



Good Practice Handbook

Assessing and Managing Environmental and Social Risks in an Agro-Commodity Supply Chain

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The Handbook has a tabbed structure for easy reference. The following sign posts have been used throughout the Handbook to differentiate specific types of information.



This symbol indicates information that is specific to potential or existing IFC clients.



This symbol indicates information that explains how to do something in practice.



This symbol indicates additional resources or references to support implementation.



This symbol indicates key concepts and definitions discussed in the Handbook.

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INTRODUCTION

Supply chain risk has become a major area of concern for companies in the agribusiness sector, as well as for their customers, financiers, and external stakeholders. The threats that environmental and social (E&S) risks pose to brand values and product quality are making those risks more material, often reaching thresholds of major importance to the core business of agriculture and food companies.

This Good Practice Handbook is intended for those agro-commodity companies that want to better manage supply chain E&S risks. Many companies are seeking to identify and manage E&S risks as part of their own responsible business practices—which are often part of their overall quality, phyto-sanitary, and food safety considerations and programs—and in response to (or anticipation of) demands from their customers and financiers.

Agro-commodity supply chains often stretch over multiple supplier companies and multiple countries. In the past, the boundaries of responsibility extended only to directly owned operations and responsibility was largely delegated to suppliers, often through codes of conduct. However, the management of E&S risk is now continuing a trend toward strategic supply chain management with extended boundaries of responsibility that reach upstream to primary production where the key E&S risks are generally found.

Through its eight Performance Standards on Environmental and Social Sustainability, the International Finance Corporation (IFC) requires its clients to identify, avoid, mitigate, and manage E&S risks and impacts as a way of conducting sustainable business. Where the IFC client can reasonably exercise control, the risks and impacts identification process also considers those risks and impacts associated with primary supply chains, defined more narrowly in the sections of Performance Standard 2: Working and Labor Conditions and Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources that are dedicated to supply chains. Specifically, these primary

supply chain risks, which are to be identified and managed where a high risk has been determined, are child labor, forced labor, significant safety issues related to supply chain workers (Performance Standard 2), and significant conversion of natural and/or critical habitats (Performance Standard 6). These are also the focus of this Good Practice Handbook.

IFC recognizes that there is a broader range of significant E&S risks in agro-commodity supply chains beyond these four core areas, and the approach set out in this Handbook can be applied beyond these areas. The Handbook focuses on five major agro-commodity supply chains—palm oil, soy, sugarcane, cocoa, and coffee—however, many of the tools, resources, and case studies can be used as guidance for other agro-commodities.

LIST OF ACRONYMS

4C	Common Code for the Coffee Community
CDC	Cocoa Development Centres
CEO	Chief Executive Officer
CMEG	Chicago Mercantile Exchange Group
COC	Chain of Custody
CODEX	Codex Alimentarius Food Safety Standards
CPO	Crude Palm Oil
CSR	Corporate Social Responsibility
CVC	Cocoa Village Clinics
EC	European Commission
ECX	Ethiopian Commodity Exchange
EHS	Environment, Health, Safety
EMAS	Eco-Audit and Management Scheme
ESIA	Environmental and Social Impact Assessment
ESMS	Environmental and Social Management System
ETP	Ethical Tea Partnership
EU	European Union
FAO	Food and Agriculture Organisation
FELCRA	Federal Land Consolidation and Rehabilitation Authority (Malaysia)
FELDA	Federal Land Development Authority (Malaysia)
FFB	Fresh Fruit Bunches
GIS	Geographic Information Systems
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GM	Genetically Modified
ICA	International Coffee Agreement
ICE	Intercontinental Exchange
ICCO	International Cocoa Organization
IFC	International Finance Corporation
ILO	International Labour Organization
ISO	International Organisation for Standardisation
LIDAR	High-Resolution Laser Range Detection
NGO	Non-Governmental Organizations
NSEL	National Spot Exchange Limited
NYSE	New York Stock Exchange
OHS	Occupational Health and Safety
PKO	Palm Kernel Oil

PKM	Palm Kernel Meal
PPE	Personal Protective Equipment
RED	Renewable Energy Directive
RISDA	Rubber Industry Smallholders Authority
RPP	Responsible Purchasing Policy
RS	Remote Sensing
RSPO	Roundtable on Sustainable Palm Oil
RTRS	Roundtable on Responsible Soy Association
SAI	Social Accountability International
SAN	Sustainable Agriculture Network
SME	Small and Medium-Sized Enterprise
SPS	Sanitary and Phyto-Sanitary
TTF	Timber Trade Federation
TSGA	Tanzania Sugar Growers Association
UK	United Kingdom
USAID	United States Agency for International Development
UTZ	UTZ Certified Standard
WCF	World Cocoa Foundation
WTO	World Trade Organization
WWF	World Wildlife Fund

EXECUTIVE SUMMARY

Supply chain¹ risk has become a major area of concern for agribusiness companies and for their customers, financiers, and stakeholders. The threats that environmental and social (E&S) risks pose to brand values and product quality make those risks more material, often reaching thresholds of major importance to the core business of agriculture and food companies. As a result, many companies seek to identify and manage E&S risks as part of doing responsible business.

Through its Performance Standards on Environmental and Social Sustainability, IFC requires its clients to identify, avoid, mitigate, and manage E&S risks and impacts as a way of conducting sustainable business. The 2012 Performance Standards outline client responsibilities with respect to the primary supply chain² and primary production in the supply chain—specifically, where the IFC client can reasonably exercise management control and/or leverage, risks and impacts associated with primary supply chains should be considered.³ The Handbook provides good practice on how to identify and manage the following high risks in primary supply chains:

- hazardous/harmful child labor,
- forced labor,
- significant safety issues leading to life-threatening situations related to supply chain workers (Performance Standard 2), and
- significant conversion of natural and/or critical habitats from primary suppliers (Performance Standard 6).

The Handbook focuses on five major agro-commodity supply chains—palm oil, soybean, sugarcane, coffee,

The business case for managing E&S risk in agro-commodity supply chains includes value gained through:

- Reputational risk management and value protection;
- access to capital and associated financial services;
- enhanced brand reputation and better market advantage;
- security of supply, supplier competence, and loyalty;
- improving compliance with legislation and “soft” law; and
- cost savings from gains in efficiency and productivity.

¹ A supply chain is a network of sites, facilities, and distribution channels that includes the procurement of materials, production and assembly, and delivery of a product or service to a customer.

² IFC defines the “primary supply chain” as those suppliers who, on an ongoing basis, provide goods or materials essential for the core business processes of the IFC client’s project, and “supply chain workers” as those workers engaged by a primary supplier.

³ This is defined in supply chain related sections of *Performance Standard 2: Working and Labor Conditions* and *Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources*.

Box 1. IFC Performance Standards: Supply Chains

There are eight IFC Performance Standards on Environmental and Social Sustainability. In three of them, certain sections detail the primary supply-chain specific requirements relevant to IFC clients:

Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts.

Where the client can reasonably exercise control, the client's risks and impacts identification process—the environmental and social management system (ESMS)—will include, as relevant, a supply chain component that considers the risks and impacts associated with its primary suppliers, as defined in Performance Standard 2 and Performance Standard 6. This component will incorporate the elements of policy and procedures, supply chain mapping, risk assessment and management, corrective measures, training, monitoring, and reporting. Where the client does not have control or influence over the management of certain environmental risks and impacts in its supply chain, an effective ESMS should identify the entities involved in the value chain and the roles they play, the corresponding risks they present to the client, and any opportunities to collaborate with these entities in order to help achieve environmental and social outcomes that are consistent with the Performance Standards.

Performance Standard 2: Labor and Working Conditions.

The objective of Performance Standard 2 is “to protect workers, including vulnerable categories of workers such as children, migrant workers, workers engaged by third parties, and workers in the client's supply chain.” As part of an ESMS and subject to the client's level of management control or leverage over its supply chain, the client will assess and document risks and impacts in its primary supply chain when there is the potential for child/forced labor or significant safety issues. The requirements set out in Performance Standard 2 are in part guided by a number of international conventions and instruments, including those of the International Labour Organization (ILO) and the United Nations (UN).^a

Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Performance Standard 6 covers direct and indirect project-related impacts on biodiversity and ecosystem services, and is based on the Convention on Biological Diversity. As part of an ESMS, the client must adopt a verification process to evaluate its suppliers of primary production, in order to demonstrate that raw materials are not being purchased from sources where there is significant adverse impact on natural and/or critical habitats. Again, the required actions depend upon the level of management control or influence over suppliers.

^a These Conventions are; ILO Convention 29 on Forced Labour; ILO Convention 105 on the Abolition of Forced Labor; ILO Convention 138 on Minimum Age (of Employment); ILO Convention 182 on the Worst Forms of Child Labor; UN Convention on the Rights of the Child, Article 32.1; UN Convention on the Protection of the Rights of all Migrant Workers and Members of their Families.

and cocoa—however, many of the tools, resources, and case studies can be used as guidance for other agro-commodities.

Refer to the Handbook Annex for key points relating to supply chain structure and governance of palm oil, soybean, sugarcane, coffee, and cocoa, as well as applicable sustainability and certification initiatives.

E&S Risks in the Supply Chain

Child Labor

Child labor is defined by the International Labour Organization (ILO) as “work that deprives children of their childhood, their potential and their dignity, and that is harmful to their physical and mental development.”⁴ Long working hours, extenuating jobs, harmful activities (e.g., working with machines and machetes), exposure to hazardous materials such as pesticides, absence of adequate adult supervision, and impediments to engaging in formal education are all examples of hazardous child labor. In the worst cases, children may be enslaved, separated from their families, or exposed to serious dangers and illnesses.

However, not all work done by children is harmful. Situations where children work with their parents or participate in work that does not affect their health and personal development are generally tolerated, provided no hazardous work is involved and children are laboring on family or small-scale holdings that produce for local consumption. Child labor on large farms producing for commercial purposes is not allowed by ILO Conventions, nor is the employment of children as regular hired laborers. Therefore, the concern regarding the use of child labor in agro-commodity production falls within the realm of hazardous labor in commercial agriculture, as does the work of children who are engaged in any form of hazardous activity.

Laws may also permit light work for children age 13–15 (not harming their health or school work). The minimum age of 18 years is specified for work that is likely to jeopardize the health, safety or morals of young persons.

Forced and Bonded Labor

The ILO Forced Labour Convention 1930 (No. 29) prohibits all forms of forced or compulsory labor, defined as “all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily.” Information on which countries have ratified this Convention is on the [ILO website](http://www.ilo.org/ipec/facts/lang--en/index.htm). It is important to note, however, that ratification by the country is not an indication of enforcement.

Risks of forced and bonded labor usually result from certain company recruitment practices and can involve debt repayments, a sense of desperation

⁴ ILO, <http://www.ilo.org/ipec/facts/lang--en/index.htm>, accessed on February 29, 2012.

about finding work and shelter, and a lack of leverage to negotiate better working conditions.

Cases of forced and bonded labor are most commonly connected with the illegal migrant workforce; however, this is not always the case. Bonded labor can occur when contracts are formed between agents and companies rather than with individuals. Risks arise when companies pay upfront for agents and legal fees, with the costs to be deducted from workers' salaries, with little to no clarity about when and how these loans are to be repaid. Movements of bonded workers will often be restricted, with companies withholding workers' passports and identifying documents. Most contracts will not have early "breakout" clauses.

Significant Safety Issues Related to Supply Chain Workers

Risks to worker safety can arise through agricultural practices, including work place incidents or fatalities. The principal causes of work-related incidents or fatalities in agro-commodity production are exposure to hazardous agrochemicals, crushing and use of unsafe equipment, noise, heavy loads, extreme temperatures, road incidents, and limited access to personal protective equipment (PPE). Workers across a variety of agricultural production models are often exposed to chemicals, particularly those associated with higher-risk jobs, such as pesticide and herbicide sprayers, fertilizer applicators, and harvesters. Health risks associated with these jobs can arise for the following reasons:

- Use of chemicals that are internationally banned according to the World Health Organization;
- limited or no access to PPE, which increases the exposure risks; and
- lack of awareness and/or understanding of the risks related to the work (in cases such as this, workers who have access to PPE may choose not to wear it, particularly if it gets in the way of their work performance and/or is uncomfortable to wear).

There are also risks that safety procedures and incident prevention measures are either not developed or not effectively enforced. Storage and disposal of chemical containers, especially on family farms, also represents a risk to child and community health.

Environmental and Social Management Systems

Critical to the success of environmental and social (E&S) risk management in primary supply chains, and a requirement for IFC clients under IFC Performance Standard 1 is an environmental and social management system (ESMS). An ESMS enables companies to manage E&S risks and impacts in a structured way, can link a company's suppliers and, in turn, contractors with their own suppliers. The ESMS approach draws on elements of the established business management process of "plan, do, check, act" and applies to business activities with environmental and/or social risks and/or impacts.

Management commitment and accountability are critical for an effective ESMS. Strong leadership can drive an integrated sustainable sourcing policy with goals shared among key departments. This will involve collaboration across divisions and changes to incentive systems. Generally it is the procurement officers (buyers) in a company who need to implement the sustainable sourcing policy, but they respond to different signals than the marketing or external affairs divisions. Leadership at the senior levels of a company is therefore crucial to ensure unified actions across the business.

The Handbook provides guidance for companies to develop or strengthen their ESMS, especially as it relates to supply chain management. In addition, there is an example of an E&S Action Plan's management system procedure for supply chain at the end of this Executive Summary.

Significant Conversion of Natural and/or Critical Natural Habitats

As pressure to secure and increase agricultural yield grows, the agriculture sector has become a major player in the destruction of natural ecosystems and species extinctions. Risks are particularly high for large-scale industrial agriculture, where methods to maximize agricultural productivity can conflict directly with efforts to maintain biodiversity. Such methods include expansion into previously marginal areas and conversion of remaining natural habitats, removal of remnant semi-natural vegetation corridors and other "islands" of managed non-crop vegetation, intensive chemical management, and reduction of "rest periods" and crop rotations.

Deforestation and habitat conversion for agricultural activities is overwhelmingly the most significant driver of biodiversity and ecosystem loss associated with agro-commodity production. This risk is becoming more extreme as agricultural demand increases under pressure to find more land suitable for farming. Habitat fragmentation of natural landscapes decreases the area of habitat available, increases disturbance within remaining habitats, and makes species more vulnerable to local extinction. Land use intensification within traditionally managed farming landscapes relies on the continuation of low-intensity agricultural practices to maintain a great number of species and semi-natural habitat types.

Agricultural pollution (e.g., pesticides, nutrient discharge, and erosion) as an impact of agro-commodity production can result in damage to biodiversity and habitat quality.

Further, increased access to remaining natural habitats, such as clearing natural land for cultivation and access roads, may dramatically intensify hunting and wild plant collection, as is commonly seen in tropical settings.

Traceability

The more information that is available about the origin of primary production, the easier it becomes to make informed decisions about which supply chains to work with and when to remove non-conforming products and suppliers. For instance, when the origin of an agro-commodity is known at a country or regional level, this knowledge can be used to identify and manage E&S risks. Companies can cross-reference agro-commodity production risk with a region/country risk assessment, even if they do not know the precise location of production or specifics about the field practices.

Traceability systems vary not only in terms of strict traceability, but also in costs of implementation and maintenance. Companies use a number of traceability and control systems, which can be used to make risk-based decisions or to provide direct assurance of performance. Companies can use existing traceability systems developed for quality or safety as inputs into E&S risk management. Refer to the Handbook's Traceability chapter for an illustration of these systems on a continuum of high to low traceability capacity.

Supply chain mapping, discussed in more detail in the Toolkit section of the Handbook, is a key prerequisite for supply chain E&S risk assessment, although the level of traceability in a typical agro-commodity supply chain may be relatively low.

Certification

Certification with a voluntary agro-commodity standard is an important consideration for companies managing E&S risk in primary supply chains. Certification is a voluntary process by which an independent organization verifies that an operation or procedure—such as management of a forest or farm—is being carried out in accordance with a specified principle or set of criteria. It provides assurances that production, processing, and trade have been conducted

in accordance with the standards. For these reasons, certification is often promoted as an effective way to manage risks in supply chains. There are many sustainability certification standards applicable to agricultural commodities, working on a voluntary, not-for-profit basis, and with the involvement of a range of stakeholders.

Using an internationally agreed certification standard provides a market communication tool that allows each stage in the supply chain to request and provide consistent and mutually understood information about E&S performance. A production standard can be generic or crop-specific, and sets out the performance requirements at the level of the plantation or farm. It typically consists of principles and criteria, with measurable and/or verifiable indicators.

Chain of Custody (CoC) standards define a verifiable system of traceability and/or supply chain control for raw materials at each stage of the supply chain from initial production to the final product. CoC certification provides assurance at each stage that the material being sold conforms to the specific requirements.

Most relevant certification schemes are oriented to both production and process (to verify that products are being produced according to a set of sustainability standards), and to the end-product (for instance, requiring a CoC certification), to certify that the product fulfills a certain claim. Bonsucro, Roundtable on Responsible Soy Association, Roundtable on Responsible Palm Oil, Rainforest Alliance, Fairtrade, and UTZ are some leading international examples of relevant certification schemes.

Production standards are applicable to growers, and the CoC standard is applicable at every stage in the manufacture of a product, which may include mills, processors, traders, and wholesalers, depending on the structure of the supply chain. In some cases, E&S requirements may also be implemented at each stage. Key sources of information for companies wishing to engage in certification are the certification schemes or commodity roundtables themselves, as well as research programs; more information on these can be found in the Handbook.

There are a few limitations to certification schemes worth noting. Historically, certification of good practices has been considered a proxy for positive impacts on the ground; however standards systems and certification schemes are increasingly

seeking ways to undertake a more systematic, rigorous analysis of their impact on sustainable development. Additionally, while there is a growing market for certified production, there are instances where supply outstrips demand, and this lack of demand potentially undermines the economic case for producer involvement, particularly if they sell certified products at a price that does not cover their costs of compliance. Certification costs money, in terms of both an audit of operations and compliance—including, for example, staff time to manage the process, staff training, updating of procedures, additional tasks of maintaining a supplier database, increased wages (e.g., ensuring a “living wage” for workers), and, in some cases, changing business practices to be more ethical. Many standards systems and certification schemes seek to include smallholders through the development of bespoke requirements and group certification to achieve economies of scale. However, the limited capacity of smallholders and the challenges associated with organizing hundreds or thousands of smallholders makes it difficult for smallholders to obtain certification.

Even in situations where companies have high leverage with their primary suppliers, buyers need to consider that demanding compliance with third-party certification may not always be possible—supplier might lack the capacity to achieve certification or the incentives to make the necessary investments. Communicating the future intention to require third-party certification in advance of implementation and working in collaboration with suppliers to meet the necessary requirements may be more effective, particularly when done in combination with rewards for interim progress.

Toolkits: Practical Approaches for IFC Clients

The Handbook includes two Toolkits—Toolkit 1 focuses on the assessment of E&S risk and leverage in a supply chain, and Toolkit 2 on managing E&S risk. These Toolkits contain practical “how to” information, including sample questionnaires; sample risk frameworks; tips on how to rate commodity and country risk factors; sample communications from the CEO to Suppliers, and from Sourcing Teams to Existing and New Suppliers; as well as tips on how to develop and use supplier scorecards.

Toolkit 1: Assessing E&S Risk and Leverage in a Supply Chain

To determine an IFC client’s leverage and ability to influence the primary suppliers, its supply chain mapping and risk assessment must describe the supply

chain structure and characteristics, identifying all intermediary steps, all players, and the nature of the transactions between primary producers and the client. This will enable determination of:

- The E&S risks and impacts associated with primary production;
- the supply chain structure, size, and types of coordination mechanisms (e.g., market transactions, contract integration, vertical integration);
- the client's leverage to eliminate or minimize these issues in its area of management control or influence;
- the client's ability to source from alternative suppliers to eliminate or minimize issues; and
- remaining risks that are difficult for the client to eliminate.

A step-wise process for assessing E&S risk and assessing leverage is:

Step 1. Organizing and Collecting Information

Step 2. Assessing Risk in a Supply Chain

Step 3. Mapping Institutions in a Supply Chain

Step 4. Assessing Company Leverage in a Supply Chain

A **supplier database** is important for capturing, storing, and tracking information about suppliers. Companies will already have some form of this to manage day-to-day procurement, purchasing, or trading. Adapting this database to include E&S information about suppliers can be an important part of a company's approach to managing these risks.

A **rapid diagnostic**, where information about the commodities used is compiled from internal information, can help identify where to focus resources and prioritize which supply chains to focus on first. Sources of information for undertaking this rapid diagnostic may include contracts, shipping documentation, and shipping information held by trading operators and their systems (who handle the legal, financial, and logistics aspects of deals). Direct relationships with suppliers in producing countries will likely indicate origin. At the rapid diagnostic phase, companies do not need to contact suppliers for any additional information.

Supply chain mapping can be a visual diagram, a written description, or both. The most common way of gathering this information is through a questionnaire and database approach, supplemented by interviews with key suppliers. This may be used to establish the country of origin of a commodity, the location of

producers, and, in some cases, the specific identity of producers at the primary production base of a supply chain. Coupled with information about E&S risks of the commodity's production in that location, this approach creates a tool through which the highest-level risks can be identified. The supply chain mapping process can be used to categorize product volumes according to parameters, such as current proportion of traceable product and current proportion from certified suppliers as well as the risk exposure this creates—a potential basis for risk management.

Supplier questionnaires provide information which can be used to map E&S risk of primary production. This includes spending time explaining to each supplier and managing the information received. The process of supply chain mapping is often and necessarily iterative, and a buyer may need to return for more data if the initial information is not sufficient or contradicts other evidence.

An E&S Supply Chain Risk Rating Matrix is a reference tool that companies can create or purchase, providing them with generic information about the E&S risks associated with a commodity in a particular geographic location. If actual information about a supplier's E&S performance is available, the generic country-commodity risk level will be moderated by this additional information. Examples of commodity and country-level risk factors, as well as additional risk factors, include:

- *Commodity-level risk factors:* Some commodities are more likely to carry negative E&S risks than others, because of the type of cultivation and harvesting or the type of land on which farms and plantations are typically established, for example. They may be associated with specific countries where known impacts occur. It may also be that the stakeholder profile (e.g., consumer demands, campaigns by non-governmental organizations (NGOs)) has drawn attention to these risks.
- *Country-level risk factors:* Some countries have a higher risk of negative E&S impacts, for reasons, such as weak E&S regulations and legislation and their respective enforcement, social incentives and risks in-country (e.g., deforestation, human rights, corruption), and the profile and structure of the supply base (large estates, smallholders, etc.).
- *Additional risk factors* that companies should consider are the volumes they purchase, complexity of the supply chain, degree of information sharing in the supply chain and the extent of E&S risk management in the supply chain.

The level of risk can be assessed according to the **probability** of certain impacts and the potential **severity** of those impacts. The process to assess each risk will generate a considerable dossier of data that informs the high, medium, and low

risk ratings. This approach can be applied to a company's portfolio of suppliers as part of a strategy to prioritize and manage existing supply chains, to new suppliers being considered, or when entering new and unknown markets. The scope of the countries and commodities included in the risk framework and rating exercise will depend on the company's suppliers.

The IFC tool, Global Map of Environmental and Social Risk in Agro-Commodity Production (GMAP), is an example of a tool setting out a risk assessment matrix that should be used by trade finance clients to manage E&S risks in their agro-commodity supply chains.

For companies with a small supply base, long-standing relationships, and existing in-depth knowledge about the E&S practices in their primary production, it may not be necessary to do a risk assessment framework and ratings. Such companies should instead focus on assessing and managing the known E&S impacts and record these in their supplier database.

Together with an institutional map and a leverage assessment, discussed below, assessing E&S risk is a prerequisite for managing E&S risks in supply chains.

Institutional mapping identifies key institutional actors affecting a supply chain, including partners, governments, and/or industry associations. Based on sector- and value chain-based knowledge, companies can identify the main formal and informal institutions affecting the functioning of the supply chain. As with the E&S risk assessment, both the commodity (e.g., global, regional, and local institutions) and the country should be considered.

Together, supply chain mapping and institutional mapping provide important information that forms the basis for **leverage assessments**. Leverage is the ability of the company to effect change in the practices of its supplier or subsequent upstream supply chain. Buyer influence makes it easier to incentivize changes in the practices of the supplier. Such influence is indicated by:

- Large volumes purchased;
- few dominant buyers and many producers; and
- the ability to source the same product elsewhere (high substitutability).

