



RESPONSIBLE SOURCING TOOL

Transportation Industry Tool 6

PROTECTIONS AGAINST TRAFFICKING IN PERSONS

Supply Chain Mapping and Risk Assessment in the Transportation Industry

Supply chain mapping is a foundational step in identifying and addressing risks related to human trafficking,¹ including forced labor, within complex global industries. In the transportation sector — which includes aviation, busing, local commercial drivers, maritime, rail, transit, and trucking — supply chains are typically vast, multi-tiered, and span numerous countries. These systems involve material flows (e.g., metals, carbon fiber, polymers, textiles), manufacturing of components and assemblies, and labor flows. In addition to the work in supply chains, there is also the work involved in service delivery (e.g., driving trucks, manning maritime vessels, working at airports, etc.). Mapping these chains helps organizations² gain the visibility needed to perform a high-level risk assessment. This risk information is then used to develop a mitigation strategy and ultimately implement ethical sourcing practices that meet legal and stakeholder expectations around due diligence and accountability.

This document provides a description of principles and a recommended process to follow for conducting due diligence and does not attempt to ensure compliance with any applicable legal requirements, such as Section 307 of the Tariff Act,³ the Uyghur Forced Labor Prevention Act (UFLPA),⁴ Section 1502 (Conflict Minerals) of the Dodd-Frank Act,⁵ the EU Conflict Minerals Regulation,⁶ the Buy American Act (BAA),⁷ the Build America, Buy America Act (BABA),⁸ and the Federal

¹ **Note: The United States recognizes two primary forms of trafficking in persons: forced labor and sex trafficking. For the purposes of this and other tools in the set, several terms are used such as “trafficking in persons,” “human trafficking,” and “forced labor.” In relation to these tools, they refer to a crime whereby traffickers exploit and profit at the expense of adults or children by compelling them to perform labor.**

² In the transportation sector, the organizations performing supply chain mapping and tracing materials and products to their origin are typically: the transportation equipment OEM (e.g., manufacturer of aircraft, buses, maritime vessels, railroad rolling stock); the buyer or user of that equipment, such as railroads, airlines and ocean shipping companies; and the operator of an airport, seaport, bus terminal, or similar facility. Note: the term “Organization” is used throughout this document whenever referring to entities in the three categories listed above.

³ [Tariff Act of 1930 \(19 U.S.C § 1307\).](#)

⁴ [U.S. Customs and Border Protection. “Uyghur Forced Labor Prevention Act.”](#)

⁵ [U.S. Securities and Exchange Commission. “Fact Sheet: Disclosing the Use of Conflict Minerals.” June 28, 2024.](#)

⁶ [European Commission. “Conflict Minerals Regulation: The regulation explained.” 2021.](#)

⁷ [Congress.gov. “H.R.3684 – Infrastructure Investment and Jobs Act.” 2021.](#)

[Made in America Office. *What Is Build America, Buy America?* 2022.](#)

⁸ [Congress.gov. “The Buy American Act and Other Federal Procurement Domestic Content Restrictions.” 2022.](#)

Acquisition Regulation (FAR): Combating Trafficking in Persons,⁹ nor legal requirements outside of the United States.

In their supply chain mapping efforts, organizations should aim to develop both broad and deep visibility. This includes understanding the full span of their supply chains — reaching far upstream beyond direct suppliers— as well as building a body of knowledge about workforce demographics, use of recruitment agents, and other relevant practices at each tier. In short, effective mapping means identifying entities in the chain and building an understanding of where work is performed and under what conditions. While mapping an organization’s entire network of suppliers and other business partners is essential for due diligence, even more detail is required in some situations. Traceability builds on mapping and enables an organization to track or trace the movement of specific products or batches of raw materials through the supply chain.

Across the modes of transportation, organizations often have clear visibility into their direct suppliers (Tier 1), but this visibility typically drops off beyond the first tier. Tier 2 and Tier 3 suppliers may operate in settings with limited legal oversight or labor protections. Subcontracting, temporary labor, and recruitment through third-party labor agents¹⁰ are common across all modes, at all tiers, and are especially prevalent in labor-intensive extended supply chain or lower-cost regions.

