture feed and because the deforestation debate does not focus on them.

The GFW data serves as a good approximation for the intensity of forest clearing, however there are also occasions where it is known that GFW data can fall short when compared to more detailed analysis that has taken place in specific countries. An example is the extent to which tree cover classification affects deforestation rates. As a default GFW uses a tree cover of more than 30% for its analysis. This has also been used for the ASC Country Score Cards but in some regions such as Australia this will not capture everything that is usually considered forest since these forests are much sparser compared to tropical rainforests.

GFW also provides some data that attributes deforestation to various deforestation drivers – the commodity driven deforestation indicator was chosen as most relevant for aquaculture feed.

The WWF Deforestation Fronts 2021 report compliments the national data from GFW by identifying deforestation fronts within countries.

The WWF Plowprint Report (2022) provides additional information on conversion hotspots (as opposed to just deforestation), however it only analyses one type of ecosystem (grasslands) and in a limited geographical area. In the future, this indicator will be supplemented by a global national dataset on land conversion currently under development by WRI.

Table 20: Indicators for Plant-Based Primary Raw Material environmental (legal D/C) risk

ID	Indicator Name	Description	Dataset
1.1	Natural forest cover as of 2010	The share of the landmass that is covered in natural forests. Plantations are excluded from this figure.	GFW
2.1	2013-2021 tree cover loss (1,000 ha)	Total area of relative tree cover loss (including plantations)	GFW
2.2	2013-2021 natural forest tree cover loss (1,000 ha)	This has been calculated by multiplying indicator 2.1 with indicator 2.4 and shows the country's total area of natural forest cover loss.	Calculated
2.3	Decrease in tree cover 2013 to 2021 since 2010	Percentage of reduction of forest cover	GFW
2.4	% of tree cover loss in natural forests 2013-2021.	How much of the total tree cover occurred in natural forests. No data: 100% assumed	GFW
2.5	Overall tree cover loss from natural forest loss	This has been calculated by multiplying indicator 2.3 with indicator 2.4 and shows the country's tree cover loss from natural forests. It is the indicator that has been used to assess the significance of deforestation risk in the country.	Calculated
3.1	% of forest cover loss from	The percentage to which deforestation in 2013-2021 was driven by commodity production	GFW

	commodities 2013-2021		
4.1	Identified in WWF Deforestation Fronts 2021	Was the country identified in as a deforestation front in 'WWF Deforestation Fronts 2021'?	WWF
4.2	Identified in WWF Plow Print 2022	Was the country identified in 'WWF Plow Print 2022'?	WWF

The indicators were then ranked according to high risk (3), medium risk (2) and low risk (1). The GFW forest cover thresholds correspond to the high-risk definition used by Forest 500. Since no internationally agreed classification has been found for high-deforestation, Brazil has been used to define high forest loss. The country was chosen due to the global consensus of the seriousness of deforestation taking place in the country. Commodity-driven deforestation thresholds are based on expert opinion. Countries without a score are ranked as low risk (1).

Table 21: Indicator risk thresholds for Plant-Based Primary Raw Material environmental (legal D/C) risk

ID	High risk (3)	Medium risk (2)	Low risk (1)
5.1 Risk due to high forest cover (from 1.2)	≥30%	20.0-29.9%	0-19.9%
5.2 Overall risk of forest loss in natural forests (from 2.6)	≥3.0%	2.0-2.99%	0-1.99%
5.3 Commodity-driven deforestation risk (from 3.2)	≥15%	10-14.9%	0-9.9%
5.4 Identified in WWF Deforestation Fronts 2021	yes		
5.5 Identified in WWF Plow Print 2022	yes		

The Plant-Based Primary Raw Material environmental (legal D/C) risk is then calculated as the weighted average total of the forest cover (10%), overall risk of

forest loss in natural forests (10%), commodity-driven deforestation risk (40%), identified in WWF Deforestation Fronts (20%) and identified in WWF Plow Print (20%) ranks, according to high risk (3), medium risk (2) and low risk (1).