Supplier influence makes it more difficult to influence changes in the practices of a supplier. Such influence is indicated by:

- Large volumes supplied;
- few dominant suppliers and many buyers; and
- restricted ability to source the same product elsewhere (high product specificity).

The process of supply chain mapping provides a useful basis for a leverage assessment, enabling companies to identify primary suppliers (including key characteristics such as geographic distance and the ability to influence purchasing) and the existence of certification in the supply chain (a key tool for managing E&S risks). Analyzing influence and institutional relationships is useful when considering management strategies and can act to reduce or increase leverage.

Additional operational information about stages in the supply chain may be collected, as well as information about E&S risks, institutions, and leverage. This information can be collected through meetings, questionnaires, desk-research, or field visits.

Toolkit 2: Managing E&S Risk in a Supply Chain

After developing a supply chain map, E&S risk assessment, institutional map, and leverage assessment, the next step is to define the scope of the management system procedure or program and draft a sustainability sourcing strategy or plan. The key to an effective plan is to allocate resources in a way that balances two elements: the minimization of risk and the improvement of E&S standards among suppliers.

The results of the assessment and analysis provide the necessary input for the development of strategy and tactics for managing E&S risks in supply chains. As components of a management strategy, appropriate actions can be identified by the level of risk and leverage assigned to a specific supply chain.

When developing an approach to managing E&S risk, the first step is to identify which supply chains are priorities, and how to manage the risk of those supply chains. The “high-risk” agro-commodity supply chains should be prioritized, and the ability to leverage change should be used to determine the approach to take.

Below is a step-by-step process for doing this, including some useful tools and resources:

Step 1. Prioritizing supply chains

Step 2. Determining appropriate sustainability sourcing and management strategies based on leverage

Step 3. Implementing, monitoring, and reviewing

The supply chain mapping and E&S risk assessment approach described in Toolkit 1 above enables companies to prioritize risks according to commodity sector and country, based on the likelihood and severity of the E&S risks associated with commodity production in the particular country.

Four time frames are recommended for planning:

- Status (now)
- Short-term priority (1–12 months)
- Mid-term expansion (2–5 years)
- Future vision (where the company wants to be in 10 years)

Different levels of risk lead to different management strategies. There is space for agribusiness companies to map the risks by region and try to reduce exposure to the most high-risk areas, and this should be articulated in their supply chain policies. There is a temporal aspect to the management of risk, and companies facing high levels of E&S risk may have to act more quickly to manage risks or mitigate impacts where the E&S issue occurs. By contrast, companies facing low-risk situations can opt to regularly monitor the situation while laying the foundations for improved E&S risk management if the risks were to increase. All options depend on the resources a company is willing to invest in the supplier or supply chain and the realities of what they already have in place to build upon. Options should be considered in light of a company's leverage assessment. The leverage assessment provides the basis for undertaking management strategies appropriate to the nature of the trading relationship (coordination) and the presence of a blocking institution.

Command and control, or top-down approaches manage risk by enforcing standards, systems and codes of E&S risk management. These approaches can be adopted in a limited number of cases where the supplier and buyer are vertically integrated, and these approaches are thus integrated within existing company systems and operations.

Collaborative risk management approaches aim to manage E&S risks by increasing information sharing on E&S risk assessment and management, and improving suppliers' capacity to assess and manage risks. Companies that have vertically coordinated supplier relations may look to tools in this area to manage their E&S risks, depending on the exact nature of the relationship and the institutions governing it.

Once a sustainability sourcing strategy outlining the E&S management approach in the supply chain is developed (with priorities and acceptable performance levels), the strategy needs to be implemented and monitored annually.

Box 2. Example of an IFC Client's E&S Action Plan (ESAP) Specifically Addressing Supply Chain Management Issues

Supply Chain Risk Assessment and Management

As part of the supply chain component of its corporate environmental and social management system (ESMS), Company X will develop and implement a sustainable sourcing policy (including a Supplier Code of Conduct) to ensure sustainable purchasing practices for its "high-risk" commodity Y. As per IFC's related supply chain requirements, this policy will specifically prohibit purchase of all these commodities known to be produced breaching national environmental and social (E&S) legislation and/or violation of IFC Performance Standards, namely produced through harmful child /forced labor and through conversion of natural/critical habitats leading to biodiversity loss.

- Company X will provide IFC a copy of the supply chain policy for review and will include Company X's Supplier Code of Conduct in all contractual agreements with high-risk commodity suppliers.

Supply Chain Database and Monitoring

Company X will develop an ESMS procedure for monitoring key E&S requirements on its supply chain at the local/ country level. Suppliers will be classified in categories (e.g., Certified, Traceable Not Certified, Traceable within a Region, Non-Traceable) according to identified E&S risks and knowledge of suppliers' practices as these relate to the IFC Performance Standards supply chain requirements; the reliability of Company X's information regarding E&S standards at origins under which "high-risk" commodity Y has been produced, and; if Company X is able to demonstrate management control and/or leverage over primary suppliers. The scope of the E&S risks to be considered for primary suppliers includes: harmful child/forced labor, significant safety issues related to supply chain workers, and conversion of natural/critical habitats. The supply chain database will be the means to monitor the dynamics of certified and traceable categories of suppliers, and will be expanded to incorporate broader country supply chain data and allow for aggregation. Specific steps for Company X to undertake include:

- Company X will provide a copy of its ESMS procedure, detailing supplier category definitions and the basis for the risk ratings that will feed into the supply chain database;
- company X will provide IFC with confirmation that the ESMS procedure is disseminated to its operations in country of origin where Company X can demonstrate management control and/or leverage over its "high-risk" primary suppliers;
- company X will provide documentary evidence of the development of the supply chain database;
- company X will provide IFC with the implementation schedule for its supply chain database in countries of origin where Company X has management control and/or leverage over "high-risk" primary suppliers; and
- company X will provide an annual monitoring report to IFC detailing its supplier classification per origin and its sustainability initiatives to proactively move suppliers to a higher sustainability classification.

E&S Training

Company X will implement a training program for its field staff to:

- Ensure knowledge of Company X's enhanced supply chain policy as outlined above;

(continued on next page)

Box 2. (continued)

- build in-house capacity to collect accurate E&S information on suppliers at origin/buying station (supply chain database);
- reliably input data into the supply chain component of the ESMS to allow senior management to assess the nature, scale, and importance of environmental and social issues in any given location;
- ensure training of suppliers on sustainable agricultural practices to help farmers improve yields, quality, and achieve third party certification of “high-risk” commodity from widely accepted bodies or from manufacturing clients;
- provide IFC with an overview of the top level work plan and materials for the implementation of this E&S training program; and
- provide IFC with evidence for the implementation of the E&S training for suppliers, as appropriate.

Senior Management Monitoring and Guidance

Company X will implement a procedure for periodic reporting and monitoring of its supply chain E&S risks and sustainability initiatives to Company X’s senior management. This will allow for progress monitoring regarding supplier classification in the database; help to keep track of emerging E&S issues; help to determine E&S capacity building needs of field staff and suppliers; and to facilitate a proactive response and periodic realignment of Company X’s sustainability priorities, as well as to mitigate exposure of Company X to commodity business risks in the short and long term.

Company X’s senior management will identify any needed changes in its ESMS for the management of suppliers to reduce risks in the supply chain.

- Company X will present to IFC the planned system for monitoring and reporting E&S issues to senior management; and
- company X will include in its annual monitoring report to IFC the decisions taken by senior management to proactively improve supply chain E&S performance in Commodity Y.

Strategic Plan for Certified High-Risk Commodity Y

Company X will present an annual plan to IFC with a tentative schedule to gradually increase the procurement of certified commodity Y as a percentage of the total volume traded or processed in a given year, either through shifting suppliers or influencing existing suppliers. The plan can include: training programs for farmers to boost productivity; activities to promote compliance with the supply chain requirements of the IFC Performance Standards, and; activities to increase the procurement of third party certified commodity Y, as detailed below:

- The plan will include tentative targets for the procurement of certified commodity Y each year within a three-year horizon in countries of origin, and throughout the life of the project. The plan will indicate suitable partnerships to address productivity intensification and E&S monitoring. The plan will be implemented by other stakeholders (such as certification bodies, NGOs, manufacturing clients, etc.) in the country of origin.

Company X will include all activities performed by Company X to promote certified commodity Y in its annual monitoring report to IFC.

Company X will review its yearly sustainability sourcing performance, and realign plans for procurement of third party certified commodity Y for the next year.

PART 1: AGRO-COMMODITY SUPPLY CHAINS



PART 1: AGRO-COMMODITY SUPPLY CHAINS

Characteristics of Agro-Commodity Supply Chains

A supply chain is a network of sites, facilities, and distribution channels that includes the procurement of materials, production and assembly, and delivery of a product or service to a customer.

In agro-commodity supply chains, primary production may involve a large number of smallholders and/or large estates and plantations. In the case of smallholders, visibility and organization can be low and levels of dispersion and geographic marginalization high. Agro-commodity supply chains also frequently stretch over multiple supplier companies and multiple countries. For companies, these structures of production and trade have major implications for E&S risk management. The main stages of a general agro-commodity supply chain are described in Box 1.

Box 1. General Stages in an Agro-commodity Supply Chain

- The supply chain starts on a farm or plantation, which can range from small plots to estate farms covering thousands of hectares. This Handbook focuses on this primary production stage.
- Primary processing normally includes extracting the commodity from its biological casing; e.g., pulpy fruit or shells. This can involve physical agitation (crushing) or chemical extraction. To minimize deterioration in quality, primary processing often takes place close to the site of production, such as on the farm (for example, with coffee and cocoa) or at a nearby mill.
- Trucks and rail freight transport the commodity from primary processors to aggregation points at regional storage sites, processors, manufacturers, and/or ports. For most international commerce, ships are used to transport commodities from producer markets to secondary processing, manufacturing, and consumer markets. Shipping can be in bulked liquid form (e.g. vegetable oil) or dry bulk commodity (e.g. soybeans). Voyages generally take about four to six weeks but can be longer, depending on the route.
- Secondary processing, consisting of refining and ingredient manufacture, uses the commodity to make an ingredient, achieving this through a physical or chemical change in the commodity. These ingredients can be used in manufacturing or sold directly to a consumer.
- Final manufacturing uses either primary or secondary commodities to produce goods for use or sale by consumers. Transactions can be business-to-business or business-to-consumer. Final agro-commodity goods take a range of forms, including food and drink, personal care and cosmetics, fuel, and industrial uses. Indirect consumption can be through energy for electricity generation, animal feed, or frying oils.

For more information on individual commodities, Annex I summarizes the supply chain structures for palm oil, soy, sugarcane, coffee, and cocoa.

In general, commodity systems, such as those for sugar and soy, are characterized by high levels of product quality standardization and anonymity. This is not true for commodities such as coffee and cocoa, however. The advantage of bulk commodity chains has been the flexibility they provide processors. Commodities can be bought quickly from diverse locations, including while they are in transit, using supply chains that exhibit well-established trade practices, and they can be substituted or mixed based on universal grades and standards. Major commodity trading companies can take advantage of multiple sources of supply; economies of scale in transport, storage, and finance; and superior market intelligence. The characteristics of agro-commodity systems, where physical mixing and bulk storage along the supply chain is the norm, keep information flow between trading partners to a minimum.

Managing Environmental and Social Risks in the Supply Chain

Key to risk identification and management is the two-way flow of information between the primary production stage, where the majority of E&S risks in agro-commodity supply chains are found, and trading partners along the supply chain.

Maintaining information at each stage of the supply chain about the specific origin of a product, and therefore the actual level of associated E&S risk, can be extremely difficult in complex supply chains and presents a fundamental challenge to actors who wish to identify and manage those risks. In recent years, however, major changes have occurred in agro-commodity systems, with segregation and traceability used to preserve identity throughout the supply chain, especially for purposes of country-of-origin labeling, sell-by date identification, and branding.

The potential for vertical coordination and traceability, and a company's ability to leverage changes in its upstream supply chain are both important factors in determining an appropriate response to E&S risk management challenges. Traceability systems make it possible to share information about the source of production, as well as desired quality characteristics, throughout the supply chain. A number of models of traceability exist, ranging from mass balance systems to segregation of products to "identity preserved" when a product is uniquely identifiable to a single source. The key components of a traceability system are reliable data, mechanisms for exchange of that data, and a well-mapped supply chain (for further information on supply chain mapping, refer to **Toolkit 1: Assessing E&S Risk and Leverage in a Supply Chain**).

The benefits of scale, the liquidity, and the efficiency associated with typical agro-commodity markets are reduced by increased physical traceability (at least until a sustainable grade of commodity product exists). There are additional costs to establishing and monitoring a dedicated chain of custody within traditional complex supply chains. Nevertheless, in many situations traceability is being increasingly demanded and introduced. The imperative to manage the E&S impacts of agro-commodity supply chains is a key driver, along with food safety, especially in perishable produce.

Although traceability alone is not enough to ensure the sustainability of a company's operations, it can provide a useful building block for subsequent actions and can be a key component for agro-commodity sustainability certification schemes. These schemes increase the information shared between supply chain partners about a product and the way it has been produced, processed, and traded. This helps to codify large amounts of information and make transactions more efficient. Product certification against credible standards can help reduce uncertainty about the E&S risks associated with a particular product (for more information, please refer to **Part 7: Certification**).

Even though the introduction of greater traceability improves the potential for effective E&S risk management, the complex structure and variable relative leverage of the different supply chain actors (further complicated by state regulation of markets in some commodity sectors) present further challenges. Primary production of agro-commodities is often characterized by high levels of smallholder involvement (see **Part 4: Environmental and Social Management Systems**), which can present additional challenges during the implementation of measures to manage E&S risks.



As a lending institution, IFC enters into legal agreements with conditions of investment with clients. For clients that purchase primary production directly from producers such as farmers or plantation owners (or through primary intermediaries who effectively purchase on their behalf), IFC expects them to implement the Performance Standard requirements applicable to supply chains, among other requirements, to manage their risk and impacts. Where the IFC client has a high degree of leverage and influence, the client is expected to effect change, if needed, with the producer. Where the IFC client does not have leverage or influence and they face these risks in their supply chain, they should lower risk by changing suppliers as needed.

Commodity Trading

Trading is an important part of agro-commodity supply chains, particularly for tropical commodities such as tea, coffee, cocoa, and palm oil, which are grown in the tropics for consumption around the world. For example, 75 percent of palm oil production is exported by producing countries.¹

Commercial relationships between agro-commodity supply chain actors range from direct business-to-business contractual relationships to indirect “spot” trading (purchase for immediate delivery) through commodity exchanges. Small traders may buy directly from farmers, visiting them one by one; in the next stage, small buyers sell to wholesalers, who in turn resell to exporters. Farmers’ cooperatives can also sell to exporters or even export directly. Typically, commodity traders will act as intermediaries to export markets, through either commodity exchanges or over-the-counter trades directly with buyers. The majority of agriculture commodity trade is through spot markets.

The ability to manage risk depends on the type of mechanism being used for purchasing raw materials in the agro-commodity supply chain. When purchasing products through a commodity exchange, quality specifications related to sustainability cannot be negotiated, as all contracts are standardized to allow fungibility of trades and purchase without inspection. When purchasing products using contracts with a specific supplier (“over the counter”) outside of a commodity exchange, buyers can negotiate clauses and may have the opportunity to add E&S requirements. Below are examples of some commodity trading institutions and structures:

Commodity Exchange Markets—When the physical commodity is purchased for immediate delivery, typically at a national scale, with farmers delivering to common warehouse sites.

- The Ethiopia Commodity Exchange (ECX), based in Addis Ababa, was established in 2008. It includes a spot market for coffee, sesame, beans, maize, and wheat. In 2011, it had an estimated 7,800 members, of which 12 percent was made up of farmer cooperatives, representing 2.4 million smallholder farmers.²

¹ Oxfam International, 2012, “Cereal Secrets,” Oxfam Research Reports. <http://www.oxfam.org/sites/www.oxfam.org/files/rr-cereal-secrets-grain-traders-agriculture-30082012-en.pdf>.

² IFPRI, 2011, A Market for Abdu: Creating a commodity exchange in Ethiopia. Available at <http://www.ifpri.org/sites/default/files/publications/oc70.pdf>.

- The National Spot Exchange Limited (NSEL) is based in India. It includes markets for, for example, castor seed and oil, cotton bales, groundnut, guar seed, maize, wheat, peas, soyabean, and palmolein, with a number of delivery locations set by commodity.

Commodity Derivative Exchange Markets—When the physical commodity is not being purchased for immediate delivery—i.e., a future contract is being traded—this is called a commodity derivative. There are a number of commodity derivative exchanges globally; for example:

- The Intercontinental Exchange (ICE) is a U.S.-based marketplace where agriculture futures that are traded include canola, cocoa, coffee, cotton, grains, orange juice, and sugar. ICE includes historic marketplaces such as the Coffee, Sugar, and Cocoa Exchange (founded in 1882); the New York Cocoa Exchange (founded in 1925); the New York Cotton Exchange (founded in 1870); and the Winnipeg Commodity Exchange (founded in 1887).
- The Chicago Mercantile Exchange Group (CMEG) is a U.S.-based marketplace where agriculture futures include grains and oilseeds (corn, wheat, soybean, palm oil, oats, rice), livestock, dairy, lumber, cocoa, cotton, and coffee. It was founded in 1898 as the Chicago Butter and Egg Board. In addition to an electronic trading platform, the CMEG uses the “open outcry” method, which involves shouting and the use of hand signals to transfer information, primarily about buy and sell orders.
- NYSE Euronext, is based in Amsterdam, with subsidiaries in Belgium, France, the Netherlands, Portugal, and the United Kingdom. Cocoa, coffee, wheat, and sugar futures are traded at NYSE LIFFE London, and corn, barley, rapeseed and milk futures at NYSE LIFFE Paris. Cocoa futures are exchanged only at NYSE LIFFE (London) and ICE (New York).
- Bursa Malaysian Derivatives (BMD), previously known as the Kuala Lumpur Stock Exchange, is the largest futures market for crude palm oil.

Commodity trading houses are intermediaries in the supply chain that provide seed, fertilizer, and agrochemicals to growers, and buy agricultural outputs, hold inventories of commodities, store them over time, move them around the world, and market both physical commodities and their derivatives. In some cases, these houses have integrated supply chains that include production; in other cases, they purchase from producers or other intermediaries in the supply chain. The models used by trading houses to access supply include contract farming; contract or supply agreements with

large-scale agricultural producers and plantations; land leasing for direct production or subcontracting; and land ownership for direct production or subcontracting.³

The largest agricultural commodity trading houses include Archer Daniels Midland, Bunge, Cargill, and the Louis Dreyfus Group—often referred to as “ABCD”—as well as Glencore, Trafigura, Noble Group, Wilmar, and Olam. It is estimated that the ABCD companies control over 70 percent of the global grain trade.

- Archer Daniels Midland (ADM), an American company, had net sales of \$80.7 billion in 2011. It has over 265 processing plants and 420 crop procurement facilities, and operates in more than 75 countries. It is the world’s third largest processor of oilseed, corn, and wheat, and the world’s largest processor of cocoa beans, sourcing from Cameroon, Côte d’Ivoire, Ghana, and Indonesia. It sources palm oil in Indonesia in association with Wilmar International, the largest oil palm trading company in the world (ADM owns 16 percent of Wilmar International’s stock). It is a publicly listed business.
- Bunge, originally a Dutch company, is now headquartered in the United States. It had net sales of \$58.7 billion in 2011. It operates approximately 400 facilities worldwide, specializing in grains, oilseeds, sugar, and sugarcane ethanol, and is the world’s largest producer of soybean oil. It is a publicly listed business.
- Cargill, an American company, is the world’s biggest agricultural trading company, with sales and other revenues of \$119.5 billion in 2011. Its subsidiaries buy and process grain and beef in Australia, soy in Brazil and Argentina, palm oil and animal feed in Malaysia, palm oil and cocoa in Indonesia, grain and oilseeds in South Africa, cotton in Uzbekistan, and cocoa in Ghana, to name a few. It is responsible for 25 percent of all U.S. grain exports, handles 25 percent of global palm oil trade, supplies about 22 percent of the U.S. domestic meat market, exports more products from Argentina than any other company, and is the largest poultry producer in Thailand.⁴ It is a family-owned business.
- Louis Dreyfus Group had net sales of \$59.6 billion in 2011.⁵ LD Commodities, its commodity-trading arm, is headquartered in the Netherlands and specializes in the merchandising of grains and oilseeds, coffee, sugar, wheat, and rice. It is the world’s leading merchandiser of cotton and rice, and one of the largest producers of orange juice (15 percent of global production), linked to ownership of orange groves in Brazil. It is primarily a family-owned business, with minority public ownership.

³ <http://www.oxfam.org/sites/www.oxfam.org/files/rr-cereal-secrets-grain-traders-agriculture-30082012-en.pdf>.

⁴ http://ran.org/sites/default/files/ran_cargill_factsheet.pdf.

⁵ <http://www.ldcommodities.com/investors-media/key-figures/financial-highlights>.



KEY CONCEPTS

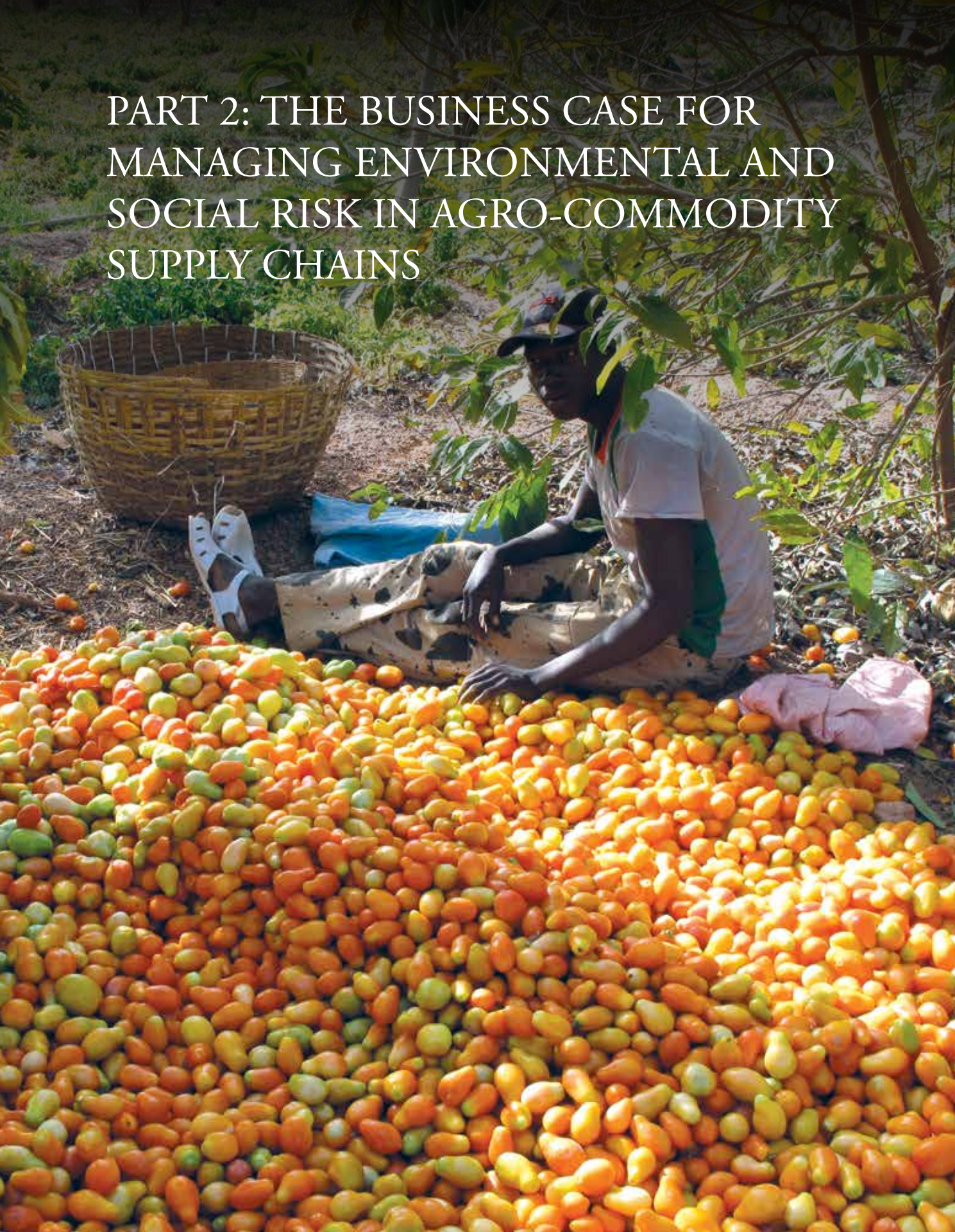
Commodities are usually traded through three main types of contracts:

- **Spot buying** is purchase for immediate delivery, where the current market value is paid. This can be done through commodity exchange platforms or over the counter, directly between buyer and seller. Spot purchases (whether over the counter or exchanged) normally use standard contracts in which the grade, quality, and location are not negotiable.
- A **futures contract** is purchase for future delivery (typically in three to six months), where the future price is agreed at the time of the contract. A standardized futures contract is traded through a commodity exchange. It is similar to commodity-exchanged spot trading, in that the grade, quality, and location are standardized by the exchange and thus not negotiable. As with spot buying, futures contracts are often used for bulk commodities with limited quality characteristics.
- A **forward contract** is an agreement between two parties to exchange at some fixed future date a given quantity of a commodity for a price (the “forward price”), grade, quality, and location defined today. These contracts are negotiated directly between buyer and seller (always over the counter), and therefore there is scope for including social and environmental aspects in the contract.