Supply Chain Mapping and Risk Assessment as Part of Broader Due Diligence

There are several characteristics that can increase the risk of forced labor, and other abusive labor practices, in transportation supply chains, including:

- Complex and often opaque multi-tier structures;
- The use of labor agents at various tiers;
- Presence of intermediaries, such as traders and distributors, which can complicate tracing materials (e.g., metals) to their source; and
- Sourcing from high-risk geographies, including regions with weak labor enforcement or histories of systemic labor abuse.

Developing an understanding of the structure, geographic distribution, and profiles of the business entities in a supply

⁹ For guidance on complying with the Federal Acquisition Regulation (FAR): Combating Trafficking in Persons, please review Tool 12, RST’s Sample Compliance Plan Template.

¹⁰ The combination of services provided by third parties to find, place, and/or directly contract labor to work in organization owned or supplier operations are varied, as are the terms used by different industry sectors and standards organizations to describe the providers. These include labor agents, recruiters, recruitment agents, sub-agents, labor providers, private employment agencies (PEAs), staffing agents, manpower agents, brokers, contractors, crew leaders, and gangmasters. For the purposes of these tools, “labor agent” is generally used as the umbrella term, with “recruitment agent” used as a subset.

chain allows an organization to assess the risks of forced labor and other human rights abuses in its sourcing of labor, products, materials, and services.

Why do it?

To prioritize and focus efforts to address risks.

Because an organization's resources to prevent and mitigate salient issues like forced labor are limited, an organization needs a way to identify, segment, and prioritize the risks it will address first and develop a strategy for prevention of harm. The mapping process should provide the inputs on which a risk analysis is framed, including such data points as:

- Location. Risks inherent to the country of operation (e.g., lack of labor law protections, poverty, corruption, or documented history of poor regulatory enforcement).
- Product or service provided. Forced labor vulnerability related to the type of production.
- Use of labor recruiters and agents¹¹. Risks associated with outsourced labor recruitment.
- Presence of foreign migrants. Vulnerability to forced labor is highest among migrant workers.
- Use of recruitment agents. Employer lose control of recruitment risks when they outsource recruitment to agents.

Mapping a supply chain usually involves desk research and outreach to suppliers, starting with Tier 1 suppliers and working to identify their suppliers, those suppliers' suppliers, and so on. Based on the resulting map and initial risk analysis, organizations can prioritize specific supply chain segments for targeted engagement, such as audits, worker interviews, or site visits.

Demonstrate accountability. Supply chain mapping and risk assessment also contribute to external accountability. Organizations that can document the structure of their supply chains and disclose relevant findings are better positioned to demonstrate compliance with legal requirements and customer and stakeholder expectations. In cases involving high-

¹¹The combination of services provided by third parties to find, place, and/or directly contract labor to work in organization owned operations or supplier operations are varied, as are the terms used by different industry sectors and standards organizations to describe the providers. These include labor agents, recruiters, recruitment agents, sub-agents, labor providers, private employment agencies (PEAs), staffing agents, manpower agents, brokers, contractors, crew leaders, and gangmasters. For the purposes of these tools, "labor agent" is generally used as the umbrella term, with "recruitment agent" used as a subset.

risk geographies or suppliers, mapping and risk assessment enable organizations to show the specific foundational steps they have taken to prevent and mitigate labor risks.

Guide to Supply Chain Mapping and Risk Assessment

Supply Chain Mapping. Working with an organization's procurement function to map its supply chain will result in a wide range of detailed data, including a listing of all known suppliers¹² and their locations; the identities of any subcontractors, distributors, or agents used by its suppliers; the products and services that each supplier provides; and any supplier purchase agreements or contracts and their renewal dates.

Risk Assessment. The data gathered is then used to perform a high-level, usually desk-based risk assessment to determine and prioritize next steps. These are in-depth assessments of specific suppliers or segments of the supply chain or, in some cases, taking action to address identified forced labor and other labor issues.

How to Collect Information¹³

Step 1: Map Tier 1 Suppliers

Most organizations' procurement functions already maintain supplier records for their direct (Tier 1) suppliers. These are typically the easiest to map, because they are in contractual relationships with the buyer. Different approaches to making sure the information is organized in a central location can vary from a spreadsheet to a sophisticated database.