In general, leverage to influence suppliers in spot buying is limited, because the products have already been produced, information on the raw material sources and supply chain is typically lacking, and—when spot buying through commodity exchanges—contracts are standardized. There is also a lack of ability to influence suppliers in futures exchanges, because contracts are also standardized. Forward contracts offer greater leverage. Because the products may not yet have been produced or sourced by the seller, there is more time to find information on the raw material sources and supply chain, and there is scope for negotiating contracts.

For further information on assessing leverage in the supply chain, please refer to **Toolkit 1: Assessing E&S Risk and Leverage in a Supply Chain**.

PART 2: THE BUSINESS CASE FOR MANAGING ENVIRONMENTAL AND SOCIAL RISK IN AGRO-COMMODITY SUPPLY CHAINS



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Reputational Risk Management and Value Protection

The business case for companies in agro-commodity supply chains to invest in E&S risk management has largely centered on managing customer expectations and corporate reputational risk in the form of value protection, quality assurance, and defensive risk management.

There is also a widely cited business case beyond risk management, where a company can potentially capitalize on its investments in sustainable supply chains to generate value and share that value with its suppliers. This shared value proposition between a company and its suppliers is particularly strong in situations of supply scarcity, where supply chain management is part of a strategy to secure long-term supplies.

Access to Capital and Associated Services

Risk management, in general, attracts investors by providing assurance of reduced financial and reputational risks facing or potentially facing a company. Managing E&S risk is part of effective due diligence and corporate governance that can contribute to protecting investments from legal challenges associated with E&S harm, often translating to lower costs of insurance and finance as well as improved access to financial markets.

The Equator Principles⁶ set another important framework for investment risk management. The principles, launched in 2003, are adopted voluntarily by financial institutions. They are fully aligned with the IFC Performance Standards so that there is a consistent framework for private sector project financing.

⁶ <http://www.equator-principles.com/>



A primary risk mitigator recognized by many banks and financiers are the IFC Performance Standards. IFC investment—preconditioned by a commitment to achieve the Performance Standards—can often signal reduced risk to other potential investors.

The eight Performance Standards outline requirements for IFC clients, provide guidance on how to identify risks and impacts, and help clients avoid and minimize risks and impacts as a way of doing business sustainably. The standards articulate what the client is expected to achieve in a reasonable period of time with respect to assessing and managing their environmental and social risks. The Performance Standards include stakeholder engagement, disclosure obligations of the client in relation to project-level activities, and requirements for the client's primary supply chain.

Enhanced Reputation and Better Market Advantage

Having an effective E&S risk management strategy and system can position a commodity producer or processor in the supply chain as a trusted supplier, reducing risk to buyers and building the brand value of the business. Alignment of businesses in this way allows suppliers to take a leading position and anticipate future demands, generating opportunities for first-mover advantage.

E&S risk management can also reduce the likelihood of unforeseen problems, in turn reducing the need to divert resources to reputational “fire fighting.” Furthermore, even if unforeseen E&S problems do emerge, having a clear approach to E&S management can provide the necessary room for maneuver with customers to allow trading to continue while remedial actions are carried out.

In political terms, effective E&S risk management in the supply chain can support a company's social license to operate with local and national governments. Good self-regulation can offer policy makers an alternative to introducing new, costly restrictions and regulations of commodity sectors to deal with poor practice.

Security of Supply, Supplier Competence, and Loyalty

Part of the value created through effective E&S risk management is a more secure supply base, built on competent and trusted suppliers. Commodity companies are operating in increasingly competitive markets in a world where

supply is constrained and emerging economies are moving swiftly to secure their commodity needs. Companies are reintegrating their supply chains to secure sufficient volumes and reduce their exposure to volatile spot markets.

E&S risk management can therefore change supplier relationships by formalizing them with long-term expectations regarding sustainability. Typically, suppliers first view such unfunded demands as an inconvenience. If a business invests in suppliers to help them on the journey, then attitudes towards E&S performance can be seen as mutually beneficial and a component of healthy trading relationships, which build trust and stability. Suppliers can become more competitive, reduce *their* risk, and potentially gain access to more competitive supply chain finance.

One way commodity traders can secure volumes is through innovative supply chain finance. If through E&S risk management they can offer their suppliers more favorable interest rates, then those rates can strengthen supplier loyalty. Commodity traders and processors who work with financial institutions to create such sustainable supply chain finance actually offer a business opportunity for financial institutions. This does not reduce the importance of cooperatives and other producer organizations becoming professionalized over time to directly access bank loans at commercial rates.

Improving Compliance with Legislation and “Soft” Law

Strategies for risk management that upgrade the sustainability of production can reduce future costs of bringing the supply chain into compliance with legislation and “soft” law—the quasi-legal principles, standards, and codes of practice often associated with sustainability and food safety. This can potentially “future-proof” supply chains so they are ready to respond to market opportunities.

For food safety, the Codex Alimentarius International Food Standards (CODEX) and sanitary and phytosanitary (SPS) requirements have “hard” law characteristics. In terms of E&S instruments, compliance is mandatory in only a limited number of agro-commodity markets, such as feedstock for biofuels in the European Union that are required to comply with the Renewable Energy Directive (RED). But perhaps more significant are the voluntary codes and standards whose importance is increasingly recognized by consumers and by major food brands and companies.

Cost Savings from Gains in Efficiency and Productivity

Effective E&S risk management can make a supply chain more transparent and expose key vulnerabilities. Addressing those vulnerabilities—whether labor compliance or stewardship of natural resources in the supply chain—can improve efficiency and prevent disruptions to supply.

Product quality and innovation can also benefit, with a potential for price premiums in the market. Improvements in workforce motivation, productivity, and retention are potential outcomes, along with improved community relationships around production and processing sites. A recent preliminary review of the costs and benefits of certification by the Roundtable for Sustainable Palm Oil (RSPO), for example, showed major reductions in social conflict and associated costs (including US\$10–15 million in 10 years for a single estate), and reduced input costs (e.g., US\$250,000 in pesticide costs per year).⁷ Efficiency and productivity are particularly relevant in a smallholder supply chain.

Improved supply chain management can also reduce the need for investment in multiple sourcing sites, to spread out the risks of supply disruption. There are risks, however, to consolidating the supplier base, particularly a loss of flexibility, supply concentration (and associated weather, political, foreign exchange, and transport risks), and a potential change in negotiating position. The challenge of losing business flexibility is a theme throughout this Handbook and a reason why leverage (or the lack of it) is such an important element of E&S risk management strategy. Leverage is discussed in more detail in **Toolkit 1: Assessing E&S Risk and Leverage in a Supply Chain**.

Good E&S risk management may be able to address other avoidable operational costs, and companies are encouraged to analyze the financial value to operations of E&S risk management activities. That value may include, for example, increases in employee productivity through better health and safety practices, or avoidance of civil unrest and expensive operational closures through good community relations. IFC supports this approach through its Strategic Community Investment⁸ work, and guidance and toolkits are available.

⁷ WWF Market Transformation. February 2012. Commodity Standards Update—Quarterly Update for Financial Institutions.

⁸ www.ifc.org/HB-CommunityInvestment

Limits to the Business Case

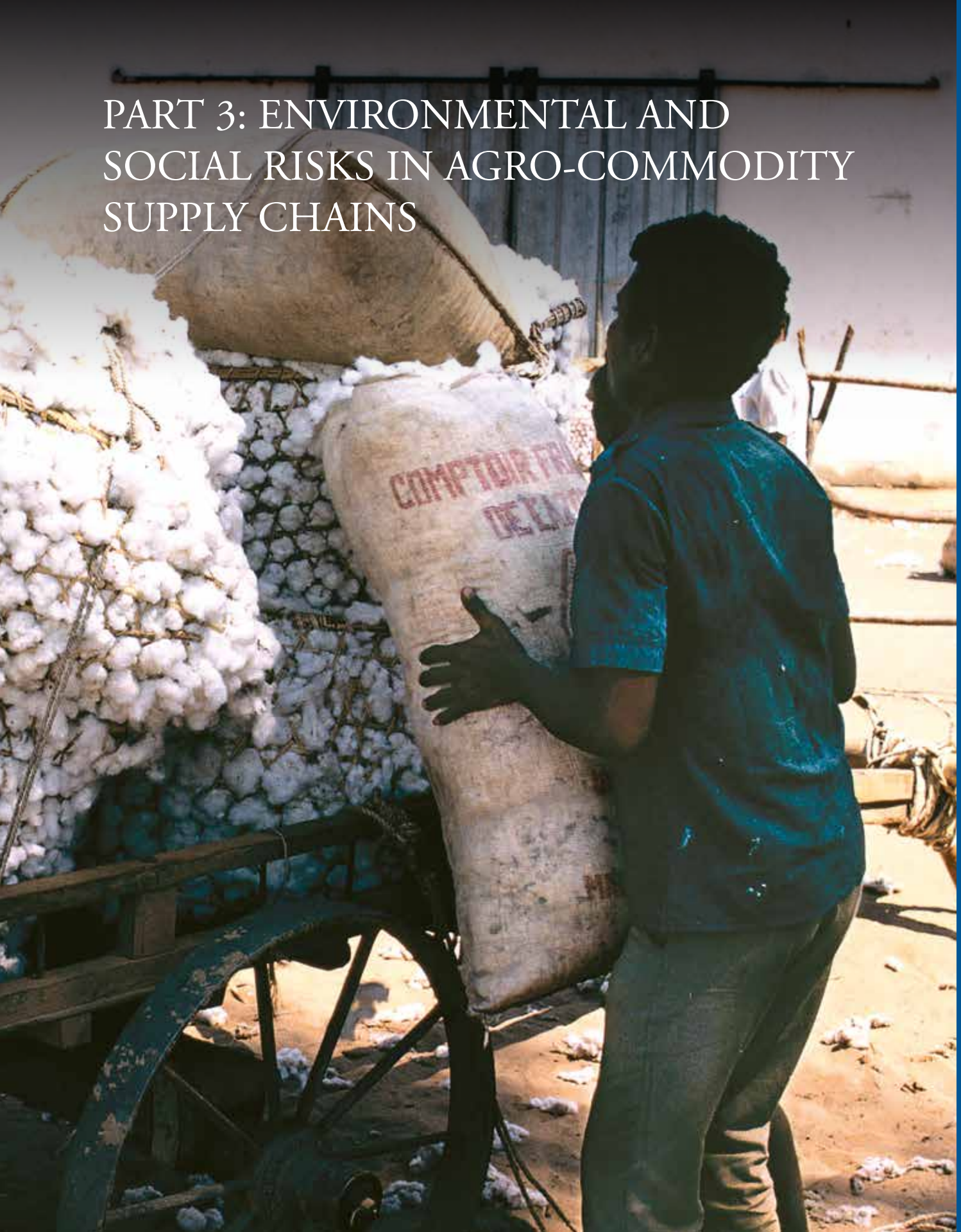
It is important to note that empirical evidence that investment in E&S risk identification and management delivers win-win benefits in terms of business value is not clear-cut and will depend on where the company sits in the value chain in relation to its competitors and its buyers.⁹ Investing in E&S performance in the agro-commodity sector may entail increasing costs to suppliers without immediate economic incentives to support those costs. When companies—even large ones in a dominant market position—try to enforce standards by themselves, they may be unsuccessful simply because agro-commodities markets are so competitive that producers will often find a buyer that does not impose standards. Instances where consumers are willing to pay more for sustainability certification have historically been limited to niche markets. It is important to note though that such niche markets, particularly in some developed countries, are growing.

The strength of the business case often depends on the specific commodity—its supply structure, demands of consumers, and the degree of leverage that the supply chain actor has over primary production. For example, if a rice trader is not asked by its customers to set E&S compliance requirements, the trader is unlikely to pass any such requirements on to its suppliers, especially because rice has a highly dispersed smallholder production base. In this case, the trader's ability to exert leverage and control over the environmental and social impact of its suppliers is limited, and therefore the trader has not taken upstream E&S responsibility. Compare that with biodiesel factories in Germany, where 100 percent of the rapeseed feedstock must be certified to meet the requirements of the European Union's RED; here, trader-imposed standards on suppliers is the accepted way that the supply chain operates.

In limited cases, there may be a market premium for agro-commodities that have certain E&S characteristics. However, even where a premium is commanded, this may be done to cover compliance costs rather than to increase profit margin. Companies should exercise caution when making projections based on market premiums, as experience has shown that these premiums are often obtainable only in the short term for first movers, or in niche markets.

⁹ Of 194 articles analyzed in a 2011 study by the Network for Business Sustainability, only two “provided quantifiable estimates of the size and direction of the relationship between involvement with sustainable supply chain management and financial and operational performance indicators.” Much more common were “qualitative perceptions of likely or experienced benefits from sustainably managing international supply chains.” Brammer, S., S. Hoejmose, and A. Millington, 2011, “Managing Sustainable Global Supply Chains: A Systematic Review of the Body of Knowledge,” Network for Business Sustainability. <http://nbs.net/knowledge/topic-supply-chains/supply-chain/systematic-review>.

PART 3: ENVIRONMENTAL AND SOCIAL RISKS IN AGRO-COMMODITY SUPPLY CHAINS



PART 3: ENVIRONMENTAL AND SOCIAL RISKS IN AGRO-COMMODITY SUPPLY CHAINS

Scope of Environmental and Social Risks to Consider

When setting out to identify and manage risks in agro-commodity supply chains, it is useful to have a reference framework for determining which issues to consider. This Handbook focuses on hazardous/harmful child labor, forced labor, significant safety issues related to supply chain workers, and significant conversion of natural and/or critical habitats, as a framework for managing E&S risks. These are the supply chain requirements set out in IFC Performance Standards (see Box 2). However, companies can choose to include a wider range of issues when assessing E&S risks in their supply chain, and the approaches described in this Handbook can also be applied to those situations.

It should be noted that downstream companies, while often lacking direct control, are increasingly being asked by retailers and branded manufacturers to provide information about the E&S performance of primary producers in their supply chain. Each stage in the supply chain plays an important role in sending market signals to agribusiness companies and ultimately the farmers and plantation owners about good E&S practices in primary production. The toolkits provided in the later sections of this Handbook are designed for situations where agribusiness companies purchase from primary producers (and therefore exert reasonable management control), and situations where companies in the supply chain buy commodities (and therefore do not exert direct control over primary production).

Box 2. IFC Performance Standards: Supply Chains

There are eight IFC Performance Standards on Environmental and Social Sustainability. In three of them, certain sections detail the primary supply-chain-specific requirements relevant to IFC clients:

Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts. Where the client can reasonably exercise control, the client's risks and impacts identification process—the environmental and social management system (ESMS)—will include, as relevant, a supply chain component that considers the risks and impacts associated with its primary suppliers, as defined in Performance Standard 2 and Performance Standard 6. This component will incorporate the elements of policy, mapping, risk assessment, corrective measures, training, monitoring, and reporting. Where the client does not have control or influence over the management of certain environmental risks and impacts, an effective ESMS should identify the entities involved and the roles they play, the corresponding risks they present to the client, and any opportunities to collaborate with these third parties in order to help achieve E&S outcomes that are consistent with the Performance Standards.

Performance Standard 2: Labor and Working Conditions. The objective of Performance Standard 2 is “to protect workers, including vulnerable categories of workers such as children, migrant workers, workers engaged by third parties, and workers in the client's supply chain.” As part of an ESMS and subject to the client's level of control or leverage over its supply chain, the client will assess and document risks and impacts in its primary supply chain when there is the potential for child/forced labor or significant safety issues. The requirements set out in Performance Standard 2 are in part guided by a number of international conventions and instruments, including those of the International Labour Organization (ILO) and the United Nations (UN).^a

Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Performance Standard 6 covers direct and indirect project-related impacts on biodiversity and ecosystem services, and is based on the Convention on Biological Diversity. As part of an ESMS, the client must adopt a verification process to evaluate its suppliers of primary production, in order to demonstrate that raw materials are not being purchased from sources where there is significant adverse impact on natural and/or critical habitats. Again, the required actions depend upon the level of management control or influence over suppliers.

^a These Conventions are ILO Convention 87 on Freedom of Association and Protection of the Right to Organize; ILO Convention 98 on the Right to Organize and Collective Bargaining; ILO Convention 29 on Forced Labour; ILO Convention 105 on the Abolition of Forced Labor; ILO Convention 138 on Minimum Age (of Employment); ILO Convention 182 on the Worst Forms of Child Labor; ILO Conventions 100 on Equal Remuneration; ILO Convention 111 on Discrimination (Employment and Occupation); UN Convention on the Rights of the Child, Article 32.1; UN Convention on the Protection of the Rights of all Migrant Workers and Members of their Families.



Performance Standards supply chain requirements relate to two areas—Labor and Working Conditions (Performance Standards 2) and Biodiversity Conservation and Sustainable Management of Living Natural Resources (Performance Standard 6), which should be implemented through the client’s Environmental and Social Management System (Performance Standard 1). These requirements apply in certain risk situations, specifically:

- Where there is a high risk that primary suppliers are using (a) child labor that is inconsistent with Performance Standard 2 or (b) forced labor, IFC clients will identify whether these conditions exist within their primary suppliers and, if so, will take appropriate steps to remedy them and will monitor their primary supply chain on an ongoing basis to identify whether any new risks or incidents of child or forced labor are introduced.*
- Where there is a high risk of significant safety issues for workers in primary production, IFC clients will introduce procedures and mitigation measures to ensure that primary suppliers are taking steps to prevent or to correct life-threatening situations.*
- IFC clients that purchase from primary producers located in areas of natural or critical habitat will limit procurement to those suppliers that can demonstrate that they are not contributing to significant conversion of natural or critical habitats. Certification or progress towards verification or certification under a credible system may be ample evidence.*

Hazardous Child Labor

Child labor is defined by the International Labour Organization (ILO) as “work that deprives children of their childhood, their potential and their dignity, and that is harmful to their physical and mental development.”¹⁰ Long working hours, extenuating jobs, harmful activities (e.g., working with machines and machetes), exposure to hazardous materials, absence of adequate adult supervision, and impediments to engaging in formal education are all examples of hazardous child labor. In the worst cases, children may be enslaved, separated from their families, or exposed to serious dangers and illnesses.

However, not all work done by children is harmful. Situations where children work with their parents or participate in work that does not affect their health and/or personal development are generally tolerated, provided no hazardous

¹⁰ ILO, <http://www.ilo.org/ippec/facts/lang—en/index.htm>, accessed on February 29, 2012.

work is involved and children are laboring on family or small-scale holdings that produce for local consumption. Child labor on large farms producing for commercial purposes is not allowed by ILO Conventions, nor is the employment of children as regular hired laborers. Therefore, the concern regarding the use of child labor in agro-commodity production falls within the realm of hazardous labor in commercial agriculture, as does the work of children who are engaged in any form of hazardous activity.

According to ILO Convention 38, countries are free to specify a minimum age for labor of 15 years. A declaration of 14 years is also possible when limited to a specified period of time. Laws may also permit light work for children age 13–15 (not harming their health or schoolwork). The minimum age of 18 years is specified for work that “is likely to jeopardise the health, safety or morals of young persons.”

Following are some of the forms of child labor found in agriculture supply chains (see an example in Box 3):

1. **Underaged workers recruited to join the workforce:** There is greater risk of this occurring in areas that have higher poverty levels. In extreme cases, governments in some countries may mobilize children for agricultural labor, such as picking cotton.
2. **Underaged workers working unofficially:** This is often seen with children of workers who accompany their parents into the fields and plantations and (even if not initially intended) help them with “light tasks” such as fruit picking or application of manure. Parents may view this situation as unavoidable, particularly if child care facilities are unavailable in the plantation areas. There are strong risks that this practice may be overlooked by companies, as work is perceived to be done more efficiently. This risk poses a greater threat in situations where there is limited or no access to education or other activities for children.
3. **Underaged workers forge identification to attain work:** There is risk of children forging identification to appear of legal age so that they can be hired as laborers by plantation companies. This can occur in situations where migrant workers illegally bring their children from their respective countries or where migrant workers give birth to children during their work stay at the

plantations. Children who lack legal identification may be more susceptible to lying about their age to attain work. This likelihood is sometimes accepted and overlooked by companies, particularly those that face labor shortages. There is greater risk of this in areas where there is limited or no access to education for children.

4. **Children working with their parents:** This is common in traditional, family-based societies, typically in developing countries. This type of child labor is detrimental to children if they are exposed to hazardous work and/or the work limits their ability to engage in formal education. However, according to the ILO, “participation in work that does not affect their health and personal development or interfere with their schooling is generally regarded as being something positive.”¹¹

Box 3. Case Study: Risks of Child Labor in Sugarcane Primary Production

Child labor is common in some countries’ sugarcane industry, where children accompany their parents and take part in the planting, cultivation, harvesting, and primary processing of sugar cane. Such settings expose children to significant hazards, including bites from insects or snakes, skin cuts from tools or plants, and health damage from exposure to chemical and fertilizers. A recent report by Ethical Sugar cites cases in which the children’s use of tools meant for adults has resulted in the loss of fingers or limbs, and even death.^a

Although the numbers of children working on the sugarcane harvest appear to be decreasing, there have been several high-profile reports of child labor on sugar plantations and this remains a key issue, notably in El Salvador and Bolivia. The ILO estimates that 5,000–30,000 children under 18 work on Salvadoran sugar plantations.

^a Trebilcock et al., 2011 Sugar Cane and Child Labour: Reality and Perspectives. Ethical Sugar. 2011. http://www.sucre-ethique.org/IMG/pdf/child_labour_07-2011_2_.pdf

¹¹ ILO, <http://www.ilo.org/ipecc/facts/lang—en/index.htm>, accessed on February 29, 2012.

Forced and Bonded Labor

The ILO Forced Labour Convention 1930 (No. 29) prohibits all forms of forced or compulsory labor, defined as “all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily.” For more information on which countries have ratified this Convention, visit the ILO website.¹² It is important to note, however, that ratification is not an indication of enforcement.

Risks of forced and bonded labor usually result from certain company recruitment practices and can involve debt repayments, a sense of desperation about finding work and shelter, and a lack of leverage to negotiate better working conditions.

Cases of forced and bonded labor are most commonly connected with the illegal migrant workforce; however, this is not always the case. Bonded labor can occur when contracts are formed between agents and companies rather than with individuals. Risks arise when companies pay up front for agents and legal fees, with the costs to be deducted from workers’ salaries, with little to no clarity about when and how these loans are to be repaid. Movements of bonded workers will often be restricted, with companies withholding workers’ passports and identifying documents. Most contracts will not have early “breakout” clauses.



IFC Performance Standard 2 states that where there is a high risk of child labor or forced labor in the primary supply chain, the IFC client must identify risks of employment of children in an economically exploitative or hazardous manner that interferes with the child’s education or is harmful to the child’s health or physical, mental, or spiritual development. The client must also identify risks of any work or service that is not voluntarily performed or that is exacted from an individual under threat of force or penalty. If child labor or forced labor are identified, then the client must take appropriate steps to remedy them.

The primary supply chain is defined as those suppliers who, on an ongoing basis, provide goods or materials essential for the core business processes of the project.

¹² <http://www.ilo.org/ilolex/cgi-lex/ratific.pl?CO29>

Significant Safety Issues Related to Supply Chain Workers

Risk to worker safety can arise through agricultural practices, includes work place incidents or fatalities. The principal causes of work-related incidents or fatalities are exposure to hazardous agrochemicals, crushing and use of unsafe equipment, noise, heavy loads, extreme temperatures, road incidents, and limited access to personal protective equipment (PPE). Workers across a variety of agricultural production models are often exposed to chemicals, particularly those associated with higher-risk jobs, such as pesticide and herbicide sprayers, fertilizer applicators, and harvesters. Box 4 provides an example in the cocoa sector. Health risks associated with these jobs can arise for the following reasons:

- Use of chemicals that are internationally banned according to the World Health Organization.
- Limited or no access to PPE, which increases the exposure risks.
- Lack of awareness and/or understanding of the risks related to the work (in cases such as this, workers who have access to PPE may choose not to wear it, particularly if it gets in the way of their work performance and/or is uncomfortable to wear).

There are also risks that safety procedures and incident prevention measures are either not developed or not effectively enforced. Storage and disposal of chemical containers, especially on family farms, also represents a risk to child and community health.

Box 4. Safety Issue in the Cocoa Sector

Cocoa farmers use a range of pesticides to minimize losses from pests and diseases. Some most commonly used, including copper sulfate and paraquat dichloride, can be hazardous to human health if not handled properly. In Nigeria, a study found that 96 percent of farmers use pesticide on their cocoa farms; the majority of those pesticides are classified either as “highly hazardous” or “moderately hazardous.” Of this 96 percent, only 44–46 percent of farmers and farm workers were aware of how to apply the pesticides safely and correctly in accordance with the instructions. Common illnesses resulting from these incorrect practices among cocoa farmers and laborers in Nigeria include headaches, vomiting, and skin problems (Tijani 2006).



IFC Performance Standard 2 defines “supply chain workers” as those workers engaged by a primary supplier of the IFC client. Primary suppliers are those suppliers who, on an ongoing basis, provide goods or materials essential for the core business processes of the project. Where the IFC client has a high degree of leverage and influence, the client is expected to effect change, if needed, with the producer. Where the IFC client does not have leverage or influence and they face these risks in their supply chain, they are expected to reduce risk by changing suppliers as needed.

Significant Conversion of Natural and/or Critical Natural Habitat

As pressure to secure and increase agricultural yield grows, the agriculture sector has become a major player in the destruction of natural ecosystems and species extinctions. Risks are particularly high for large-scale industrial agriculture, where methods to maximize agricultural productivity conflict directly with efforts to maintain biodiversity. Such methods include, for example, expansion into previously marginal areas and conversion of remaining natural habitats, removal of remnant seminatural vegetation corridors and other “islands” of managed noncrop vegetation, intensive chemical management, and reduction of “rest periods” and crop rotations (see Box 5).

Key areas of risk include the following:

- **Deforestation and habitat conversion for agricultural activities.** This is overwhelmingly the most significant driver of biodiversity and ecosystem loss associated with agro-commodity production. This risk is becoming more extreme as agricultural demand increases under pressure to find more land suitable for farming.
- **Habitat fragmentation.** Fragmentation of natural landscapes decreases the area of habitat available, increases disturbance within remaining habitats, and makes species more vulnerable to local extinction.
- **Land use intensification.** Within traditionally managed farming landscapes, maintenance of a great number of species and seminatural habitat types relies on the continuation of low-intensity agricultural practices.
- **Agricultural pollution.** Components and impacts of agro-commodity production, such as damage to biodiversity and habitat quality (e.g., pesticides, nutrient discharge, erosion).
- **Increased access to remaining natural habitats.** Once natural land is cleared for cultivation and access paths and roads are open, hunting and wild plant collection may intensify dramatically, as is commonly seen in tropical settings. The Key Concepts box on page 24 provides definitions for categories of habitats recognized by IFC.

Box 5. Conversion of Natural Vegetation: Soy, Cocoa, and Coffee

CONVERSION OF CERRADO FOR SOY CULTIVATION

The main environmental concerns associated with soy production include the impacts on natural resources and deforestation. Increasing demand for land for soybean production is resulting in significant deforestation and subsequent biodiversity loss, often indirectly through displacement of existing agriculture and cattle ranching.

The Cerrado area in the center-west states of Brazil has been a major zone for agricultural expansion in Brazil over the past decade. The Cerrado is a vast region (about 2 million km²) of grassland, scrublands, and woodlands that is rich in plant species (estimated at 11,000 species, about 44 percent of which are endemic) and supports about 1,600 animal species. With the exception of ranching, the Cerrado was virtually unexploited until technological developments and large-scale use of chemicals and soil lime made the region suitable for agriculture. It is currently estimated that approximately 50 percent of the Cerrado biome has been converted to agriculture, with the remainder being very fragmented (World Wildlife Fund, 2011). Only 3 percent of the Cerrado is under strict protection, and more than 6 million hectares are farmed mostly for soy (albeit largely under zero-tillage systems) representing almost half of the Cerrado's arable area (Federação Brasileira de Plantio Direto 2009). Aggressive expansion and conversion of land continues, particularly for soybean production, with states including Piauí and Bahia estimated to have 1 million hectares of land under consideration for conversion. This is also happening with other commodities—a recent study reported that 20 percent of areas identified as being of high biological importance by the Brazilian Ministry of Environment are in the Cerrado, 70 percent of which overlap with potential areas for sugarcane expansion but are not currently protected (UNEP-WCMC 2009).

ESTABLISHMENT OF COFFEE AND COCOA PLANTATIONS

A major environmental challenge for the coffee industry is deforestation and resulting biodiversity and ecosystem loss. Within the last 30 years, higher-yielding varieties of coffee requiring sunlight have been developed (in contrast to traditional varieties intolerant of direct sunlight) and are being planted in response to the rapid global rise in coffee consumption, resulting in increasing forest loss. The impact of plantation type on biodiversity is therefore significant. Looking at birds as an example, shade-grown coffee fields shelter up to two-thirds of bird species found in natural pristine forests of the same geographic areas, whereas sun coffee fields shelter less than one-tenth of those bird species. Of land transformed for agriculture, that used for shade-grown coffee can support the highest diversity of migratory birds and native flora and fauna (Perfecto et al. 1996, Greenberg et al. 1997).

A major environmental risk from cocoa production is the deforestation and degradation of tropical rainforest areas, notably in West Africa. Like coffee, cocoa can be cultivated in the shade of native canopy trees and maintain a natural forest landscape. However, many farmers are now replacing native cocoa with hybrid plants that produce faster without shade, bringing short-term benefits of higher yields, though these hybrids require more fertilizers and herbicides, which also increase erosion and run-off.



IFC Definitions of Habitat Types

Modified habitat—“areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area’s primary ecological functions and species composition. Modified habitats may include areas managed for agriculture, forest plantations, reclaimed coastal zones, and reclaimed wetlands” (IFC Performance Standard 6, 2012, paragraph 11). It is important to note that the IFC client should minimize impacts to areas of modified habitat that include significant biodiversity value.

Natural habitat—“areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area’s primary ecological functions and species composition” (IFC Performance Standard 6, 2012, paragraph 13).

Critical habitat—“areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes” (IFC Performance Standard 6, 2012, paragraph 16).



IFC Performance Standard 6 is focused on biodiversity conservation and sustainable management of natural living resources. Where IFC clients are sourcing directly from primary producers—e.g., farmers or plantation owners—they must consider the “risk of significant conversion of natural and/or critical habitats.” Where there is high risk of land or habitat conversion of these sensitive areas, IFC clients are required to identify the habitat type where the supply is coming from. When such risks are found, a management process is required. Where the IFC client does not have leverage or influence and they face these risks in the supply chain, the client should lower the risk by changing suppliers as needed.

IFC clients purchasing from companies engaged in refining, processing, and other such industries should consider the risk of sensitive habitat conversion as part of their ESMS.

PART 4: ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEMS

PART 4: ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEMS

An environmental and social management system (ESMS) is a dynamic and continuous process initiated and supported by a company to manage E&S risks in a structured way on an ongoing basis. Businesses that do this promote sound and sustainable performance, which can lead to improved financial, social, and environmental outcomes.

Management systems can be used as a framework for integrating social, labor, environmental, and other nonfinancial standards with quality systems, which many companies already have in place in some capacity. Linking quality, environmental and/or social management systems can deepen the integration of risk mitigation and standards performance into a company's business operations. It can also help a company see more bottom-line business benefits and convert E&S risk management from a cost to an investment. An ESMS also links a company's suppliers and contractors with *their* suppliers.

Change is a constant in any company. This underlying management system creates a framework for sustainability in the ever-changing business environment. A company is always balancing risk and control—it is the policies and procedures of a management system, as well as specific guidance tools, that provide continuity.¹³



ESMSs are the focal point of Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts. Performance Standard 1 includes the elements—policy, identification of risks and impacts, organizational capacity, emergency preparedness and response, stakeholder engagement, and monitoring and review—that are key to an effective ESMS.

IFC clients, in coordination with other responsible government agencies and third parties as appropriate, should conduct a process of environmental and social assessment, and establish and maintain an ESMS appropriate to the nature and scale of the IFC-funded project and commensurate with the level of its E&S risks and impacts. Where the IFC client can reasonably exercise control, the risks and impacts identification process should also consider those risks and impacts associated with primary supply chains, as defined in Performance Standard 2 and Performance Standard 6.

¹³ Adapted from “Measure and Improve Your Labor Standards Performance: Performance Standard 2 Handbook for Labor and Working Conditions.” IFC and Social Accountability International, 2010.

Understanding ESMS

At the broadest level, a management system begins with policies and procedures—documents. It is also made up of trained people with specific functional responsibilities.

- Policies are an important statement of a company’s philosophy and intention that help to guide decisions of employees at all levels. They facilitate communication between management, workers, board, suppliers, contractors, customers, and all the other stakeholders.
- Procedures are the “how to” guide to implement the policies. They state the actions a company is going to take and serve as step-by-step instructions for workers, supervisors, and managers. Clear, detailed procedures help to embed a company’s E&S policies into its daily operations.

Policies and procedures must be clearly written and clearly communicated—in all relevant languages—to workers at all levels of a company. A well-documented management system is worthless if not well-implemented, and must result in trained, committed people routinely following procedures.



KEY CONCEPTS

Guiding Principles for Effective ESMS:

- Senior management must be committed and actively engaged in the management system.
- Senior management should endorse, review, and adjust policies from time to time.
- All policies and procedures must be easy to understand and clearly communicated.

Embedding E&S risk management strategy, policy, and procedures throughout and across a company’s internal management systems ensures E&S risk management is integrated and reflected in mainstream business operations. Structuring it this way helps to ensure that a particular strategy, policy, or procedure is effective and achievable, and connects with business value (see **Part 2: The Business Case for Managing E&S Risk in Agro-commodity Supply Chains**). It also helps streamline and facilitate effective stakeholder engagement and corporate communications.

The ESMS approach draws on elements of the established business management process of “plan, do, check, act” and applies to business activities with environmental and/or social risks and/or impacts.

Plan—establish objectives and establish management programs with measurable action plans (analyze the company’s situation, establish overall objectives, set interim targets, and develop action plans to achieve them).

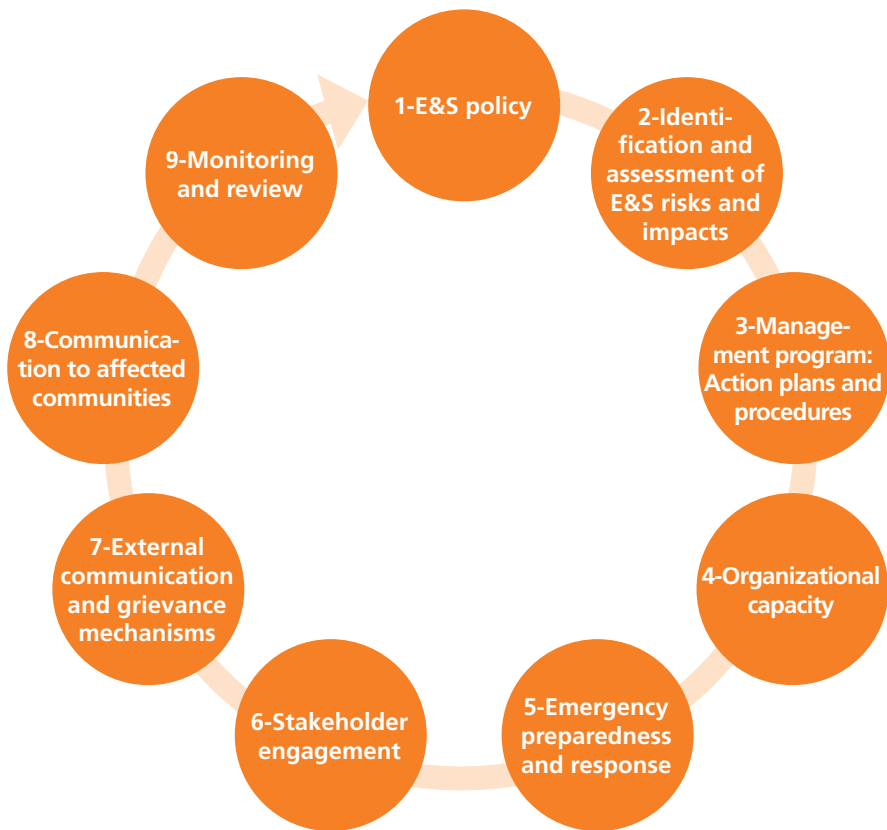
Do—implement the plans (do what you planned to).

Check—measure results (monitor against baseline measurements how closely actual achievements meet planned objectives).

Act—correct and improve plans and their implementation.

Figure 1 illustrates the elements of an ESMS as described by IFC Performance Standard 1.

FIGURE 1. ELEMENTS OF AN ESMS



ESMS Implementation Team

It is crucial that there is clear responsibility for implementation of policies and procedures for managing E&S risk in a company and in its supply chains.

Depending on the size of the company and the management structure, leading the implementation can be part of an existing function or a new position. It may be appropriate to have at least one person dedicated to developing and implementing the approach, particularly when there are thousands of suppliers. It may be necessary to split responsibility for managing the E&S risks within a company's operations and the E&S risks in a company's supply chains. For example, a company operating a processing facility may have a health, safety and environment manager responsible for ensuring responsible operations of the facility, and a procurement manager responsible for managing the E&S risk of upstream suppliers.

Examples of existing job functions that may include managing E&S risk are:

- Sustainability manager
- Corporate social responsibility manager
- Health, safety, and environment manager
- Occupational health and safety manager
- Procurement manager
- Quality manager

Management commitment and accountability are critical to the success of whatever strategy is adopted. Resources and responsibilities will need to be aligned to respond to the risk management strategy. Those in charge of procurement and sourcing should be tasked and incentivized to respond to E&S risks. It is essential that strong leadership is provided to drive an integrated sustainable sourcing policy with goals shared among key departments. This will involve collaboration across divisions and changes to incentive systems. Generally it is the procurement officers (buyers) in a company who need to implement the sustainable sourcing policy, but they respond to different signals than the marketing or external affairs divisions. Leadership at the senior levels of a company is therefore crucial to ensure unified actions across the business.

To ensure effective implementation, E&S risk management approaches should be integrated into core job functions and operating procedures (see Box 6). As part of this process, it is important to identify the human resources to implement the approach and whether additional staff are needed to support implementation (see also **Toolkit 1: Managing E&S Risk in a Supply Chain**).

Box 6. Roles of the Team

- Develop and implement policies and procedures.
- Conduct internal audits as per management system guidelines.
- Participate in management review.
- Conduct management and worker training.
- Manage suppliers and contractors.
- Engage stakeholders.
- Coordinate with customers and investors.
- Connect internal departments such as purchasing, production, marketing, and human resources.

Engagement of senior-level management is crucial, as is effective stakeholder engagement. Stakeholder engagement provides the basis for building strong, constructive, and responsive relationships that are essential for the successful management of a project's E&S risks and impacts. It is good practice for companies (and in some cases, as with the IFC Performance Standards, a requirement) to engage with suppliers about their responsible sourcing policy and commitment to sustainability. Engagement efforts should address a variety of stakeholders: suppliers as well as relevant institutional actors, including governments, third-party certifiers, and industry and sector associations.



ADDITIONAL RESOURCES

Developing an ESMS system does not require certification; however, companies may find it useful to frame their approach with credible, internally recognized standards. ESMS certification may also form part of supplier codes of conduct and may provide market access.

Note that ESMS standards and certification do not prescribe E&S requirements. It is up to the company to establish the requirements most relevant to their region, commodity, and business interest.

The **ISO14000** Environmental Standards series, developed by the [International Organization for Standardization](http://www.iso.org/iso/home/standards/management-standards/iso14000.htm) (ISO), are internationally recognized, voluntary, environmental management standards. ISO 14000 certification is undertaken by accredited auditors.

<http://www.iso.org/iso/home/standards/management-standards/iso14000.htm>

The **ISO 9000** Quality Management Systems series, developed by the ISO, are internationally recognized, voluntary, quality management standards. ISO 9000 certification is undertaken by accredited auditors.

http://www.iso.org/iso/iso_9000

EMAS is the Eco-Audit and Management Scheme, a voluntary scheme introduced by the European Commission (EC), and set out in European regulation. Company systems are validated by accredited auditors and registered in a central system.

http://ec.europa.eu/environment/emas/index_en.htm

In June 2010, IFC published “Measure & Improve Your Labor Standards Performance” to guide the implementation of IFC’s Performance Standard 2. The handbook, which includes detailed guidance on setting up an internal labor standards performance team, is intended to provide an understanding of the management systems and internal staff capabilities required for improving labor standards performance in a company and its supply chain. The handbook was developed in collaboration with SAI (Social Accountability International). It is available online: www.ifc.org/HB-LaborStandardsPerformance

PART 5: CASE STUDIES: ENVIRONMENTAL AND SOCIAL RISK ASSESSMENT AND MANAGEMENT IN AGRO-COMMODITY SUPPLY CHAINS



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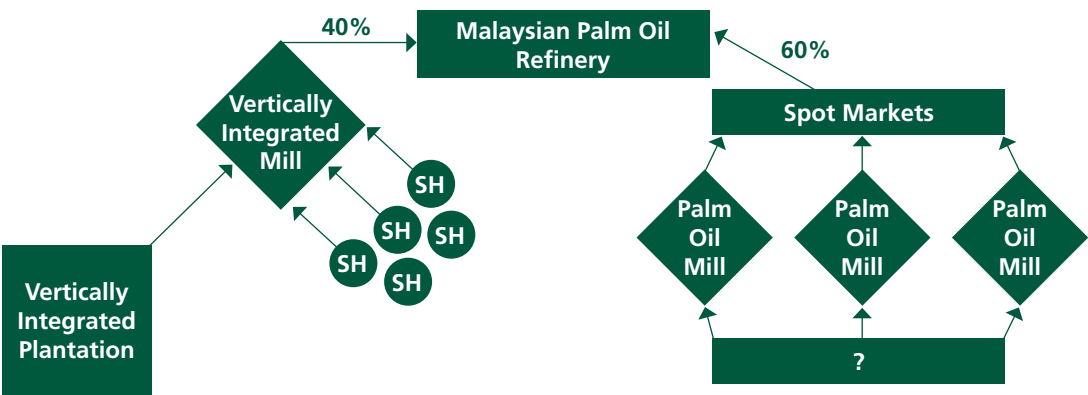
The following case studies are for illustrative purposes. Companies should not rely on the assessment methodology and associated risk ratings presented here; instead, they should undertake their own research to determine the risk a particular commodity/country combination presents.

CASE STUDY 1: MALAYSIAN PALM OIL

Local palm oil refinery sourcing the majority of its crude palm oil through the spot markets

A midlevel Malaysian palm oil company owns a palm oil refinery, located in Peninsular Malaysia, sourcing 40 percent of its total crude palm oil (CPO) volume from vertically integrated CPO mills under its ownership. These CPO mills source fresh fruit bunches (FFB) from a combination of the company’s own plantations (70 percent) and through a government-supported smallholder scheme. The remaining 60 percent of CPO volume is sourced from mills outside the company’s ownership, and no information is held about the supply base supplying each of these mills or the possible sourcing from smallholders. The company buys CPO from these mills through spot market transactions and is among many refineries sourcing product from such mills. This is illustrated in Figure 2.

FIGURE 2. ILLUSTRATIVE SUPPLY CHAIN DIAGRAM FOR A MALAYSIAN PALM OIL COMPANY



SH = Supported smallholders

There are serious concerns regarding the environmental sustainability of palm oil production, particularly in Southeast Asia. There have been many cases of destruction of natural and critical habitat and its conversion to oil palm plantations. This threatens biodiversity and ecosystem services including carbon sequestration. Social risks of oil palm production center on labor in plantations and on smallholder farms, as well as the absence of clear land titling, which has led to local conflict.

The palm oil company is increasingly engaged in trading palm oil to international clients in the European Union and the United States, where calls for greater sustainability are strongest.

A. The first step in an ESMS is to “PLAN”:

Policy

To begin managing E&S risks associated with palm oil production, the company put in place a companywide responsible sourcing policy. This policy is binding on its own mills to ensure that palm oil is sourced in a sustainable manner, and also applies to CPO sourced elsewhere. The mills have taken steps toward working with government-supported smallholders through regular field visits, capacity-building measures, and financing that rewards continued good performance. As such, all CPO originating from its own mills is certified to the sustainability standards of the Roundtable on Sustainable Palm Oil (RSPO).

However, the palm oil company remains concerned that the majority of its CPO is sourced from operations outside of its direct control. As such, it currently has no way to enforce its policy with CPO sourced from other than its own mills and is looking at alternative strategies to manage E&S risks in its supply chain.

Identification and Assessment of Supply Chain Risk

Given the company’s experience with sustainability initiatives in palm oil, it has a good understanding of the critical sustainability issues. For its vertically integrated supply chain, the presence of the RSPO certification (with independent audits) acts to lessen the overall risk.

However, as the company has no direct knowledge of the source of CPO from spot markets, it undertakes a desk review of sustainability issues in West Malaysia. To supplement this desk research, the company contacts leading experts for interviews and additional evidence on specific challenges in the area. The company makes use of information sources managed by the RSPO.

The critical supply chain risks in palm oil production in West Malaysia are illustrated in Table 1.

TABLE 1. SUMMARY OF RISKS: WEST MALAYSIA/PALM OIL EXAMPLE

	Child labor, forced labor, and significant safety issues of supply chain workers	Significant conversion of natural and/or critical habitat	Overall risk rating
West Malaysia Palm Oil - General	High risk	High risk	High
West Malaysia Palm Oil – Vertically integrated plantations	Low risk	Low risk	Low

The combination of commodity and country risk gives an overall risk rating of **high risk for the CPO sourced from spot markets, and low risk for their vertically integrated plantations.**

The lack of traceability through the spot markets, which is where the company sources the majority of its CPO, amplifies the risk from spot buying.

Leverage

The trading relationships that the palm oil refinery has with its two sources of supply (vertically integrated mill and spot market) define its leverage. For its vertically integrated mill, it has a high degree of leverage.

For CPO sourced through the spot market, the company has low leverage over its suppliers given that it does not know who they are. There is a lack of traceability, and the highly competitive nature of the CPO spot market reduces this leverage further, because even if the company could identify each supplier, those suppliers may not readily agree to changing practices, if needed, because they can simply sell to another company.

B. The second step in an ESMS is to “DO”:

Management strategies are determined by the level of risks and leverage.

For its vertically integrated mill, the company already has a well-developed system for managing risks, in the form of RSPO certification and audit. This should be continued and monitored regularly. However, for CPO sourced through the spot market (the majority of its supply), the company faces a high level of supply chain risk.

Owing to the nature of the risk, as well as the company's experience with certification, the company could consider switching the source of supply away from the spot markets towards alternative certified palm oil mills. It may also look into investing in its own mills, so as to increase the amount of RSPO-certified FFB that it sources from its own mill.

The company may also consider selecting suppliers on the basis of their E&S risk management systems and performance. The company can draw up a supplier code of conduct, and engage with potential suppliers and require them to self-assess their systems against this code. This self-assessment can be followed up by a process of interviews and auditing.

C. The third step in an ESMS is to "CHECK":

For the company's own vertically integrated mills, internal systems can be used to document the results of third-party audits from the RSPO, volumes of RSPO CPO produced, and any issues relating to sustainability risks that arise.

The process of switching and selecting suppliers on the basis of their E&S risk management performance needs to be documented and reported to appropriate stakeholders. Suppliers need to disclose E&S risk management performance. When the risk rating is high, disclosure can be followed by regular supply chain auditing and field-level appraisal.

D. The final step in an ESMS is to "ACT":

Review actions will vary depending on the success of switching supply to alternative sources and the progress made in improving the performance of the sector as a whole. If the risk has heightened, then the option of working indirectly needs to be reviewed urgently and greater efforts to source from certified or preferred suppliers will need to be made. Working indirectly is likely to take time and as such is vulnerable to heightened risks.