Information can be gathered from suppliers through several means, which are usually best used in combination:

- self-assessment questionnaires/self-reporting (refer to Tool 8 for a sample supplier self-assessment questionnaire) with supporting documentation;
- interviews with supplier staff who are in a position to provide data; these conversations are important for clarifying and validating information provided on a questionnaire;
- records of recent site visits and audits; and

¹² Refer to Appendix 1 in this document for a description of supply chain tiers and the common types of suppliers and other supply chain actors (e.g., recruitment agents)

¹³ A data collection template to record supplier profile information at all supply chain tiers is provided in Appendix 2

- contracts, purchase orders, lists of raw materials, component and assemblies, and receipts.

See the Sample Data Collection Form in Appendix 2 for entering profile information for each supplier. This will also be used to perform a high-level assessment of potential forced labor risks (see Step 3 below).

Step 2: Cascade Mapping and Risk Assessment Beyond Tier 1

The process of mapping and assessing risk in a supply chain beyond Tier 1 suppliers includes surveying direct suppliers to gather information about their suppliers (e.g., Tier 2 and suppliers further upstream, and indirect service providers, such as janitorial staff). Tier 2 suppliers can then be queried about their suppliers, and so on, to the farthest upstream entities of the supply chain (e.g., extraction of minerals and ores). As was done for Tier 1, fill out the provided data collection form for each supplier in Tier 2 and farther upstream.

The process includes:

- Asking Tier 1 suppliers to identify their own suppliers (your Tier 2), including providing key facility information
- Setting clear expectations with Tier 1 suppliers that they will need to cascade the requirement for gathering of profile information on upstream tiers to their direct suppliers. This includes requesting that your Tier 1 suppliers engage their own suppliers to:
 - Notify their suppliers of the mapping initiative and why it matters
 - Request the same kind of profile information as they provided to you
 - Identify challenges in obtaining that information
 - Set and coordinate response timelines
- Including mapping requirements in supplier contracts, purchase orders, and your organization's procurement policies. (Traceability requirements should be covered here as well.)
- Offering guidance, templates or digital tools for data collection that can be used by your Tier 1 suppliers and others further upstream.
- Clarifying which types of suppliers are in scope
- Tracking progress and updating regularly:

- Maintaining a living database or visual map
- Updating the map as products or suppliers change
- Monitoring Tier 1 participation and following up as needed

Enhancing Mapping Data with Traceability

An organization's mapping data will visually document its entire supply chain network by identifying all supply chain actors and their relationships. However, this information may be insufficient to verify the origin and chain of custody for all raw materials, components, and other products in the supply chain. This requires traceability, which is the process of tracking the details of every transaction in the supply chain from end to end, with such data as:

- Purchase orders and invoices;
- Subcontracting agreements;
- Shipping documents and import/export records;
- Bills of materials (BOMs);
- Payment flows, such as bank transfer records;
- Sourcing declarations; and
- Chain-of-custody documentation.

These data sources can improve the accuracy of supply chain maps by confirming supplier relationships, identifying product flows, and clarifying transit routes. When used alongside supplier-reported data, this type of verification increases transparency, strengthens due diligence, and reinforces labor rights protections across the transportation supply chain, enabling the tracing of products and materials to their source.¹⁴

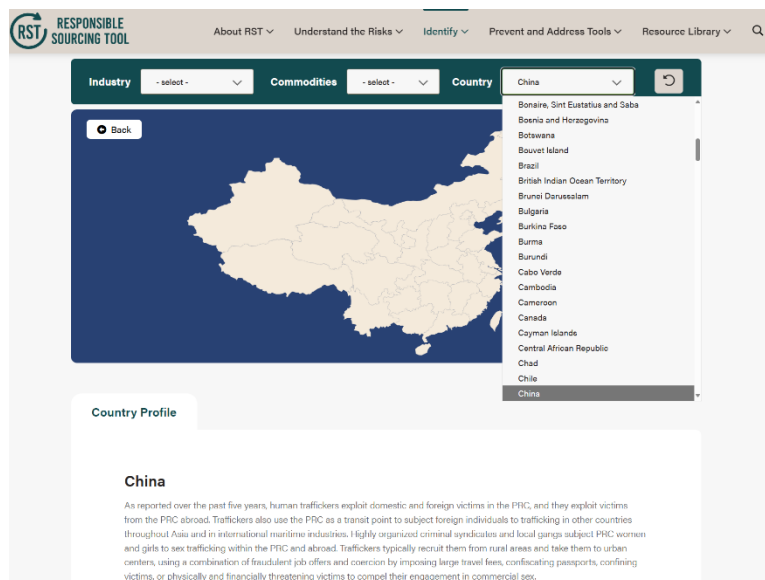
¹⁴ Traceability is critical for verifying compliance with the Uyghur Forced Labor Prevention Act (UFLPA) and the Buy America, Build America Act (BABA).