Moving away from the spot markets can potentially affect the smallholder inclusiveness of palm oil markets. To counter or mediate this impact, the company can support the RSPO efforts to include smallholders in the system, for example, through the work of the RSPO Smallholder Taskforce. The company may also investigate ways of working with smallholders in lower-risk uncertified markets as well.

CASE STUDY 2: TANZANIA SUGAR

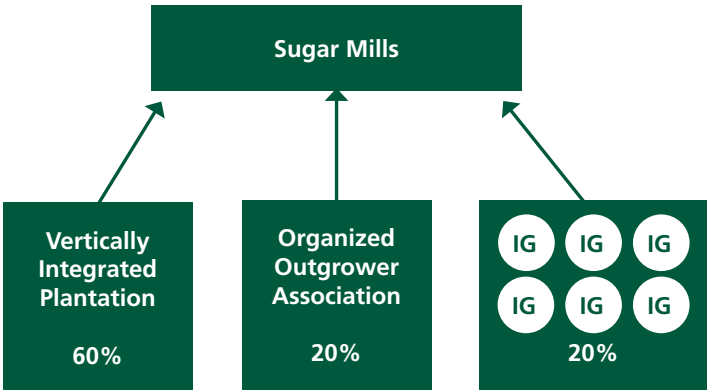
Sugar mill with 60 percent own production and 40 percent external suppliers

Tanzania is home to three main sugar producers. One such company owns two major sugar mills in the country and sources the majority of its sugarcane through its own vertically integrated plantations (60 percent). However, to increase its processing efficiency, the company also sources additional sugarcane from an organized outgrower scheme (20 percent) that it administers, as well as sourcing the rest of its sugar cane needs from other independent growers (IG) (20 percent). This is illustrated in Figure 3.

The outgrowers are organized into two groups, one for each of the sugar mills. These groups have several thousand members each. The groups act to aggregate supply of sugarcane from producers and sell their cane to the company’s mills on a contractual basis with predetermined prices. The company provides extension services and facilitates access to inputs for the growers associations. Both of these associations are members of the Tanzania Sugar Growers Association (TSGA) and are regulated by the Tanzania Sugar Industry Act of 2001.

Additional volumes are purchased from independent regional growers supplying the two mills. These independent growers are often smallholders growing sugarcane as a cash crop. All external growers also have the option of supplying sugar mills operated by other companies.

FIGURE 3. ILLUSTRATIVE SUPPLY CHAIN DIAGRAM FOR TANZANIA SUGAR



IG = Independent growers

Sugar production is associated with seasonal labor at planting and harvesting, which often includes poor working conditions. The company has a major influx of seasonal labor on its own plantations that must be managed accordingly.

A. The first step in an ESMS is to “PLAN”:

Policy

The company, concerned about labor risks that could affect the security of supply for its processing facilities, develops a policy to minimize the risks associated with labor in its supply chain.

Risk Identification

The company conducts a supply chain mapping exercise to understand as much as possible about the source of its supply, and any associated environmental and social risks. The company directs a team to conduct a desk review on labor issues in sugar production. The team uses key sources of information such as reports by Ethical Sugar and Bonsucro as well as a number of local and international reports from research organizations. This review points to some limited cases of poor labor and working conditions in sugar production in East and Southern Africa. These have been reported to cause unauthorized industrial action by both seasonal and permanent workers. However, labor issues in other parts of the company's supply chain remain unclear. To gather more information, the company administers a supplier questionnaire to the outgrowers association to identify main areas of concern. In addition, the company consults and interviews a number of national academics and trade union representatives to gather more information regarding general working conditions in sugar production in Tanzania. This additional, more tailored research finds that the risk of labor issues is quite elevated. Additionally, research about deforestation in Tanzania indicates that while there is a risk of conversion of natural and/or critical habitat, the outgrowers tend to operate on long-established plots. A summary is illustrated in Table 2.

TABLE 2. SUMMARY OF RISKS: TANZANIA/SUGARCANE EXAMPLE

	Child labor, forced labor, and significant safety issues of supply chain workers	Significant conversion of natural and/or critical habitat	Overall risk rating
Tanzania sugar-cane - Vertically coordinated plantations	Medium risk	Low risk	Medium
Tanzania Sugar-cane - Cooperatives	High risk	Medium risk	Medium–High
Tanzania Sugar-cane – Independent growers	High risk	Medium risk	Medium–High

The combination of commodity and country risk gives an overall risk rating of **medium risk for their vertically coordinated plantations** (due to major influx of seasonal workers), and a **medium-high risk for the cooperatives and independent growers**.

Leverage

The company has a number of trading relationships, which are the basis of the leverage assessment. The company has leverage over its own operations, which make up the majority of its supply. The company also has leverage with the outgrowers association as it buys the majority of those farmers' products and provides them with contracts to supply inputs and assistance. This is an example of leverage based on vertical coordination.

The company has low leverage over external growers, from which it sources 20 percent of its sugarcane supply. Although the basis for leverage is vertical coordination, the suppliers in this case are easily able to sell to others. This means the buyer has reduced leverage over the supply chain and may have to look at approaches that are more commonly used in “no leverage” situations.

B. The second step in an ESMS is to “DO”:

The supply chain mapping exercise identified a number of sources of supply for the sugar mill. The overall management program contains specific action plans for each source of supply, which are outlined here.

The first stage of the management process asks vertically integrated and coordinated suppliers to the mill to self-assess their labor risk management

systems and practices against the company requirements. This forms the baseline for the monitoring stage of the ESMS. This step should be followed by periodic supply chain audits and field-level appraisals to review suppliers' self-assessments.

For managing risks on its own estates, the company can look to implement management systems that document compliance with all appropriate laws, regulations and company policies. In addition, establishing a grievance mechanism for workers will enable issues raised to be heard through formal channels and dealt with appropriately¹⁴. To increase transparency, the results of this grievance process and any audits should be disclosed. The company may also look at implementing a certification scheme for its own estates.

For managing risks with the outgrowers associations, collaborative approaches are needed. First, the company can engage with the organizations and their members to communicate the company's policy and vision for sustainability in its supply chain. This engagement can also assess the competency of the organizations to implement E&S risk management.

A supplier code of conduct can be formed with input from both the company and the outgrowers associations. Improved performance may be linked to better terms of contracts, for example, such as prefinancing and a better deal on production inputs. Depending on the outcomes of the capability assessment, capacity building may be necessary to ensure that the correct internal control systems are implemented.

An appropriate management strategy for managing risks in the external growers might be to consider sourcing from elsewhere. Although the company sources 20 percent of its cane from these growers, the company has low leverage and no immediate action plan for improving performance. Given the links already established with the outgrowers associations, the company may look to source more from these growers, or it may encourage the independent growers to join the outgrowers associations. This way, additional growers can be brought under the same management system, helping to improve efficiency and reduce costs. Alternatively, and in the long term, the company may look to form partnerships with industry, civil society, and government to tackle issues on the country- and sector wide levels. With strong government oversight of the industry through

¹⁴ For IFC investees, a grievance mechanism for workers is a requirement of Performance Standard 2, page 26, paragraph 20.

the Tanzania Sugar Act, the company and partners can work on including more detailed sustainability provisions in legislation and work with government on services to support its implementation. This does not guarantee immediate management of such risks; however, it can form the basis of raising performance across a wider domain.

C. The third step in an ESMS is to “CHECK”:

The company can check supplier performance against baseline information identified in the supplier self-assessment. Progress against stated action plans should be documented.

The level of risk for labor in the spot markets should be reviewed periodically to account for any changes in risk rating.

D. The final step in an ESMS is to “ACT”:

The company should review the action plans against its stated aims of minimizing labor risks in the supply chain.



CASE STUDY 3: SMALLHOLDER COCOA IN CÔTE D'IVOIRE

A major international commodity trader sources bulk and specialty cocoa from a number of locations.

Although the trader sources specialty cocoa from Central and South America, its primary source of bulk cocoa is Côte d'Ivoire. The trader purchases approximately 20 percent of the country's cocoa supply, although the market is highly competitive and demand currently outstrips supply. The trader sources from several leading exporters in the country and has a particularly strong relationship with one (Domestic Trader 2), having done business with it for many years. This is illustrated in Figure 4.

In West Africa there have been high-profile cases of the use of harmful child labor on family farms. Cocoa from West Africa is core to the trader's business, and many of the trader's clients want to be assured that the cocoa they buy is not associated with child labor. The trader wishes to implement strategies to tackle the issue of child labor in its supply chain.

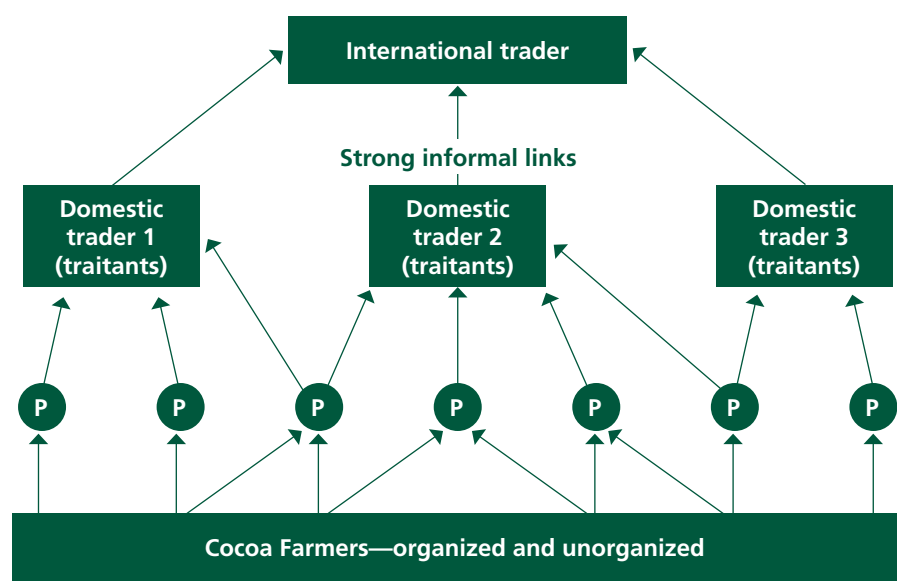
Furthermore, the risk of deforestation associated with cocoa production is high. Expansion of cocoa production into the forest frontier continues and the advent of "full sun" production systems, as opposed to more traditional shade-grown agro-forestry systems, further enhances pressure on virgin forest. The trader wishes to mitigate environmental concerns as well.

Cocoa is a crop produced predominantly by smallholders. In Côte d'Ivoire over 80 percent of farmers sell their cocoa through informal trader networks with traitants, who act as gatekeepers to the export market and send local pisteurs¹⁵ by motorbike to source cocoa from villages. The supply chain is complex and has no formal traceability.

¹⁵ A pisteur is a middleman who purchases cocoa beans from farmers in the farmers' villages. A traitant collects cocoa beans from multiple pisteurs.

The trader has been involved in developing and implementing a number of sustainability certification schemes. It has also supported the development of traceability schemes in its operations for other commodities, such as coffee. The trader has high organizational competency in implementing such schemes, while recognizing that these schemes require considerable investment of time and money and that the complexity of the supply chain in Côte d'Ivoire presents a challenge.

FIGURE 4. ILLUSTRATIVE SUPPLY CHAIN DIAGRAM OF COCOA EXPORT IN CÔTE D'IVOIRE



P = Pisteurs



A. The first step in an ESMS is to “PLAN”:

Policy

The trader has a supply chain policy that pledges to support efforts to reduce or minimize the presence of harmful child labor and reduce the occurrence of deforestation in cocoa production. For this case study, the trader will focus on minimizing child labor. It considers child labor to be highly material, owing to the high risk of child labor and the facts that it sources the majority of its cocoa from Côte d’Ivoire and that its customers are facing growing international media pressure on the issue.

Identification and Assessment of Supply Chain Risk

The trader first undertakes a supply chain mapping exercise. From responses to questionnaires, it constructs a supply chain map that identifies a number of stages, sources of production, and key stakeholders. The trader supplements this information with a desk review on the E&S risks of cocoa supply chains in West Africa. This review draws upon a number of reports from international research organizations and academics, such as the Tropical Commodity Coalition’s Cocoa Barometer series, as well as interviews with leading figures in cocoa sustainability. At this step, the trader finds that the World Cocoa Foundation is a useful source of information. To gain a better understanding about particular risks in its supply

chain, the trader interviews Domestic Trader 2 who, in turn, interviews key pisteurs. At the request of the international trader, Domestic Trader 2 contacts key sources in the domestic industry, including sources who had recently been involved in a public-private-partnership project on cocoa sustainability. The trader combines the sources of information to develop the assessment (see Table 3), applicable to all of the cocoa it sources from Côte d'Ivoire.

TABLE 3. SUMMARY OF RISKS: CÔTE D'IVOIRE/COCOA EXAMPLE

	Child labor, forced labor, and significant safety issues of supply chain workers	Significant conversion of natural and/or critical habitat	Overall risk rating
Côte d'Ivoire Cocoa	High	High	High

The combination of commodity and country risk gives an overall risk rating of **high for all of their cocoa suppliers**.

Leverage

The relationships that the trader has with the domestic traders are based on vertical coordination and regular purchase orders. With one of these—Domestic Trader 2—the international trader has a particularly good informal relationship. Domestic Trader 2 also sees the value of improved E&S risk management. The trader can therefore leverage this relationship using collaborative management approaches.

The trader’s relationships with the other two large domestic traders are different. The highly competitive market reduces the international trader’s leverage as the two domestic traders can easily find alternative buyers. Although collaborative approaches may still be possible, the international trader will need to be careful about placing additional requirements and costs on these relationships.

B. The second step in an ESMS is to “DO”:

Although the overall situation is high risk with leverage based on vertical coordination, the different relationships with different domestic traders mean that different tools can be used.

The first step in the face of high risks is to undertake a supplier audit of Domestic Trader 2 and its supply chain. Given the importance of this issue to the business, the international trader could consider investing in a third-party E&S expert who can independently verify the results. The trader may then wish to share the results of this research with internal and external stakeholders. The results can also be used as baseline data against which to monitor progress once E&S management has been implemented (part of the “CHECK” step in an ESMS).

Because the international trader purchases cocoa from all three domestic traders based on contracts, the international trader can consider introducing E&S requirements into the contractual relationships. The first step in doing this is to engage with suppliers and ensure that the domestic traders understand the international trader’s sustainability policy and its supplier code of conduct.

The international trader can then assess supplier capabilities and existing E&S risk management practices. Engagement with suppliers is a crucial part of E&S risk management in supply chains. On the basis of the results of this assessment of supplier capabilities, E&S risk management performance might be linked to the existing contracts through contract clauses. Noncompliance may result in switching suppliers. As the market is competitive, the international trader needs to consider investing in building the capacity of domestic traders and perhaps linking improved performance with incentives.

Through the stakeholder engagement process, Domestic Trader 2 indicated a desire to work on implementing a formal traceability system. The management strategy here could be to collaborate and co-invest in measures to improve traceability. It is likely that capacity building by the international trader with smallholders will be necessary. Traceability systems offer a strong grounding for risk management, including the potential application of certification. Following an institutional mapping exercise, the trader becomes aware that the Rainforest Alliance, which developed and administers a certification scheme increasingly popular among cocoa buyers, is operating a program in Côte d’Ivoire to introduce certification through the informal *traitant* and *pisteur* networks. Much of this work is based on developing traceability systems. The international trader has previously worked with the Rainforest Alliance and might therefore do so again to develop a program of traceability and introduce certification into its supply chain. Such partnerships can prove to be an important source of information sharing and learning.

C. The third step in an ESMS is to “CHECK”:

It is important to check the progress made in relation to eliminating harmful child labor through supply chain audits. Original audit data can be used as the baseline against which to compare.

The performance of all domestic traders against the supplier code of conduct and baseline monitoring information should be assessed, and the results should be shared with stakeholders throughout the supply chain.

The international trader, in partnership with Domestic Trader 2 and external auditors, can track progress on implementing the traceability system and introducing certification into the supply chain. Volumes of certified produce can be recorded by supply chain mapping and included in the ESMS and any disclosure. The international trader may also take steps to monitor the impact of the certification on smallholders.

D. The final step in an ESMS is to “ACT”:

If domestic traders are found to be noncompliant with the supplier code of conduct, steps must be taken to rectify this or, alternatively, to switch suppliers and/or increase volumes purchased from compliant suppliers. More capacity building or improved incentives to encourage domestic traders to make the necessary investments may be needed. Depending on the success of the international trader's actions internal to the supply chain, it may also look to work indirectly through partnerships to help improve the performance of the cocoa sector at the country level. Alternatively, if the risks remain high, the international trader may ultimately decide to source elsewhere, if there are supplies available in other countries of origin.

CASE STUDY 4: MULTICOUNTRY MULTICOMMODITY TRADER

A trader sources multiple commodities from multiple countries participating at various stages of the supply chain. The trader often buys from a large smallholder supply base.

An international commodity trader purchases 15 agro-commodities from around the world and is involved at all stages of the supply chain, including primary production, processing, and ingredient manufacturing. The nature of the company's supply chain involvement varies between commodities, as illustrated by these three examples:

Palm oil	Ownership of plantations; primary processing—sourcing fruit from own plantations and purchasing from smallholder supply base; midstream processing and distribution.
Coffee	Historically focused on purchasing from smallholder supply base, but more recently has built upon vertical integration opportunities by developing plantations and value added processing and manufacturing activities for the soluble coffee market.
Cocoa	Buyer of cocoa beans from tens of thousands of smallholder suppliers in multiple source countries; primary processing and distribution.

The company has identified opportunities for vertical integration in many of the commodities it purchases, but this strategy is still at an early stage.

Some of the commodity sectors are noted for high levels of commodity and source-country risk (e.g., palm oil, soy, cocoa); others are low risk (e.g., rice, dairy).

Management Strategies

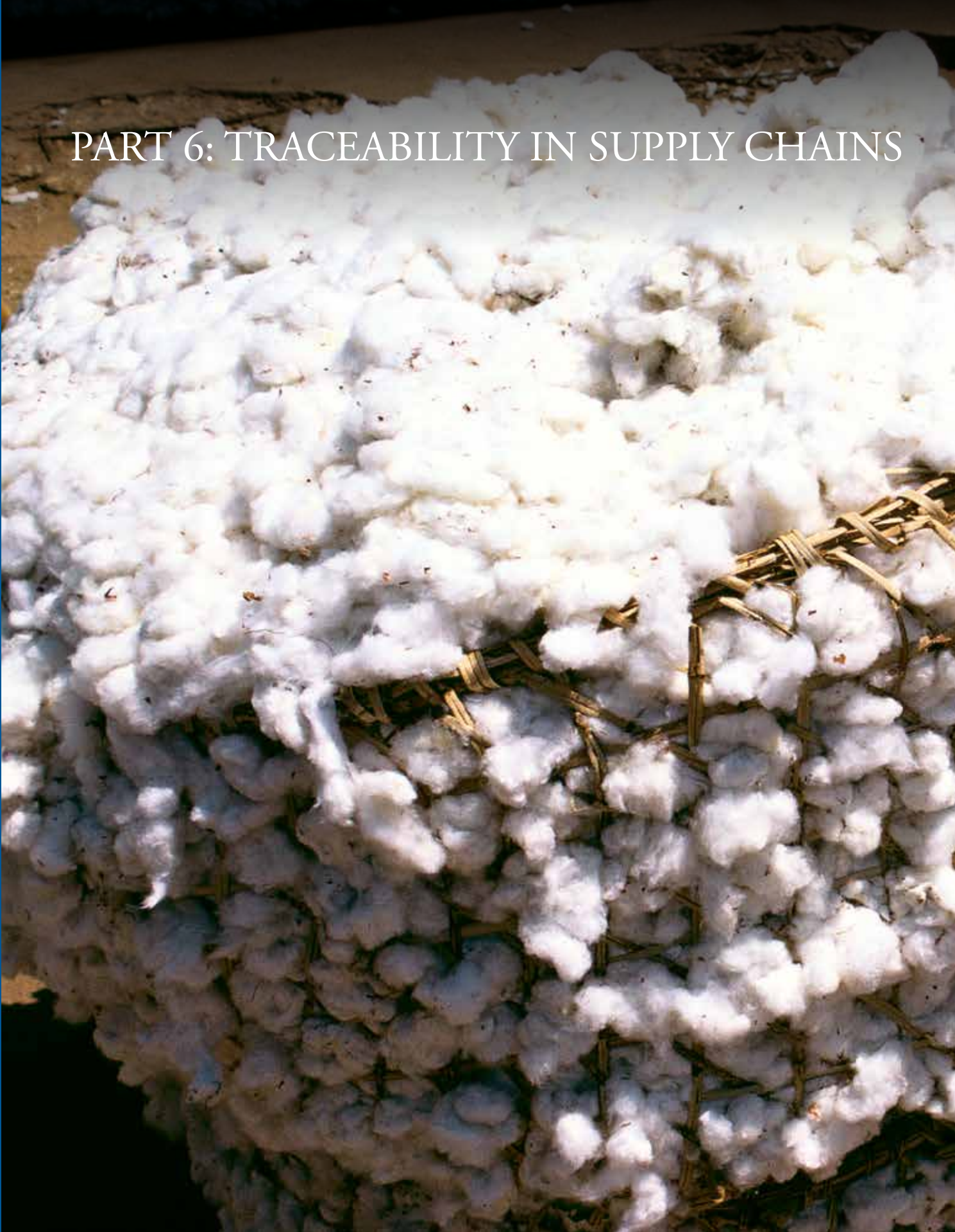
Given supply chain involvement with multiple commodities across many source countries, risk and leverage assessments should be an iterative part of the management strategy. Risk management strategies should be prioritized on the basis of risk ratings for each of the 15 commodity crops. Commodity crops should be rated as high, medium, or low risk, as in the previous case studies.

For high-risk commodities, appropriate combinations of the following management tactics may be undertaken:

- Implementation of supply chain mapping and continuous monitoring to identify source countries and work towards traceability, as well as determine leverage characteristics.
- Purchase volumes certified under acceptable schemes where available.
- Field evaluation of owned plantations against appropriate criteria.
- For commodities with a smallholder supply base: implementation of supplier engagement strategies and prefinancing linked to sustainability requirements.

For all commodities, including those rated as low risk, risk management activities may be included within broader management system, including a robust and systematic audit program incorporating sustainability criteria.

PART 6: TRACEABILITY IN SUPPLY CHAINS



PART 6: TRACEABILITY IN SUPPLY CHAINS

Lack of information about the supply chain—including information about the companies that process, manufacture, trade, aggregate, and store agro-commodities, as well as primary producers—can be a fundamental impediment to the management of E&S risks.

For agro-commodities, the critical E&S risks occur at the primary production end, often far from their end use after they have gone through multiple stages of aggregation, trading, and processing. The more information that is available about the origin of the primary production, the easier it becomes to make informed decisions about which supply chains to work with and when to remove nonconforming products and suppliers from a supply chain. Note that supply chain mapping is a key prerequisite for supply chain risk assessment, although the level of traceability in a typical agro-commodity supply chain may be relatively low.

Companies use a number of traceability and control systems, which can be used to make risk-based decisions or to provide direct assurance of performance. Companies can use existing traceability systems developed for quality or safety as inputs into E&S risk management. Table 4 shows some of these systems on a continuum of high to low traceability capacity.


Implementing a Traceability System

Traceability systems vary not only in terms of strict traceability but also in costs of implementation and maintenance. The UTZ¹⁶ certification scheme describes traceability as a process of continual improvement. The “mass balance” model is included in some certifications as a first step in the direction of fully segregated supply chains.

Initial steps should look at the company’s existing internal management systems. Many internal management systems (for example, quality management) include elements of a traceability system. Traceability systems may be used for food safety reasons, enabling the isolation and recall of products that threaten human health. Product quality in agro-commodity supply chains may also be a driver for setting up traceability systems, allowing buyers to identify and manage suppliers based

¹⁶ UTZ Certified, <https://www.utzcertified.org/>

TABLE 4. THE LADDER OF TRACEABILITY SYSTEMS

	VERY HIGH TRACEABILITY	Identity Preserved	<p>Products are uniquely identifiable to a single source. The product is fully isolated throughout the supply chain; for example, single-origin coffee.</p> <p>Using geographic information systems, this approach can be combined with field assessment of conformance with social and/or environmental requirements (e.g., certification), country/region, and crop risk, or mapping of E&S issues.</p>
		Known origin	<p>Products are identifiable to a region or country, normally through information from existing infrastructure and transportation routes.</p> <p>To manage risk, this approach can be combined with country/region and crop risk assessments.</p>
		Segregation	<p>All products have originated from sources that conform to social and/or environmental requirements; however, various sources that have achieved the same level of performance are allowed to be mixed, as in Rainforest Alliance–certified cocoa from Côte d’Ivoire.</p> <p>Although the product is not necessarily traceable to origin, E&S performance is assured.</p>
		Mass Balance	<p>Also known as volume credit, purchases and sales of product that meets social and/or environmental requirements are reconciled, typically within a single site over a set time period. Product that conforms to E&S requirements is physically mixed with unknown/nonconforming product throughout the supply chain.</p> <p>Although the product is not necessarily traceable to origin, an equivalent volume linked to E&S performance is assured.</p>
		Credit trading	<p>Also known as “book and claim” or “certificate trading,” this approach is typically used in certification systems dealing with complex supply chains. Primary producers sell credits to end users, equivalent to the area or volume of product that conforms to social and/or environmental requirements.</p> <p>Although the product is not traceable to origin, an equivalent volume linked to E&S performance is assured.</p>
	VERY LOW TRACEABILITY		

on the quality of the products supplied. These can be useful starting points for companies looking to establish traceability for E&S issues in their supply chains.

Transactions in the supply chain leave a paper trail of purchase orders, invoices, and shipping documents, meaning that even in the absence of a formal traceability system, information may be available to make risk-based decisions. When the origin of an agro-commodity is known, a country or regional level, this knowledge can be used to identify and manage E&S risks, because companies can cross-reference this knowledge with a region/county risk assessment, even if they do not know the precise location of production or specifics about the field practices.

Standards systems and sustainability certification typically include an element of control of unwanted mixing or substitution, which can include keeping certified product separate from uncertified product, or accounting for the amount of certified product received and sold on. These systems do not necessarily need to provide traceability back to the source, because they can provide assurance of the E&S practices in primary production. They also provide the mechanism for exchanging large volumes of data on production and processing throughout the value chain.

Challenges

Establishing a traceability system is a potentially costly and time-consuming task. However, it is a useful basis for many management strategies, with benefits for not only E&S risk management but business supply chain management, too.

To implement a system throughout the supply chain, it is important for organizations to build relationships with suppliers. Collaboration between supply chain partners is necessary because new processes, systems, and institutions will need to be built.

Organizations must be careful not to overburden suppliers with demands for additional information and documentation. Capacity building will be needed alongside a strong degree of oversight to ensure that the system is robust and designed rigorously.



For IFC clients to demonstrate that they have met the requirements of the Performance Standards, their traceability systems must cover all of their primary suppliers (“direct” or “Tier 1” suppliers).

Where IFC clients are sourcing from primary producers, they should consider whether they need information about the specific geographic locations of all farms and plantations (identity preserved), or whether information about the location of the first aggregation point is sufficient. Where IFC clients are sourcing from hundreds or thousands of smallholders, aggregation points can be useful in deploying training and extension services, coupled with surveying farmers within a catchment area.

Where the IFC client does not have leverage or influence, and faces these risks in its supply chain, it should reduce risk by changing suppliers as needed.



EXAMPLE: ARMAJARO—TRACEABLE COCOA SUPPLY CHAIN

Armajaro, a soft commodity trading house, has taken considerable steps towards traceability of its cocoa supply chain. Their system is built on barcodes secured to individual cocoa sacks. These can be scanned with handheld devices at every step of the supply chain. Information is then uploaded onto an online system administered by Armajaro’s partner Helveta. This allows Armajaro to “reconcile, analyze and share information about the cocoa to improve overall traceability throughout the supply chain.” It has also led to significant efficiency improvements in Armajaro’s own business operations.

Increasingly organizations are turning to Internet-based software as a way to manage traceability. This can be seen in the case of Armajaro, and a number of organizations offer traceability systems and services.

EXAMPLE: SEGREGATED PALM OIL SUPPLY CHAIN

Two companies with European port infrastructure have invested in facilities that process only RSPO-certified palm oil. In 2010, IOI-Loders Crocklaan commissioned a refinery, Rotterdam Maasvlakte, that has separate storage and production capacity, where RSPO-certified oil can be physically segregated, ensuring that customers receive product that originated from certified plantations. New Britain Palm Oil has a dedicated facility in Liverpool, United Kingdom, that exclusively sources RSPO-certified palm oil from its certified plantations through an integrated supply chain.



EXAMPLE: COTTON FARMER TO GINNERY

Producers in the cotton industry typically implement a traceability system between small-scale farmers and the gin as part of quality control, which can also be adapted for E&S information and performance. This is achieved by distributing cotton bale tags to farmers, which can be affixed to bales at the cotton markets/distribution centers. Trucks arriving at the gin have documents listing the codes for each bale. Identity-preserved traceability of cotton back to a specific farmer is lost after the bales are broken up, which occurs when the cotton is fed into the gin. However, traceability through the gin and back to a group of farmers is possible by recording the order in which the bales were broken up and fed into the gin.



A photograph of a vast lavender field with rows of purple plants stretching towards a distant horizon under a clear sky. The text 'PART 7: CERTIFICATION' is overlaid in the upper left.

PART 7: CERTIFICATION

PART 7: CERTIFICATION

Introduction to Certification

Certification is a voluntary process by which an independent organization verifies that an operation or procedure—such as management of a forest or farm— is being carried out in accordance with a specified standard.

Certification to various E&S standards is a market instrument that aims to incorporate environmental and/or social costs into the market pricing system and reward higher standards of performance with better prices or market access. E&S risks are not typically incorporated into the price of goods—this is a classic example of market failure.

The standards system or certification scheme codifies large amounts of complex information about specific production and processing. This can then be transferred along the value chain. Certification schemes typically include a process of third-party auditing against a set of standards. This provides assurances that production, processing, and trade have been conducted in accordance with the standards. For these reasons, certification is often promoted as an effective way to manage risks in supply chains.

Certification of farms' and plantations' conformity with specific management standards can be a useful tool, both to help producers manage sustainable production and to demonstrate to customers that their production is sustainable. Using an internationally agreed certification scheme provides a market communication tool that allows each stage in the supply chain to request and provide consistent and mutually understood information about E&S performance. A production standard can be generic or crop-specific, and sets out the performance requirements at the level of the plantation or farm. It typically consists of principles and criteria, with measurable and/or verifiable indicators; it may be supplemented by a more specific national-level interpretation or version of the scheme.

Chain-of-custody (CoC) standards define a verifiable system of traceability and/or supply chain control for raw materials at each stage of the supply chain from initial production to the final product. CoC certification provides assurance at each stage that the material being sold conforms to the specific requirements.

Typically, certification schemes approve or accredit independent organizations called certification bodies (CBs—more commonly known in the United Kingdom as “registrars”) to carry out assessments. These certification bodies assess the production and CoC operations against applicable standards.

There are many sustainability certification schemes applicable to agricultural commodities, working on a voluntary, not-for-profit basis and with the involvement of a range of stakeholders. Most relevant schemes are oriented to both production and process, to verify that products are being produced according to a set of sustainability standards, and to the end-product (for instance, requiring a CoC certification), to certify that the product fulfils a certain claim. See Box 7 for examples of existing certification schemes applicable to agriculture.

Core Components of Certification Schemes

Certification schemes have several core components:

- A production standard;
- Specific arrangements for assessment and certification (including accreditation of certifiers);
- CoC standard or supply chain requirements; and
- In some cases, rules for public claims or trademark use.

For agro-commodity supply chains, the two most relevant elements are the production standard, which is applicable to the grower, and the CoC standard for supply chain traceability.

EXAMPLE: THE ROUNDTABLE ON SUSTAINABLE PALM OIL



The RSPO production standard has 8 principles and 43 criteria, covering a range of issues such as good agricultural practices, fair treatment of workers and communities, care for the environment, and proper acquisition of land. Country-specific versions of the standard exist for Malaysia, Indonesia, and Papua New Guinea, specifying definitions and approaches more suitable for their local contexts. Certification involves an inspection of the production unit by an independent organization to check that it passes the specific standard.

Box 7. Existing Certification Schemes

Some leading international examples of relevant certification schemes include:

Bonsucro (formerly Better Sugarcane Initiative): Formed in 2005, this scheme aims to define globally applicable performance-based principles, criteria, and indicators for sugarcane, using a credible and transparent process.

Fairtrade: This system was designed explicitly to promote sustainable development of small producer groups and disadvantaged workers in developing countries. It is unique among many certification schemes because it provides a guaranteed minimum price alongside a Fairtrade premium intended to be invested in social development projects of the producer communities. The Fairtrade standards are set and governed by Fairtrade International—a body that represents 25 Fairtrade organizations from across the world.

Organic: This term is defined by the International Federation of Organic Movements (IFOAM) as “a production system that sustains the health of soils, ecosystems and people.” There are many categorizations of “organic,” depending on the standard setter—these include regulatory requirements and definitions, alongside a number of private voluntary standards of organic production—and as such, there is no one system (although IFOAM is attempting to harmonize the private standards). Organic certification is seen across many crops and is one of the oldest certification schemes.

Roundtable on Responsible Soy Association (RTRS): The organization formed in 2006 with the mission of encouraging responsible current and future soybean production that will reduce E&S risks while maintaining or improving the economic status of the producer.

Roundtable on Sustainable Palm Oil (RSPO): This organization formed in 2004 with the objective of promoting the growth and use of sustainable palm oil products through the formation of global standards and the use of multi-stakeholder engagement.

Sustainable Agriculture Network (SAN): This organization was founded in 1998 with the aim of promoting efficient and productive agriculture, biodiversity conservation, and sustainable community development by creating social and environmental standards. SAN awards the Rainforest Alliance–certified seal to farmers who meet the requirements of the standard. The standard was initially developed for banana production but now covers a range of crops, fruits, and vegetables.

UTZ: This is one of the largest sustainability programs for coffee, cocoa, and tea. It works with existing brands to ensure that a strict Code of Conduct is being followed by farmers and that a traceability system is in place along the supply chain.



IMPLEMENTING CERTIFICATION...

Production standards are applicable to growers, and the CoC standard is required at every stage in the manufacture of a product, which may include mills, processors, traders, and wholesalers, depending on the structure of the supply chain. In some cases, E&S requirements may also be implemented at each stage.

Key sources of information for companies wishing to engage in certification are the certification schemes or commodity roundtables themselves, as well as research programs, such as State of Sustainability Initiatives,¹⁷ Shaping Sustainable Markets,¹⁸ and the ISEAL Alliance, a global association for sustainability standards (previously known as the International Social and Environmental Accreditation and Labelling Alliance).¹⁹

...FOR GROWERS

For agricultural commodities, growers (of sugarcane, soy, etc.) who choose to be certified must meet the requirements of responsible production standards for the applicable crops. Specific requirements of different standards vary, but in general they cover similar social, environmental, and economic aspects of responsible production. For example, as conversion from natural forests to other land use is one of the main concerns in responsible agriculture, many certification schemes set requirements and cutoff dates regarding conversion.

Many certification schemes also develop group certification modalities to increase the accessibility of certification to smallholders. Group certification allows group members to share the cost of certification assessment and usually relies on internal control systems to ensure group members are following the standard so that the auditors do not have to visit each individual producer.

Certification involves the assessment of systems and documentation, together with verification of outcomes in the field. In addition, certification audits typically include consultation with external stakeholders to ensure that all relevant issues are identified and considered. The costs, time frame, and resources required for certification can vary considerably, as they are highly dependent on the scale and complexity of the farm and its setting.

¹⁷ <http://sustainablecommodities.org/ssi>.

¹⁸ <http://shapingsustainablemarkets.iied.org>.

¹⁹ <http://www.isealliance.org>.

To sell material from a certified production unit, a grower must also achieve the applicable CoC certification. For example, soy producers have to meet the Roundtable for Responsible Soy (RTRS) Responsible Soy Production standard and CoC standard if they wish to sell RTRS certified soy.



HOW TO START THE GROWER CERTIFICATION PROCESS

Growers considering certification should first assess which standard is most appropriate for their production—in some cases, buyers may send clear market signals, whereas in others growers may need to consider the type of E&S issues the market is likely to focus on. In some cases, growers may consider implementing more than one standard at once. Once the standards have been identified, a self-assessment and action plan should be developed. Budgeting both for the cost of certification (that is, audits) and estimated costs of compliance (for example, changes to procedures, training staff time) is an important part of planning. It may be useful to seek external technical advice even at this initial phase. A preassessment by an external third-party auditor can be a useful tool for checking what gaps exist, before the formal audit is undertaken.

...FOR MILLS, PROCESSORS, TRADERS, AND MANUFACTURERS

Mills, processors, and traders, will typically have to implement a CoC system if they wish to make a claim relating to the sale or use of certified products. CoC standards provide the basis for checking the control of unwanted mixing or substitution in the supply chain. CoC controls provide a mechanism for demonstrating that the standard has been implemented at each stage of ownership through the supply chain, giving evidence of a link between the verified unit of production and the final product claim. They must therefore be designed to handle a product both physically and administratively during production, processing, shipping, and retail. Considerable investment, both financially and in physical assets, may be required in moving towards traceability and segregated supply chains.

The different types of CoC systems vary according to product characteristics, the type of operation, market demand, and price. The main certification types are segregation (where certified material remains physically separate and traceable), mass balance (where certified material is allowed to be mixed under controlled conditions with uncertified product, on the basis of a material accounting system), and certificate trading/book and claim (where there is no physical link at all through the supply chain).

Buyers typically send clear market signals; however, in some cases, such as for branded manufacturers, supply chain actors may choose to implement CoC before their buyers demand specific types of certification. The costs of certification are typically much lower for CoC certification than they are for growers, and the costs of implementation in a mass balance system (essentially an accounting system) can also be low. However, in segregated CoC systems, certification may require construction of additional physical infrastructure; even if it is possible to segregate over time (e.g., separate batches) rather than building a separate processing line, it is likely that some segregated storage will be needed.



HOW TO START THE CHAIN-OF-CUSTODY CERTIFICATION PROCESS

Supply chain companies considering certification should first assess which standard is most appropriate—often there are CoC standards for each commodity, and in some cases more than one for the same commodity. In many cases, it is possible to implement multiple CoC standards through a common internal system. An initial assessment of the company's operations to identify all points where unwanted mixing or substitution could occur should be undertaken; this can be done internally. As with grower certification, a preassessment by an external third-party auditor can be a useful tool for checking what gaps exist, before the formal audit is undertaken.

Challenges

There has been widespread promotion of certification as a way to verify E&S management practices, manage E&S risks in supply chains, and reward producers and supply chain actors economically; however, there has been little systematic, rigorous analysis of the sustainable development impact of many certification schemes.

Although there is a growing market for certified production, there are instances where supply is currently outstripping demand (e.g., RSPO GreenPalm credits are not all purchased, though for RSPO-segregated and mass-balance production, demand outstrips supply). This lack of demand potentially undermines the economic case for producer involvement, particularly if they sell certified production at a price that does not cover their costs of compliance. Certification costs money, in terms of both an audit of operations and compliance—including, for example, staff time to manage the process, staff training, updating of procedures, additional tasks, increased wages (e.g., ensuring a “living wage” for workers), and—in some cases—changing business practices to be more ethical.

Many standards systems and certification schemes seek to include smallholders through the development of bespoke requirements for them and of group certification to achieve economies of scale. However, the limited capacity of smallholders and the challenges associated with organizing hundreds or thousands of smallholders means there is the potential that certification may exclude smallholders.

Even in situations where companies have high leverage with their primary suppliers, buyers need to consider that demanding compliance with third-party certification may not always be possible, if the supplier lacks the capacity to achieve certification or the incentives to make the necessary investments. Communicating a future intention to require third-party certification in advance of implementation and working in collaboration with suppliers to meet the necessary requirements may be more effective, particularly when done in combination with rewards for interim progress.



IFC clients “engaged in the primary production of living natural resources, including natural and plantation forestry, agriculture, animal husbandry, aquaculture and fisheries” must manage these natural resources “in a sustainable manner, through the application of industry-specific good management practices and available technologies.”

“Where such primary production practices are codified in globally, regionally, or nationally recognized standards, the client will implement sustainable practices to one or more relevant and credible standards as demonstrated by independent verification or certification.”

“If the client has not yet obtained independent verification or certification to such standard(s), the client will conduct a pre-assessment of its conformity to the applicable standard(s) and take actions to achieve such verification or certification over an appropriate period of time.”

Therefore, only IFC clients that are primary producers are required to implement certification; however, the purchase of certified production and CoC certification can be an important part of meeting the IFC Performance Standards requirements for supply chains, and managing E&S risk in supply chains as part of an ESMS.



TOOLKIT 1: ASSESSING ENVIRONMENTAL AND SOCIAL RISK AND LEVERAGE IN A SUPPLY CHAIN

TOOLKIT 1: ASSESSING ENVIRONMENTAL AND SOCIAL RISK AND LEVERAGE IN A SUPPLY CHAIN

This section of the Handbook focuses on practical implementation, building on the contextual information and examples provided so far.

To make informed decisions when managing environmental and social risks in an agro-commodity supply chain, companies organize, collect and analyze information about their supply base. Collectively, this process is called supply chain mapping.

Supply chain mapping can be used to establish the country of origin of a commodity, the location of producers, and in some cases the specific identity of producers at the primary production base of a supply chain. Coupled with information about **environmental and social risks** of the commodity in that location, this approach creates a tool through which the highest risks can be identified. The supply chain mapping process can be used to categorize product volumes according to parameters such as current proportion of traceable product and current proportion from certified suppliers, as well as the risk exposure this creates—a potential basis for risk management.

Supply chain mapping can be supplemented with **institutional mapping**, which identifies key institutional actors affecting a supply chain such as partners, governments, and/or industry associations. Together, supply chain mapping and institutional mapping provide important information that forms the basis for **leverage assessments** and are crucial in determining how much leverage the company has over its primary suppliers. This directly influences how the company chooses to manage its E&S risk.

Using this approach, informed decisions can be taken about how to manage supply chain environmental and social risks. For example, buyers and traders can use the results to target capacity building with suppliers to meet E&S specifications, or identify and eliminate products that do not conform to these specifications.

Following is a step-by-step process for organizing, collecting and assessing environmental and social risk, as well as assessing leverage in a supply chain.

Step 1. Organizing and collecting information

Step 2. Assessing Risk in a Supply Chain

Step 3. Mapping Institutions in a Supply Chain

Step 4. Assessing Company Leverage in a Supply Chain

Once a company has completed the process described in this Toolkit 1, the information can be used in **Toolkit 2: Managing E&S Risk in a Supply Chain**, to determine the appropriate management approach.



To determine an IFC client's leverage and ability to influence the primary suppliers, its supply chain mapping and risk assessment must describe the supply chain structure and characteristics, identifying all intermediary steps, all players, and the nature of the transactions between primary producers and the client. This will enable determination of (i) the E&S risks and impacts associated with primary production; (ii) the supply chain structure, size, and types of coordination mechanisms (e.g. market transactions, contract integration, vertical integration; (iii) the client's leverage to eliminate or minimize these issues in its area of control or influence; (iv) the client's ability to source from alternative suppliers to eliminate or minimize issues; and (v) remaining risks that are difficult for the client to eliminate.

Where the IFC client has a high degree of leverage and influence, the client is expected to effect change, if needed, with the producer. Where the client does not have leverage or influence and faces these risks in its supply chain, it should lower risk by changing suppliers as needed.

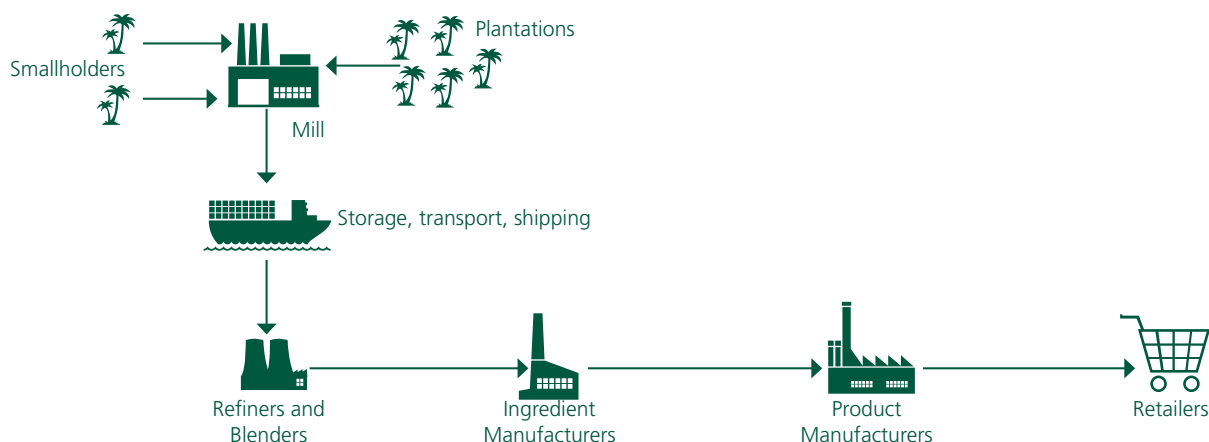
Step 1. Organizing and collecting information

A **supply chain map** (see Figure 5), in its simplest form, is a linear drawing or explanation of each stage in the supply chain. Supply chains can be very complex and can have many links. When managing E&S risks, companies should consider the supply chain from primary production up to and including their own operations. This includes thinking about who supplies the suppliers and takes into account both products and services, as well as raw materials, components, and finished goods that are either resold or used as part of day-to-day operations.

When considering the potential E&S risks in a supply chain, it can be helpful to start out by actually drawing each stage in the supply chain. Making initial estimates of how many suppliers are operating at each stage, as well as the number of stages between a company and the primary producers can be an important part of understanding leverage, which is explained in Step 3, and planning the time and effort requirements for the process.

FIGURE 5. SAMPLE SUPPLY CHAIN MAP

The Palm Oil Supply Chain



A **supplier database** is an important tool for capturing, storing, and tracking information about suppliers. Companies will already have some form of such a database to manage day-to-day procurement, purchasing, or trading. Adapting this database to include E&S information about suppliers can be an important part of a company's approach to managing these risks. Stand-alone supplier databases can also be used for environmental and social aspects. In some cases, starting with a simple spreadsheet to track environmental and social performance of suppliers can help inform the design of future integration with the main company supplier management system. There are also off-the-shelf software packages that can be used to map and model supply chains.

As described in Table 5 and in the section on 'How to Undertake a Rapid Diagnostic', operational information about the supply base such as the list of supplier names, volumes and type of trading/purchasing relationships will be the starting point.

Additional operational information about stages in the supply chain may be collected, as well as information about E&S risks, institutions and leverage. This information can be collected through meetings, questionnaires, desk-research or field visits.





HOW TO UNDERTAKE A RAPID DIAGNOSTIC

Understanding what E&S information a company already has in its systems and records (or can infer from them) is the first step in mapping a supply chain. This can be achieved by using a **rapid diagnostic** approach, where information about the commodities used is compiled from internal information. The results can help identify where to focus resources and prioritize which supply chains to focus on first.

This initial assessment is important, because conducting supplier mapping (which may include questionnaires, supplier meetings, and additional research, for example) can be resource intensive and it may not be possible or necessary to undertake detailed work all at once for all suppliers. Conversely, if a company has a limited number of suppliers with whom it has long-standing relationships, this information (as well as social and environmental risk information) may be readily available very little additional work may be needed to map the supply chain.

A rapid diagnostic can be as simple as compiling a spreadsheet.

If a company is handling multiple commodities, the rapid diagnostic should include the following elements:

- Commodities used or traded
- Volume per commodity
- Numbers of suppliers per commodity
- Type of buying relationship (through commodity exchanges, forward contracts, long-term off-take contracts, etc.)
- Origin of primary production per supplier (if known or if this can be inferred)
- Sustainability information (e.g., certification, sustainability contract clauses), if applicable

If a company is handling a single commodity, the rapid diagnostic should include:

- Type of buying relationship (through commodity exchanges, forward contracts, long-term off-take contracts, etc.)
- Volume per type of buying relationship (monthly, annually, or any other time period over which data are available)
- List of suppliers per type of buying relationship
- Origin of primary production per supplier (if known or if this can be inferred)
- Sustainability information (e.g., certification, sustainability contract clauses), if applicable

Sources of information for undertaking this rapid diagnostic may include contracts, shipping documentation, and shipping information held by trading operators and their systems (who handle the legal, financial, and logistics aspects of deals). Direct relationships with suppliers in producing countries will likely indicate origin. At the rapid diagnostic phase, companies do not need to contact suppliers for any additional information.