Step 3: Risk Mapping

Once an organization has gathered profile information on all the suppliers and other business partners in its supply chain, the next step is to identify the potential forced labor risks associated with each one. The “Risk Assessment Guidance” column in the Data Collection Tool describes the types of risks that may be identified for each piece of supplier profile information entered in the form.

Country-specific data for each of the risk indicators listed on the form can be found on the [Risk Map](#) at ResponsibleSourcingTool.org. Do the following:

1. Select the country from the dropdown list

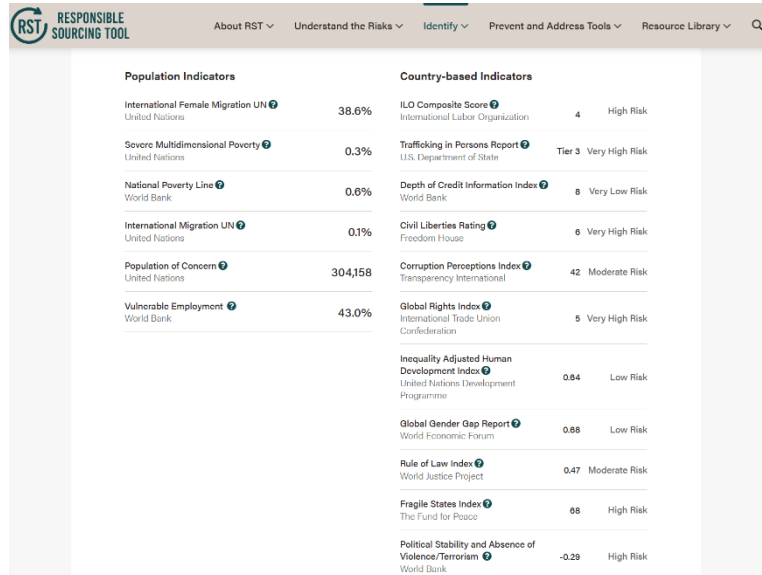


The screenshot shows the Responsible Sourcing Tool interface. At the top, there is a navigation bar with links: About RST, Understand the Risks, Identify, Prevent and Address Tools, and Resource Library. Below this, there are three dropdown menus: Industry, Commodities, and Country. The Country dropdown menu is open, showing a list of countries including China, Bonaire, Sint Eustatius and Saba, Bosnia and Herzegovina, Botswana, Bouvet Island, Brazil, British Indian Ocean Territory, Brunei Darussalam, Bulgaria, Burkina Faso, Burma, Burundi, Cabo Verde, Cambodia, Cameroon, Canada, Cayman Islands, Central African Republic, Chad, Chile, and China. Below the dropdown menu, there is a map of the world with China highlighted in yellow. To the right of the map, there is a 'Country Profile' section for China, which includes a brief description of human trafficking risks in the country.

2. Scroll down the page to view the risk rating for each of the indicators
3. Enter the country’s risk level for each indicator on the form.

Organizations can then use the risk levels provided for several or all of the indicators to develop a risk map for its supply chains and suppliers.

The Responsible Sourcing Tool also provides risk information for a number of industries and commodities. Follow the same process outlined above to get risk information relative to the supplier’s industry and, in some cases, for the



Population Indicators		Country-based Indicators	
International Female Migration UN	38.6%	ILO Composite Score	4 High Risk
Severe Multidimensional Poverty	0.3%	Trafficking in Persons Report	Tier 3 Very High Risk
National Poverty Line	0.6%	Depth of Credit Information Index	8 Very Low Risk
International Migration UN	0.1%	Civil Liberties Rating	6 Very High Risk
Population of Concern	304,158	Corruption Perceptions Index	42 Moderate Risk
Vulnerable Employment	43.0%	Global Rights Index	5 Very High Risk
		Inequality Adjusted Human Development Index	0.84 Low Risk
		Global Gender Gap Report	0.88 Low Risk
		Rule of Law Index	0.47 Moderate Risk
		Fragile States Index	68 High Risk
		Political Stability and Absence of Violence/Terrorism	-0.29 High Risk

commodities and raw materials associated with the type of industry.