For commodities where companies do not have information about the country of origin, assumptions can be made based on where the major global producing regions are (see Annex I for information about palm oil, soy, sugarcane, coffee, and cocoa). It is recommended that companies take a conservative approach and assume the commodity has come from the country with the biggest E&S risks, unless there is evidence suggesting otherwise.

At this initial phase, the company can either follow the risk assessment approach outlined in the following section or use existing external resources on country and agriculture crop E&S risk. If the company has a direct relationship with the primary producer, they may also choose to undertake a field assessment of practices instead. See Toolkit 2, page 121, “How to use Supplier Audits to Manage E&S Risk” for an explanation.



HOW TO USE QUESTIONNAIRES IN SUPPLY CHAIN MAPPING

After identifying the agricultural commodities or suppliers that are the initial priorities for managing E&S risk, a company should map its supply chain for them. This can be a visual diagram, a written description, or both. The most common way of gathering information is through a questionnaire and database approach, supplemented by interviews with key suppliers.

Information gathered through **questionnaires** can be used to map E&S risk of primary production. The administrator of the questionnaire should plan time for explaining to each supplier the purpose of the questionnaire, following up to ensure timely completion, reviewing responses for completeness, inputting the information in the database, and analyzing responses.

The process of supply chain mapping is often and necessarily iterative, and a buyer may need to return for more data if the initial information is not sufficient or contradicts other evidence.

Using Questionnaires with Direct Suppliers

Questionnaires for direct suppliers should collect the following information:

- Brief description of the company
- Position in supply chain (e.g., mill, trader, refiner)
- A diagram of the known supply chain stages up to and including the company
- Range of products supplied to buyer and volumes
- When the suppliers are primary producers, sustainability information (including reference to supporting evidence such as certifications, or any other E&S data deemed relevant)

Table 5 is a sample questionnaire. This example applies to palm oil supply chains. In mapping a supply chain, buyers can tailor this questionnaire for each type of supplier, depending on their position in the supply chain (in this case, to a palm oil mill, refinery, or trader). The example applies to a refinery, sourcing from a range of crude palm oil mills.



The following sample supply chain questionnaire for palm oil refinery (Table 5) is an example for a case where the IFC client is a palm oil refinery. Palm oil mills typically have direct control over their own plantations and associated smallholders. The IFC client (the refinery) would be responsible for managing and mitigating specific risks in its primary suppliers, where there is a high risk of child labor or forced labor, and when there is a high risk of significant safety issues for workers engaged by the client's primary suppliers. The IFC client (the refinery) would also have to limit procurement to those suppliers that can demonstrate that they are not contributing to significant conversion of natural or critical habitats, and shift their primary supply chain over time to suppliers that can demonstrate they are not adversely affecting these areas significantly. In this case, RSPO certification is being used as the mechanism to confirm that the IFC Performance Standards for supply chain requirements are being met.

TABLE 5. SAMPLE SUPPLY CHAIN MAPPING QUESTIONNAIRE FOR PALM OIL REFINERY

Name of refinery	Type of products (please list below; e.g., RBD PO, olein, stearin, etc.):	Volumes (please insert for each product)		Total volume claimed as certified		Declared conversion rate (percent)			
		2012	2013	2012	2013	2012	2013		
Location	Product 1:	MT	MT	MT	MT				
Port(s) shipped from	Product 2:	MT	MT	MT	MT				
Destinations	Product 3:	MT	MT	MT	MT				
Crude Palm Oil Mills Supplying Refinery									
No	Name of mill	Name of owner	Location (min. city and province)	Volume		Certified volume: Segregated	Certified volume: Mass balance	Uncertified volume	
1				Total production	Volume acquired by company X				
2									
3									
4									
5									

Using Questionnaires in Complex Supply Chains

When companies operate farther downstream in the supply chain and are not purchasing primary production directly from producers such as farmers or plantation owners (or through primary intermediaries who effectively purchase on their behalf), it can be much more challenging to get specific information about their supply chains, and in turn, to use leverage to bring about change in those supply chains.

Companies in this position may choose to invest time into mapping and managing these more complex supply chains, particularly in cases where their customers are demanding this type of information or where they perceive a potentially significant reputational risks related to these supply chains. Others may take the view that their lack of leverage (see Step 4) limits their responsibility, and will not undertake this approach. In any case, companies should carefully review the terms of the contracts with their buyers, or any terms associated with financing, which may have legal implications for the scope of their responsibility.

If a decision is made to do a mapping of complex supply chains, companies can request their primary suppliers to use the same approach as direct suppliers (described in the previous section) to seek information from their own supply chains. They can aggregate the information received on origin and sustainability information for downstream buyers, including for each product supplied:

- Number of suppliers;
- Product(s) and quantities supplied to specific downstream buyers;
- Origin information for each delivery (including reference to supporting evidence);
- Sustainability information for each delivery (including reference to supporting evidence such as certifications, contract clauses, or any other E&S data deemed relevant);
- Where possible, identities of suppliers (which can be useful in assessing reputational risk in the supply chain, as information about company practices may be available in the public domain).

Depending on the level of resolution sought, gathering this information from suppliers can take time, as suppliers may in turn need to ask their own suppliers for supply chain and source information.

Deliveries that buyers receive may come from bulk facilities where product is received and blended from a number of suppliers. Therefore, in the short term, it may be useful to accept incomplete information from primary suppliers about their supply base. Gaps in information can help buyers make strategic decisions about which suppliers to continue buying from and about opportunities for partnerships across the sector. For more information see Step 3 on mapping institutions and leverage.

Suppliers simply may not have some information available. They may have hundreds or even thousands of suppliers, or a continually shifting supply base, which may require a more strategic approach to gathering the information over a longer time frame. Furthermore, they may be reluctant to share detailed information about their own suppliers with buyers, as this is often considered commercially confidential. There are several ways to handle this: buyers can in the short term accept anonymous aggregate information in the questionnaire, with a midterm goal of building up a trusting relationship with their primary supplier, or buyers can use a second or third party to gather information (under a nondisclosure agreement), so that only the source-country details are shared with the buyer, their customer. Alternatively, buyers can encourage or require sustainability certification, which can be a valuable source of assurance without the burden of supply chain transparency.

Depending on the size of the direct supplier base, mapping supply chains is likely to be an ongoing aspect of a supply chain management approach in the midterm, as continual follow up with existing suppliers will be needed and new suppliers will come online. However, an initial phase of higher effort – possibly up to six months effort - where the focus is on getting as much information as possible about the priority supply chains can enable more tailored and effective decisions about how E&S risk will be managed.

Once implementation of the selected management approaches is under way (see **Toolkit 2: Managing E&S Risk in the Supply Chain**), the supplier database can then be used as a tool for tracking performance.

An E&S Supply Chain Risk Assessment Matrix is a reference tool companies can create or purchase, providing them with generic information about the environmental and social risks associated with a commodity in a particular geographic location. If actual information about a supplier's E&S performance is available, the generic country-commodity risk level will be moderated by this additional information. This approach is explained further in Step 2 below, including how to create the matrix; its use is demonstrated in **Part 5: Case Studies**.

Step 2. Assessing E&S Risk in a Supply Chain

Using the information available about the agricultural commodities sourced by a company, as collected through the rapid diagnostic and supply chain mapping, the risk of E&S impacts can be assessed. This risk assessment can be used to define the scope of an E&S risk management program and to develop an implementation plan (part of an ESMS, see **Part 4: Environmental and Social Management Systems**).

For agro-commodity supply chains, one can assume that potential E&S risks will be greatest at the primary production stages. Therefore, those stages should be the focus of risk assessment processes.

Assessing E&S risk in the supply chain measures the likelihood of upstream E&S risks and the severity and potential impact of those risks. Together with an institutional map and a leverage assessment, assessing E&S risk is a prerequisite for managing E&S risks in supply chains. Although in some instances a company may already be aware of certain high risk upstream operations, it is more likely that specific risk information will not be readily available. In these circumstances, the level of E&S risks must be predicted or estimated on the basis of known factors, such as the commodity type, country of origin, or specific supplier involved.

Risk assessment should avoid unnecessary complexity. It is important to remain clear that risk assessment in this context is not an end in itself but a tool to determine optimum supply chain management approaches.

The following section details approaches for assessing E&S risk including:

- How to identify the framework for risk assessment;
- How to rate commodity and country risk factors;
- How to aggregate risk ratings; and
- How to incorporate additional risk factors.

Important note: For companies with a small supply base, long-standing relationships, and existing in-depth knowledge about the E&S practices in their primary production, it may not be necessary to do a risk assessment framework and ratings. Such companies should instead focus on assessing and managing the known E&S impacts and record these in their supplier database.

Additionally, there are service providers who can develop or provide access to risk ratings for specific commodities and countries. If a company is using this type of service provider, it should still consider how to incorporate additional risk factors for its specific suppliers, as outlined below.



HOW TO IDENTIFY THE FRAMEWORK FOR RISK ASSESSMENT

It is helpful to have a framework that defines what is meant by E&S risks. This is a list of key risks that will be analyzed and can be drawn from existing E&S standards; for example, those which are part of certification schemes or those such as IFC's Performance Standards.²⁰ For each key risk, it can be useful to develop indicators, probability guidance, scope, and intent. There are two essential factors that together can be used to assess the risks in an agro-commodity supply chain:

- **Commodity-level risk factors:** Some commodities are more likely to carry negative E&S risks than others, because of the type of cultivation and harvesting or the type of land on which farms and plantations are typically established, for example. They may be associated with specific countries where known impacts occur. It may also be that the stakeholder profile (e.g., consumer demands, campaigns by nongovernmental organizations (NGOs)) has drawn attention to these risks.
- **Country-level risk factors:** Some countries have a higher risk of negative E&S impacts, for reasons such as weak E&S regulations and legislation and their respective enforcement, social incentives and risks in-country (e.g., deforestation, human rights, corruption), and the profile and structure of the supply base (large estates, smallholders, etc.).



Whether or not a company is an IFC client, IFC Performance Standards provide a useful framework for identifying risk assessment variables. Companies may choose to use all eight IFC Performance Standards as the framework to manage risk in their supply chain. Note that with respect to their primary suppliers (“direct” or “Tier 1”), IFC clients are required to demonstrate management and mitigation for Performance Standard 2—child labor (paragraph 21), forced labor (paragraph 22), and significant safety issues related to supply chain workers (paragraph 28). Performance Standard 6 outlines what is expected of IFC clients where their primary suppliers are also primary producers (e.g., farmers or plantation owners) or they have reasonable control over these primary producers (Performance Standard 6, paragraph 30).

²⁰ For more information, visit [ifc.org/sustainabilityframework](https://www.ifc.org/sustainabilityframework)



HOW TO RATE COMMODITY AND COUNTRY RISK FACTORS

The level of risk can be assessed according to the **probability** of certain impacts and the potential **severity** of those impacts.

Research is needed for each E&S risk being assessed, as is decision on the likely probability and severity of impact. The process to assess each risk will generate a considerable dossier of data which informs the high, medium, and low risk ratings. This information can be useful to shape the most appropriate strategies and tools for managing a particular risk.

Each of the E&S components of risk can be assigned a **probability** of occurrence (high, medium, or low). Where there is a known impact, for example, as identified through fieldwork, then “high probability” is assigned. See Figure 6 for a sample risk rating matrix.

FIGURE 6. RISK RATING MATRIX

	Low Severity	High Severity
Known impact: already occurring (instead of risk management, this situation requires mitigation actions to address known risks)	HIGH	VERY HIGH
High probability of occurrence	MEDIUM	HIGH
Low probability of occurrence	LOW	MEDIUM

A second level of analysis is needed to understand the potential **severity** of the risk. The calculation needs to take into account the potential for certain E&S risks to intensify or decline over time: planning for long-term, cumulative impacts is a key component of E&S risk management. The analysis classifies each E&S risk based on the potential severity of its impact, either “low severity” or “high severity.”

Assessment of the probability and severity of the commodity- and country-level risks at the primary production stage should consider three elements:

- Product type and production/processing characteristics—information from a desk review or consultation; may indicate that certain risks are found in similar supply chains;
- Geographic location of primary production (and primary processing if relevant); and
- Legislation and regulatory enforcement, as well as levels of corruption.

Assessing the probability and severity of the commodity and country risks is a subjective process, dependent upon a specific supply chain actor’s objectives, priorities, and profile. In addition, severity can be interpreted in absolute terms, based on the potential level of impacts on society and the environment, or, in a more relative way, concerning material risks to the business. See the sample risk framework (Table 6) for an example of probability guidance, where A is the highest probability and E is the lowest probability of occurrence.

TABLE 6. SAMPLE RISK FRAMEWORK FOR CHILD LABOR IN AGRO-COMMODITY PRIMARY PRODUCTION

Risk	Indicator	Question	Probability guidance	Scope	Intent
Child labor	Extent of child labor in the production or transportation of the commodity	What is the extent of harmful child labor use in the commodity production?	<p>A. Harmful child labor is documented recently (within the past 2 years) and historically (within the past 50 years) within the production of the commodity.</p> <p>B. Harmful child labor is documented recently within the production of the commodity.</p> <p>C. Harmful child labor is documented recently and historically in the sector.</p> <p>D. Harmful child labor is documented historically in the sector.</p> <p>E. No harmful child labor is documented in the production of the commodity or the sector.</p>	<p>Limited to production only, commodity of interest within the country. Of particular concern is harmful child labor (per guidance below). National-level sector workforce data are used to some extent when commodity-specific data are not found.</p> <p>Child labor is considered harmful when it entails</p> <ul style="list-style-type: none"> (i) work that exposes children to physical, psychological, or sexual abuse; (ii) work underground, under water, at dangerous heights, or in confined spaces; (iii) work with dangerous machinery, equipment, and tools, or which involves the manual handling or transport of heavy loads; (iv) work in an unhealthy environment which may expose children to hazardous substances, agents, or processes, or to temperatures, noise levels, or vibrations damaging to their health; and (v) work under particularly difficult conditions, such as work for long hours or during the night or work where the child is unreasonably confined to the premises of the employer. 	Risk may be higher when harmful child labor is occurring in the workforce



Once the probability and severity of each E&S risk has been determined, the risk can then be categorized as high, medium, or low using the information in Figure 7. This can be done by topic (e.g., child labor and forced labor), or in a more sophisticated approach that includes detailed risk ratings for a number of indicators per topic.

FIGURE 7. RISK FACTOR ASSESSMENT MATRIX

	Child Labor and Forced Labor	Significant Safety Issues Related to Supply Chain Workers	Significant Conversion of Critical and/or Natural Habitat
Commodity/Country A	High risk	High risk	High risk
Commodity/Country B	High risk	High risk	Low risk
Commodity/Country C	Low risk	Low risk	Low risk

This approach can be applied to a company's portfolio of suppliers as part of a strategy to prioritize and manage existing supply chains, to new suppliers being considered, or when entering new and unknown markets. The scope of the countries and commodities included in the risk framework and rating exercise will depend on the company's suppliers.



HOW TO AGGREGATE RISK RATINGS

To achieve a single risk rating associated with each commodity and country combination, the risks can be aggregated across E&S issues. Weighting of indicators can be used, if their importance differs.

To facilitate decision making on appropriate risk management measures, risk factors can be combined in a matrix to identify an overall risk rating for each supply chain based on the risk ratings of the country of origin and commodity (see Figure 8). It is important to ensure that the outputs (risk levels assigned to agro-commodity supply chains) lead to clearly defined actions.

FIGURE 8. RISK RATING MATRIX

	Child Labor and Forced Labor	Significant Safety Issues Related to Supply Chain Workers	Significant Conversion of Critical and/or Natural Habitat	Aggregate Risk
Commodity/Country A	High risk	High risk	High risk	High risk
Commodity/Country B	High risk	High risk	Low risk	High Risk
Commodity/Country C	High risk	Medium risk	Low risk	Medium Risk
Commodity/Country D	Low risk	Low risk	Low risk	Low risk

The approach described here is typically contained within a stand-alone spreadsheet or database, which is used as a reference tool. As mentioned earlier, to manage E&S risk in supply chains, it is useful to maintain a supplier database. The risk assessment matrix described above can be used to populate the supplier database with risk ratings.



HOW TO INCORPORATE ADDITIONAL RISK FACTORS

In addition to risk factors related to commodity and country of origin, it is important to consider **additional risk factors** that may influence the scope of the E&S risk management program and the implementation plan. The **rapid diagnostic** and **supply chain mapping** may identify factors that moderate or exacerbate the risk ratings from a commodity-country analysis and can be used to adjust the risk ratings in the supplier database. Assessments of risk should therefore be supplemented by an understanding of generic supply chain risk, which includes four elements:

- **Volumes purchased:** A given supplier may be extremely important (and thus present a supply base risk) because of large volumes of raw materials purchased.
- **Complexity of the supply chain (relating to the number of actors, degree of complexity, and geographic spread) and its continuity:** Certain commoditized products, such as oleo-chemical derivatives, use processes in which the original feedstocks are not identified in the traded commodity and the origins of the commodities are difficult to trace. In the absence of clear traceability, higher numbers of participants in the physical supply chain also mean, a higher risk of one or more actors having unacceptable E&S impacts.
- **Degree of information sharing in the supply chain:** Lack of engagement from a specific supplier and consequent lack of supply chain visibility could be used to indicate higher risk and assist in identification and removal of nonconforming product or suppliers.
- **Extent of E&S risk management in the supply chain:** Where companies source from known primary production suppliers, and have specific information of either best practice or poor performance (certification status, environmental management systems, purchasing policies, public campaigns).

Therefore, when assigning a risk rating to a specific supply chain in the supplier database, both the **Overall E&S Supply Chain Risk Assessment Matrix** and **Additional Risk Factors** should be considered. For example, if the Risk Assessment Matrix indicates that a country/commodity combination is high risk, but the supply chain is traceable to a verified source confirming good E&S practices, the supplier rating can be entered as “low risk.”

This information also provides the basis for an assessment of leverage, which measures the extent of supplier influence, the nature of the trading relationships, and the related degree of information sharing, as well as the major institutions that can support E&S risk management in the supply chain (see Step 3 for details on these institutions).



RESOURCES FOR IDENTIFYING COMMODITY AND COUNTRY RISKS

It is important to ensure that the risk assessment is sound—that information relating to commodities and source countries derives from publicly available information or evidence. In some cases, it may be necessary to rely on or request nonpublic information as well. Sound information will enable a clear rationale for making decisions related to probability and severity of risk at the commodity and country of origin levels.

Some key sources of information relating to country and/or commodity risk are included below:

- **Climate Change Knowledge Portal** (World Bank Group): This portal provides information for countries worldwide on topics including climate (rainfall and temperature), impacts (such as agricultural statistics), and vulnerabilities (such as of agricultural land): <http://sdwebx.worldbank.org/climateportal/index.cfm>
- **World Bank Data by Country**: <http://data.worldbank.org/country>
- **FAO Country Profiles**: <http://www.fao.org/countryprofiles/default.asp?lang=en>
- **World Bank Governance Indicators**: This resource reports aggregate and individual governance indicators for 213 economies over the period 1996–2010, for six dimensions of governance including corruption, regulatory quality, political stability, and absence of violence : http://info.worldbank.org/governance/wgi/sc_country.asp
- **International Country Risk Guide**: This guide covers 140 countries (subscription only): http://www.prsgroup.com/prsgroup_shoppingcart/pc-39-7-international-country-risk-guide-icrg.aspx
- **Conservation International-Identified Biodiversity Hotspots**: This resource identifies areas with high levels of biodiversity and areas under threat: http://www.conservation.org/where/priority_areas/hotspots/Pages/hotspots_main.aspx

- **The Integrated Biodiversity Assessment Tool (IBAT):** This web-based tool is designed to help businesses identify, map, and assess biodiversity risk, using an online biodiversity database (subscription only): <https://www.ibatforbusiness.org/about>
- **The International Union for Conservation of Nature (IUCN) Red List of Threatened Species:** This resource provides taxonomic, conservation status, and distribution information on plants and animals that have been globally evaluated using the [IUCN Red List Categories and Criteria](http://www.iucnredlist.org/about): <http://www.iucnredlist.org/about>
- **Child Labor:** This website database provides information across a range of detailed indicators and also by region related to child labor: http://www.devinfo.info/cl_info/
- **Transparency International:** This organization's website provides corruption information on countries worldwide, including the internationally recognized corruption perception indexes: www.transparency.org/country

Other websites with potentially relevant content includes:

www.independentsciencenews.org

www.foodnavigator.com

www.maplecroft.com

www.mongabay.com

www.endsreport.com [products and supply chain items]

CASE STUDY: RESPONSIBLE PURCHASING APPROACHES FOR TIMBER

Although the assessment and management of E&S risks in agro-commodity supply chains is a relatively recent development, a comparable approach has become widely and systematically implemented in the forest products sector over the last decade.

The European Union Timber Regulation, which came into force in 2013 and which uses a risk-based approach, informs the purchasing policies of many supply chain actors in the forest sector worldwide. The approach is based on the use of risk factors such as source country and timber species. It requires implementation of a due diligence system to manage the risk of placing illegal timber in the EU market.

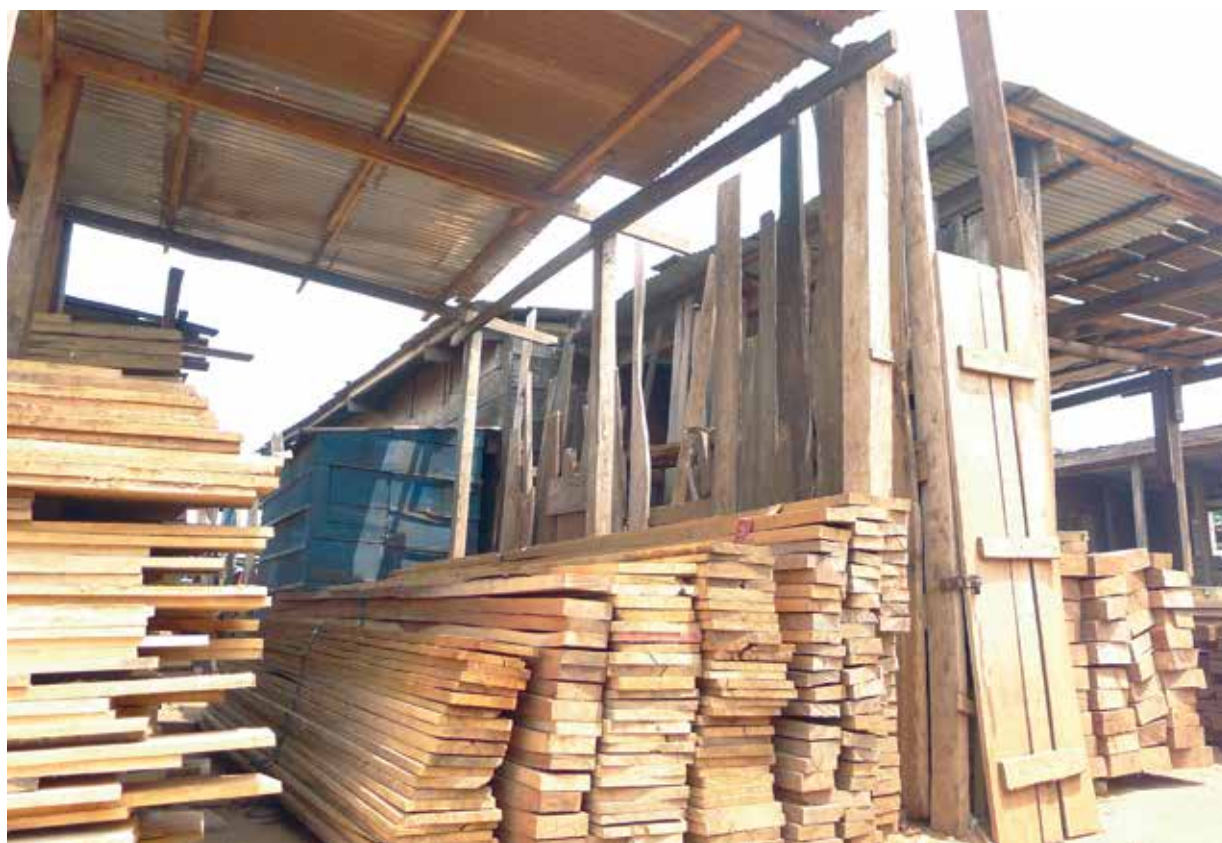
An example of environmental risk assessment that is being successfully implemented at a significant scale in forest sector supply chains is the U.K. Timber Trade Federation (TTF) Responsible Purchasing Policy (RPP). The RPP offers members an objective system for assessing and managing risk, providing systematic information for members on suppliers and their environmental credentials, and so helping to develop a preferred suppliers list. The RPP approach has five steps:

1. Initial screening—identifying products with existing environmental credentials, e.g., certification, legality verification;
2. Initial risk assessment;
3. Additional information collection—using a questionnaire and supporting evidence to gather information on the supplier's environmental performance
4. Final risk assessment; and
5. Risk mitigation.