Deep Dive Risk Assessments After filling in the profile information for each supplier and the corresponding risk factors, organizations will have the information needed to identify and prioritize specific supply chains and suppliers for in-depth assessments based on the form’s risk indicators (refer to Appendix 2). These deeper assessments provide insight into the actual practices of individual suppliers as well as the labor recruiters and subcontractors they engage.

Supply chain mapping data can also reveal gaps in supply chain visibility—such as limited information on upstream producers—and highlight structural barriers to transparency, including weak traceability systems or purchasing practices that limit access to relevant labor information for supplier sites. Organizations should use the identified gaps to strengthen their data gathering in support of developing more focused and feasible due diligence strategies.

For more information on conducting these assessments, see:

- Labor Recruiter Screening Tool (Tool 7)
- Sample Supplier Self-Assessment Questionnaire (Tool 8)
- Labor Recruiter Monitoring Tool (Tool 9)
- Migrant Worker Interview Tool (Tool 10)

Appendix 1: Overview of Supply Chain Tiers and Actors

Understanding the types of actors at each tier is essential for effective supply chain mapping and risk screening, particularly when assessing the potential for forced labor in transportation sector supply chains.

While different transportation modes (e.g., aviation, busing, local commercial drivers, maritime, pipelines, private vehicles, rail, transit, and trucking) may have industry-specific suppliers and contractual relationships, there are consistent patterns across modes regarding how suppliers, labor agents, and other intermediaries are structured within and across tiers.

Tier 1

Direct Suppliers are organizations that provide fully assembled integrated systems, major components, or essential services directly to the final manufacturer, buyer, or operator. These suppliers are usually under contract and subject to established quality and compliance oversight. Examples of actors at this tier may include:

- Manufacturers of structural assemblies (e.g., aircraft fuselage sections, passenger rail car bodies);
- Manufacturers of replacement parts or assemblies;
- Distributors or wholesalers of equipment or parts;
- Systems integrators responsible for major mechanical or electrical subsystems;
- Firms providing specialized technical services (e.g., IT systems);
- Consolidators managing multiple upstream inputs; and
- Services providers (e.g., maintenance, fueling, security, janitorial, baggage handling, ticket agents)

Tier 1 suppliers typically have relatively sophisticated management systems in place but may themselves rely on subcontractors or upstream providers for which the user or operator has limited visibility.

Tier 2

Component and Intermediate Product Suppliers: Tier 2 suppliers provide parts or services to Tier 1 suppliers. These entities may manufacture components, fabricate materials, or perform essential subcontracted functions. This tier is where supply chains often begin to branch out significantly, both geographically and organizationally. Actors at this level

PROTECTIONS AGAINST TRAFFICKING IN PERSONS
Supply Chain Mapping and Risk Assessment in the Transportation Industry

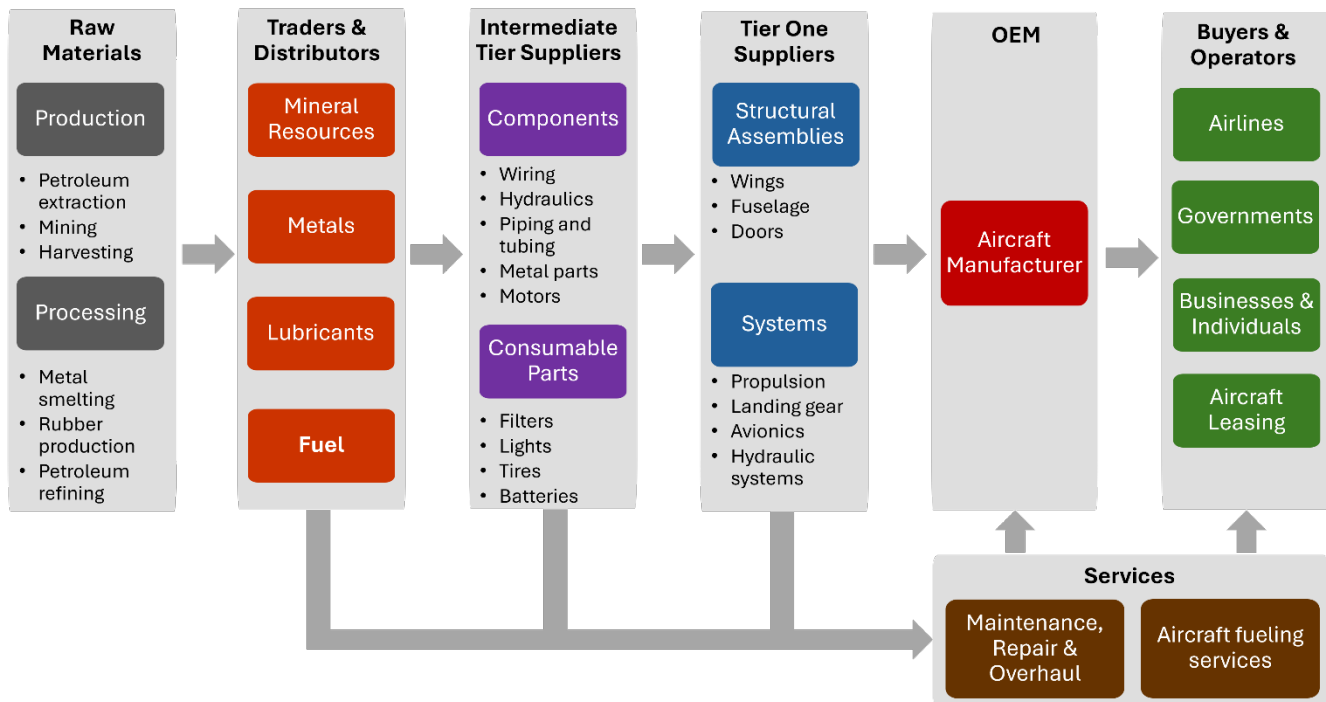
may include:

- Medium-sized manufacturers producing inputs for systems integration
- Technical subcontractors engaged in repetitive or specialized tasks
- Suppliers with niche capabilities or regional production facilities

Tier 2 suppliers may require capacity building to map their own suppliers and to meaningfully integrate that information into due diligence efforts or systems.

Figure 1

Example of Aviation Supply Chain Tiers



Tier 3 and Above

Raw Material Processors, Fabricators, Traders, Distributors and Labor-Intensive Producers: Tier 3 and farther upstream-tier actors are furthest from the OEM and therefore, downstream organizations are likely to have the least visibility into them. These include raw material processors, converters, and smaller subcontracting firms performing manual or labor-intensive work. These tiers also include entities involved in preparatory stages such as materials preparation or pre-assembly, often located in high-risk geographies. Common actors in upstream tiers include:

- Producers and processors of raw materials (e.g., metals, textiles, polymers, carbon fiber, composites, etc.)
- Traders of metal ores, metals, and other raw materials
- Distributors of processed raw materials, fuels, and lubricants
- Regional subcontractors or small workshops
- Informal or semi-formal labor providers and facilities

Like Tier 2 suppliers, suppliers at Tier 3 and farther upstream are likely to need capacity building and resources to enable them to effectively map their suppliers and build an understanding of their labor practices.

Labor Agents (across all tiers)

In addition to material, manufacturing and services suppliers, labor agents are involved in the recruitment, selection, hiring and management of workers at all tiers of the supply chain. These may include:

- Entities that provide workers for organizations to supplement their regular workforce to meet production requirements or as temporary replacements for workers on long term leave. The workers are employees of these agents, often referred to as staffing agents.
- Third-party labor recruiters. Employers outsource some or all of their recruitment and hiring to these entities who source workers for suppliers, often across borders.
- Sub-agents and informal agents, often referred to as brokers. These entities are engaged through third-party labor recruiters to recruit and screen job candidates, often in migrant-sending countries

The presence of labor agents increases the risk of forced labor when recruitment practices are not monitored, when workers are charged illegal fees, or when employment contracts are unclear or misleading. Therefore, it is critical to understand at which points in the supply chain these labor agents are present. Overtime, information can be collected on the labor supply chains and practices of third-party labor agents.

Information to Collect

Organizations should gather information at every supplier tier that can help them evaluate the human rights risk profile of those suppliers, including their capabilities to conduct human rights due diligence.

The table in Appendix 2 on the following page is provided as a data collection and risk evaluation tool for organizations to use when mapping their supply chains.

Appendix 2: Supply Chain Mapping and Risk Assessment Tool

Profile Information		Risk Assessment Guidance
1. Supplier name		
2. Contact name:		
3. Headquarters address		
4. Address of supplier facility or worksite (Note: complete one form per facility)		<p>Identify and evaluate risks factors for the country of operation¹⁵:</p> <p>1. Legal/Policy Risk Factors</p> <ul style="list-style-type: none"> a) Degree to which the country upholds labor rights. (<i>Global Rights Index - ITUC</i>) b) Status of political and civil rights in the country.? (<i>Civil Liberties Rating – Freedom House</i>) c) Has the country ratified 10 key ILO Conventions? (<i>ILO Composite Score – International Labour Organization</i>) <p>2. Political Risk Factors:</p> <ul style="list-style-type: none"> a) Level of political instability or conflict (<i>Political Stability and Absence of Violence/Terrorism – World Bank</i>) b) Level of crime and violence (<i>Fragile States Index – The Fund for Peace</i>) c) Level of state persecution (<i>Fragile States Index – The Fund for Peace</i>) d) Level of corruption (<i>Corruption Perceptions Index – Transparency International</i>)

¹⁵ The country-level risk ratings for each listed risk factor/indicator can be found in the “[Identify Risks](#)” section of the ResponsibleSourcingTool.org upon selecting the country of interest. A description of each indicator is shown by hovering the cursor over the question mark next to the indicator name. It is not intended to be a complete list of all available indicators but simply examples of some of those most commonly used. Organizations are encouraged to look beyond those provided if necessary, based on the nature of their supply chains and sourcing countries.

PROTECTIONS AGAINST TRAFFICKING IN PERSONS

Supply Chain Mapping and Risk Assessment in the Transportation Industry

Profile Information		Risk Assessment Guidance
		<p>Socio-economic Risk Factors:</p> <ul style="list-style-type: none"> a) Presence and concentration of migrant workers <i>(International Migrant Stock, United Nations Department of Economic and Social Affairs)</i> b) Presence of migrant workers from vulnerable countries <i>(Population of Concern)</i> c) Level of national economic development <i>(Inequality Adjusted Human Development Index – United Nations Development Program (UNDP))</i> d) Level and extent of poverty <i>(Multidimensional Poverty Index – MPI – United Nations)</i> e) Degree of gender inequity <i>(Global Gender Gap Report)</i> <p>For more information on understanding risks tied to these features see: Geography – Country » Responsible Sourcing Tool</p>
5. Type of product or service provided by the facility or worksite		<p>Evaluate overall forced labor vulnerability tied to type of production and structural features of supply chains. Factors to consider include:</p> <ul style="list-style-type: none"> a) Long, complex, and/or non-transparent supply chains b) Seasonal surges in labor demand c) Short production cycles d) Undesirable and hazardous work e) Typical use of labor agents <p>For general information on understanding risk related to structural supply chain features, see: Sector – Product » Responsible Sourcing Tool</p> <p>For more information on the nature of labor rights risk and vulnerable workers for various goods, and how the characteristics of</p>

PROTECTIONS AGAINST TRAFFICKING IN PERSONS

Supply Chain Mapping and Risk Assessment in the Transportation Industry

Profile Information		Risk Assessment Guidance
		different product supply chains impact supply chain traceability, see: Supply Chain Typology - Verité
6. Number of workers hired directly		Only those workers hired and employed directly by the supplier without the use of recruitment or labor agents.
7. Number of workers hired through recruitment agents/labor agents		Use of third-party labor recruiters or other subcontractors increases forced labor risk overall in any given operation. Worksites with a relatively high proportion of: <ul style="list-style-type: none"> – Workers hired through third-party recruitment agents, or – Contract workers (i.e., those who are employed by staffing and labor agencies) to directly hired workers should be prioritized.
8. Seasonality of production or service delivery		Production or service levels that fluctuate by season may suggest increased risk of temporary or casual labor. Particular attention should be paid to potential use of labor recruiters and labor contractors.
9. Types of jobs at the facility/worksite		Prioritize facilities with relatively higher concentrations of low-skilled, low-paid, hazardous, or otherwise undesirable work.
10. Presence of migrant workers	<input type="checkbox"/> Yes <input type="checkbox"/> No	Migrant workers are particularly vulnerable to forced labor in many contexts within supply chains.
11. Origin country/countries of migrant workers		Evaluate risks relative to the country of labor supply. Reference materials such as Understand the Risks and the U.S. Dept. of State Trafficking in Persons Report may support this analysis.