The risk assessment examines the supplier's ability to deliver against selected forestry criteria as well as the estimate of risk that the supplier may be offering illegal and unsustainable timber, as determined from a questionnaire and supporting evidence. Risk assessments are based on two main factors—country of origin and timber species. These are combined in the overall risk rating for a product. These assessments help member companies make an informed judgment and grade their supplier's performance as low, medium, or high risk. The RPP also offers advice to suppliers on how to improve their environmental performance and risk rating.

Companies participating in the RPP adopt the approach above, as well as a commitment to implement a responsible purchasing policy, procure legal timber, avoid endangered species, support sustainable timber certification, avoid boycotts, and commit to continuous improvement. The process is independently audited to ensure credibility with customers and stakeholders.

In 2010 the TTF made due diligence a condition of membership, with 92 percent of the membership implementing the approach, and the majority choosing to adopt the full RPP. Members who cannot meet their due diligence requirements are suspended from TTF membership until they can meet the requirements. The RPP system is fully supported by the U.K. government and several leading NGOs as an example of industry good practice.²¹



²¹ Additional information is available from www.ttf.co.uk/Environment/Responsible_Purchasing_Policy.aspx.

Step 3. MAPPING INSTITUTIONS IN A SUPPLY CHAIN

An **institutional mapping** exercise can be used to identify key institutional actors, such as partners, government bodies, or industry associations, to support the implementation of better E&S practices. Companies may also identify “blocking institutions,” which hinder a company’s leverage in a supply chain.

Such an exercise can identify certification bodies and roundtables to use as a means to monitor and share information on E&S risks; the role of government, laws, and regulations in providing a framework for E&S issues, monitoring, and enforcement; cultures and norms in the sector, region, or supplier that will allow an actor to preempt potential roadblocks to change or progress—and to identify points of transformation.

The following section details an approach companies can use to identify such institutions.



HOW TO IDENTIFY INSTITUTIONS AFFECTING SUPPLY CHAIN LEVERAGE

Based on sectoral and other knowledge, companies can identify the main formal and informal institutions affecting the functioning of the supply chain. As with the E&S risk assessment, both the commodity (e.g., global, regional, and local institutions) and the country should be considered.

Institutions include the following:

- Government laws, regulations, standards, and taxes;
- Government services and infrastructure provision;
- Private sector standards and business practices;
- Policies, services, and advocacy of civil society organizations (including producer organizations);
- Informal market and business relations;
- Voluntary standards and certification, roundtables; and
- Cultural norms, values, and behaviors that influence business practices (particularly related to the management of E&S risks).

Information on these types of institutions will provide context for E&S risk management approaches. Therefore, companies should consider how these institutions:

- Influence how stakeholders understand and interact with E&S risks (for example, supplier codes of conduct and best practice guidance from certification schemes and commodity roundtables).
- Provide information and a platform for information sharing (for example, regular meetings between buyer and supplier, contract negotiations, systems quality control or volume forecasting, traceability systems and certifications).



- As associations, achieve shared goals for the value chain (such as mechanisms for dialogue and shared decision making between buyer and supplier, and involvement in developing commodity roundtables or other sectorwide initiatives).
- Control interactions among market actors and other stakeholders (such as regulations on E&S issues).
- Undertake recurring actions, by individuals and organizations (for example, buyers increasingly requesting certified and traceable product).

Companies should consider how these institutions provide incentives for suppliers to manage E&S risks or undermine their ability to do so. Following are examples of incentives for suppliers.

Institutional Incentives in Palm Oil, Soy, and Sugarcane: The RSPO, RTRS, and Bonsucro are standards providing a framework for how actors in an agro-commodity sector understand and interact with risks and increasingly affect recurring interactions, as companies make commitments to source 100 percent certified product. This last point provides a major institutional incentive for actors in the palm oil sector to manage E&S risks according to that standard. In the palm oil sector, new EU regulations require companies to label palm oil in food products to provide information to the consumer that has previously been lacking. The regulations provide an incentive to manage E&S risks and for a basis for control over interactions.

Institutional Incentives in Cocoa: The International Cocoa Organization (ICCO) 6th International Cocoa Agreement came into force in 2003, and in 2005 the percentage of exporting countries acceding to the Agreement surpassed 80 percent. ICCO member countries now represent almost 85 percent of cocoa production and more than 60 percent of world cocoa consumption. A significant recent breakthrough of the current Agreement is the establishment of an explicit mandate on a sustainable world cocoa economy, with a concept of sustainability encompassing social, economic, and environmental dimensions in both production and consumption. This frames sustainability in the sector and in the future may provide the basis for control over interactions.

A company may have an opportunity to join global, regional, or local institutions, such as industry organizations, roundtables, and other processes to help implement E&S supply chain management. Membership in such institutions can form part of a supply chain management approach.

Step 4. Assessing Leverage in a Supply Chain

Leverage is the ability of one actor to effect change in the practices of other actors. Assessing the degree of influence a company has over its primary supplier is essential to developing appropriate E&S risk management strategies.

The following section provides an approach for companies to identify high- and low-leverage situations.

In agro-commodity supply chains, leverage is determined largely by the nature of the trading relationship, or **coordination** between the buyer and the supplier. **High levels of coordination**, such as between a parent and subsidiary company, are likely to mean a **high degree of leverage**. These arrangements are common in branded agro-commodity companies to manage operational risks and secure supply. By contrast, **low levels of coordination**, characterized by traders buying undifferentiated product on a spot market, often mean a **low degree of leverage** with minimal traceability and flow of information between buyer and supplier. These types of market relationships have characterized commodity trade—product quality standardization and anonymity—presenting challenges to E&S risk management due to an inability to leverage change. Between these two ends of vertical integration and market-based transactions are agro-commodity companies that have contracts or long-standing trade and therefore relationship and leverage with their suppliers.

Leverage can be increased or decreased by buyer influence or supplier influence, respectively. Companies or other supply chain actors with greater market influence have greater leverage. In some supply chains, one firm—often termed the “lead firm”—may hold a dominant market position and can coordinate actions throughout the supply chain.

Buyer influence makes it easier to incentivize changes in the practices of the supplier. Such influence is indicated by:

- Large volumes purchased
- Few dominant buyers and many producers
- The ability to source the same product elsewhere (high substitutability)

Supplier influence makes it more difficult to influence changes in the practices of a supplier. Such influence is indicated by:

- Large volumes supplied
- Few dominant suppliers and many buyers
- Restricted ability to source the same product elsewhere (high product specificity)

Finally, it is important to consider the impact of **institutions**, both within and outside the chain. Potential blocking institutions, such as commodity exchanges or marketing boards, may prevent traceability and any changes in the practices of suppliers. It is important to identify these blocking institutions early on, as they may mean the buyer has no leverage over the supplier. Other institutions, such as certification schemes and roundtables, government involvement in production, and producer organizations, can act more subtly to enable or restrict leverage and are important to consider when managing E&S risks. The institutional mapping exercise can also help a company identify the institutions of coordination that can facilitate E&S risk management. For example, contracts, which provide a basis for control, or strong informal relationships may suggest shared values and an ability to collaborate on E&S risk management policies.



KEY CONCEPTS

Market relationships: Companies that trade through commodity exchanges, buying on the spot market or markets characterized by minimal information sharing and traceability.

Horizontally coordinated: Cooperation between companies at the same stage in supply chain, normally producing and trading the same product.

Vertically coordinated: Information about what and how much to produce is communicated efficiently through successive stages in the supply chain.

Vertically integrated: Portions of the supply chain are under common ownership, which could include primary production, aggregation, trading, and manufacturing, for example. There are typically higher levels of information sharing and coordination in transactions, and thereby increased control over the way in which E&S risks are managed.



HOW TO IDENTIFY HIGH- AND LOW-LEVERAGE SITUATIONS

The assessment of leverage in a supply chain is with respect to a company's ability to directly influence practices that it considers to be risks; for example negative E&S risks of primary production. For each supply chain in a company's supplier database, the company's ability to leverage the supply chain actors should be categorized into one of the following:

No leverage: There are institutions that block the ability to effect change, either upstream or because of supplier influence.

Low leverage: The market relationships are such that there is minimal information sharing and traceability, and limited buyer influence.

Coordination: Aspects of vertical and horizontal market coordination mean there is transactional control. Sector-based approaches may exist, enabling buyers to drive positive E&S outcomes. Coordination among sellers can result in low leverage of buyers, though they may also act together for positive E&S outcomes.

High leverage: Vertically integrated companies, or those with significant influence over their supply chains, can implement change upstream.

The leverage rating can draw on information from the supply chain mapping, the risk assessment, and the institutional mapping. The process of supply chain mapping provides a useful basis for a leverage assessment, enabling companies to identify primary suppliers (including key characteristics such as geographic distance and the ability to influence purchasing) and the existence of certification in the supply chain (a key tool for managing E&S risks). Analyzing influence and institutional relationships is useful when considering management strategies and can act to reduce or increase leverage. See the Key Concepts box for examples of leverage in Supply Chains.



IFC Performance Standards supply chain requirements are applicable to the client's primary suppliers, defined as those "who on an ongoing basis provide the majority of living natural resources (where the primary supplier is a primary producer), goods, and materials essential for the core business processes of the project." (Performance Standard 6, footnote 21, paragraph 30.)

"The Performance Standards recognize that the ability of the client to fully address these risks will depend upon the client's level of management control or influence over its primary suppliers. Where remedy is not possible, the client will shift the project's primary supply chain over time to suppliers that can demonstrate that they are complying..." (Performance Standard 2, paragraph 29.)

Where the IFC client does not have leverage or influence, and faces these risks in its supply chain, it should lower risk by changing suppliers as needed.



KEY CONCEPTS

EXAMPLES OF LEVERAGE IN SUPPLY CHAINS

No leverage: Examples of institutions that may block a company's ability to affect change include marketing boards or commodity exchanges. What makes them “blocking” institutions is that they prevent traceability from a given supplier, restrict the ability to differentiate product, and, thereby, reduce the ability of buyers to make changes in the way in which E&S risks are managed. Another example of no leverage occurs when a product and supply chain is subject to high levels of regulation. Regulations can restrict the company's ability to make changes to the way the relationship is governed and make it difficult to introduce systems and processes for managing E&S risks in the upstream primary supply chain. Companies whose primary supply chains operate with the presence of blocking institutions have no leverage and need to work indirectly to effectively manage E&S risks in the supply chain.

Low leverage: Companies that trade on the spot market or markets characterized by minimal information sharing and traceability to the supplier can be regarded as having low leverage due to these factors. This is the most typical arrangement for international trading of agro-commodities. In these relationships, information that is shared between the parties on product and process tends to be of low complexity and easily transmitted. The costs of switching to new suppliers in these cases are often low for both parties, and there is little incentive to invest in product for a single buyer. Traceability in these cases is nearly impossible.

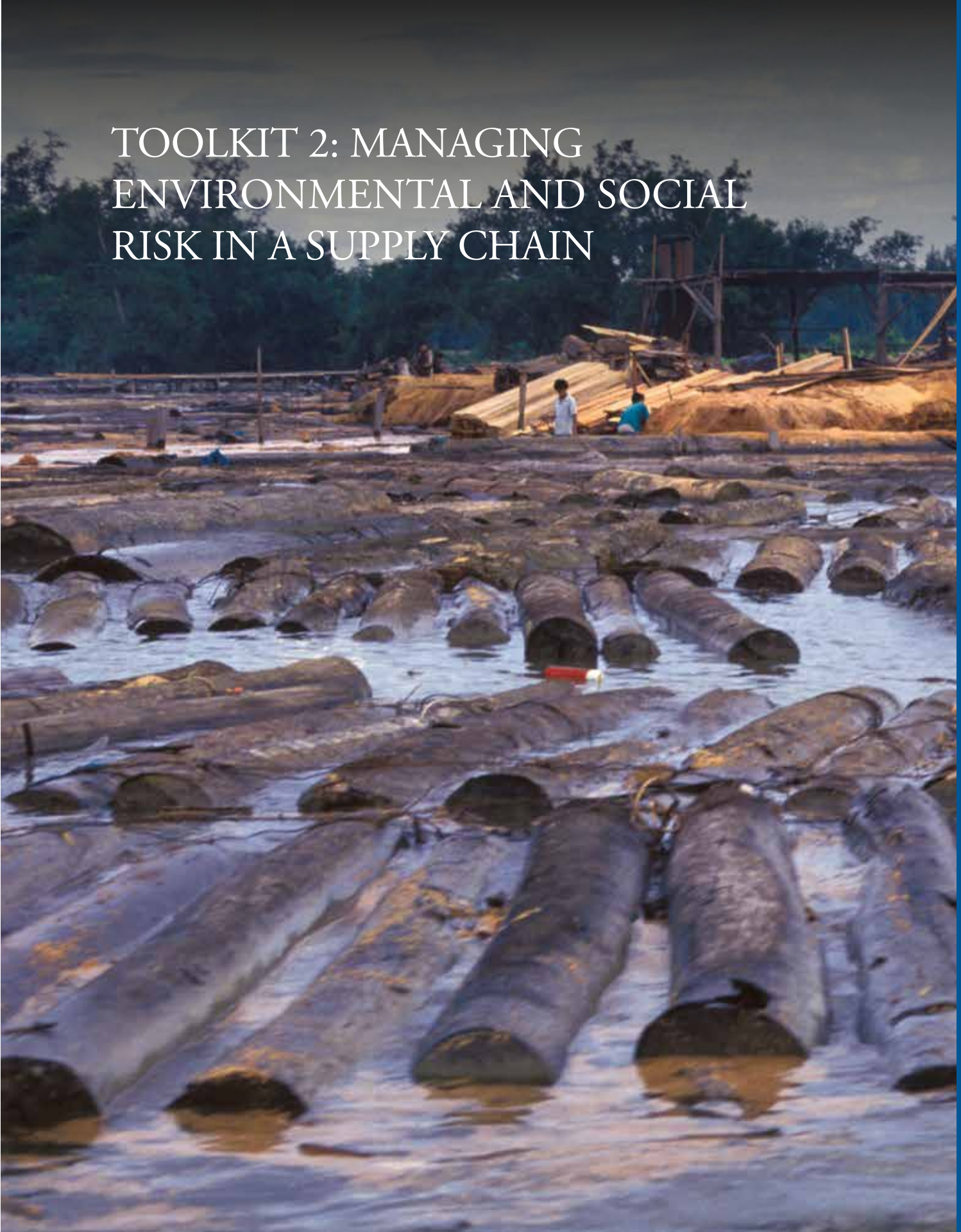
New institutions such as certification bodies and roundtables encourage market systems to adapt and to have different channels that differentiate products based on compliance with set criteria and standards and should be identified within an institutional mapping of the supply chain. For example, the Rainforest Alliance worked with the Ghanaian Cocoa Board to segregate certified cocoa beans from conventional ones. These institutions can be used as the basis for a buyer's risk management in these cases.

Coordination: Buyer/seller relationships can vary from irregular purchase agreements—for example, cocoa traders sourcing from thousands of smallholders in Côte d'Ivoire—to long-standing relationships based on formal contracts, such as nucleus-outgrower schemes in palm oil production. Underlying each is an assurance to buy; however, the nature of leverage is different. In many commodity supply chains, there may be relationships based on trust and/or repeated transactions. The informal mechanisms governing those relationships cannot be leveraged in the same way as a contract, where there are formal mechanisms for redress.

Buyers sourcing from smallholders may provide them with production inputs, financing, market information, and technical assistance to secure supply and increase their leverage. This is seen in the case of supported smallholders in palm oil in Malaysia and increasingly in cocoa sourced from smallholders in Ghana. By contrast, some suppliers may be highly capable and may provide buyers with a number of different highly specialized products. An example may be a coffee estate or producer organization that has multiple certifications. In such cases, the buyer is more dependent on the supplier.

High leverage: Examples of high leverage are seen in the sugar and palm oil sectors, where vertical integration between the producer and the primary or secondary processor is common, to guarantee continuity of supply and achieve greater efficiency in the chain. Vertical integration by palm oil traders has increased as brands become more responsive to sustainability issues. Vertical integration gives a buyer greater control over their supplier, with higher levels of information sharing and coordination in transactions. Leveraging change for E&S risk management in vertically integrated suppliers is easier because of this level of control, and top-down strategies are often appropriate. Buyers can also use the systems and information-sharing channels they have in place to make the necessary changes.

TOOLKIT 2: MANAGING ENVIRONMENTAL AND SOCIAL RISK IN A SUPPLY CHAIN



TOOLKIT 2: MANAGING ENVIRONMENTAL AND SOCIAL RISK IN A SUPPLY CHAIN

After conducting a supply chain mapping, E&S risk assessment, institutional mapping, and leverage assessment, the next step is to define the scope of the management program and draft a plan. The key to an effective plan is to allocate resources in a way that balances two elements: minimizing risk and pushing for improvement in E&S standards among suppliers.

The results of the assessment and analysis provide the necessary input for the development of strategy and tactics for managing E&S risks in supply chains. As components of a management strategy, appropriate actions can be identified by the level of risk assigned to a specific supply chain.

When developing an approach to managing E&S risk, the first step is to identify which supply chains are priorities, and how to manage the risk of those supply chains. The “high-risk” supply chains should be prioritized, and the ability to leverage change used to determine the approach to take.

Below is a step-by-step process for doing this, including some useful tools and resources.

Step 1. Prioritizing supply chains

Step 2. Determining appropriate management strategies based on leverage

Step 3. Implementing, monitoring, and reviewing

Step 1. Prioritizing Supply Chains

A company needs to be realistic in its E&S risk management, and prioritize and focus its efforts as it is difficult to do everything at once. A company may also find that it does not have the ability to effect change or shift a particular behavior in its supply chain based on its position in the value chain. But, where can a company start and how can it strategically allocate its resources? The scope of the work needs to be realistic given the nature of the business or organization. Resources should be focused in a way that mitigates the very highest risks and affects the largest sourcing areas. Companies should consider where they have leverage to push for certain standards and change among suppliers. Clear criteria should be established for how to prioritize suppliers and/or risks.

Four time frames are recommended for planning:

- Status (now)
- Short-term priority (1–12 months)
- Midterm expansion (2–5 years)
- Future vision (where the company wants to be in 10 years)

The **supply chain mapping** and **risk assessment** approach described in **Toolkit 1: Assessing E&S risk and leverage in a supply chain** enables companies to prioritize risks according to commodity and country, based on the likelihood and severity of the risk. Examples are below in Table 7.

Different levels of risk lead to different management strategies. There is space for agribusiness companies to map the risks by region and try to reduce exposure to the most risky areas—articulating this in their supply chain policies. For example, certain companies may have a preference for high E&S performance and/or low E&S risk or opt for multi-country avoidance versus in-country avoidance. This is particularly true when a company has low or no leverage in the face of high E&S risks.

There is a temporal aspect to managing according to risk. Companies facing high levels of E&S risk may have to act more quickly to manage risks or mitigate impacts where the E&S issue occurs. By contrast, companies facing low-risk situations can opt to regularly monitor the situation while laying the foundations for improved E&S risk management if the risks were to increase. All options depend on the resources a company is willing to invest in the supplier or supply chain and the realities of what they already have in place to build upon. Options should be considered in light of a company's leverage assessment.

TABLE 7. PRIORITIZING SUPPLY CHAINS USING RISK INFORMATION

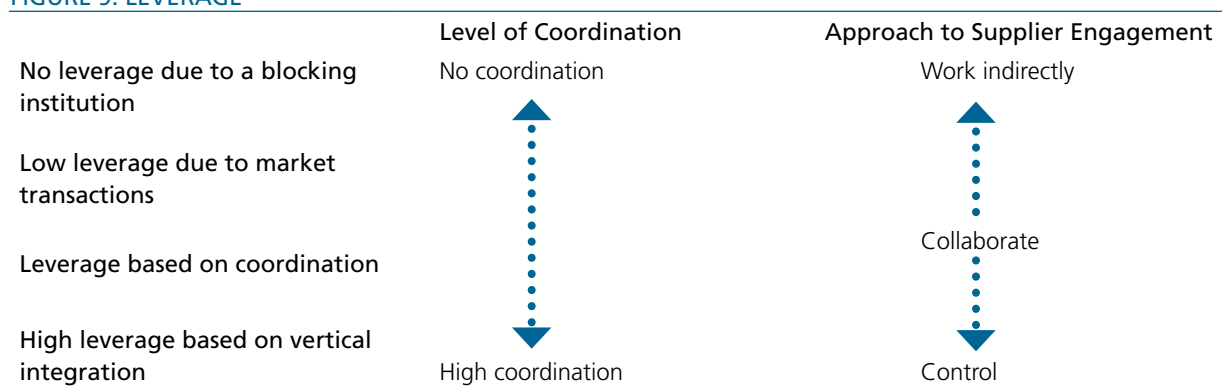
Large volumes	If a company purchases multiple commodities, it may decide to focus initially on the commodities that have the biggest volumes, as they will have the biggest impact (and also the largest risk exposure).
Suppliers that provide multiple commodities or large volumes of one commodity	Where a company purchases multiple commodities or large volumes from a single supplier or aggregator, there is an opportunity to amplify impact. There is also an element of risk, in that exposure by one supplier can have a significant impact on a company's books.
Large volumes with high-risk exposure	If a company purchases multiple commodities, several of which are high volume, it may choose to focus on the commodity with the biggest risk exposure first. Similarly, if there are several suppliers who supply large volumes, a company may choose to focus on the supplier with the biggest risk exposure first.
Small volumes with high-risk exposure	There may be cases where a commodity or supplier that is only a small part of a company's books represents the biggest risk. It may be appropriate to focus on these supply chains initially, particularly if the larger volumes are considered low risk.
Nonfungible commodities	In some cases only one type of commodity can be used as an ingredient, and for commercial reasons it will be necessary to maintain this source even if significant issues related to E&S impacts arise. This is a risk exposure.



Step 2. Determine Appropriate Management Strategies Based on Leverage

The leverage assessment provides the basis for undertaking management strategies appropriate to the nature of the trading relationship (coordination) and the presence of a blocking institution. As illustrated in Figure 9, a company's leverage assessment points to a management strategy appropriate to the level of supplier engagement in place.

FIGURE 9. LEVERAGE



The figure identifies top-line strategies of working indirectly, collaborating, or controlling top-down for managing E&S risks according to the level of coordination and leverage in the chain. In summary:

Command and control, or top-down approaches manage risk by enforcing standards, systems and codes of E&S risk management. These approaches can be adopted in a limited number of cases where the supplier and buyer are vertically integrated and these approaches are thus integrated within existing company systems and operations.

Collaborative risk management approaches aim to manage E&S risks by increasing information sharing on E&S risk assessment and management and improving suppliers' capacity to assess and manage risks. Companies that have vertically coordinated supplier relations may look to tools within this area to manage their E&S risks, depending on the exact nature of the relationship and the institutions governing it.

Work indirectly to influence changes in practices to manage E&S risks through partnerships, roundtables, and government organizations. These approaches may

allow companies to influence change where they have no leverage due to either a blocking institution or the fact that trade occurs in a spot market.

In some cases, an exit strategy may be used, where alternative suppliers exist and there is insufficient leverage to change the practices of existing suppliers.

Leverage in all cases can be moderated slightly upward or downward depending on the assessment of institutions and where influence lies in the supply chain. Both elements are important to consider when making an assessment of a company's leverage situation and thereby determining and implementing an E&S risk management strategy.

The following section details an approach companies can use for implementation. Table 8 pulls together the results of the leverage and risk assessments to identify the most appropriate management strategies and tools. These tactics can be implemented in accordance with the situation, with the company's supply chain policy, and within a company's ESMS.



Where an IFC client has a high degree of leverage and influence, the client is expected to collaborate with its primary suppliers to propose mitigation measures proportionate to identified risks—on a case-by-case basis, if needed, with the producer. Where the IFC client does not have leverage or influence and faces these risks in its supply chain, it should lower risk by changing suppliers as needed.

The systems and verification practices of the IFC client should (i) identify where the supply is coming from and the habitat type of this area—if the habitat sensitivity is low (modified) no further actions are needed; (ii) ensure conditions have not changed as new suppliers are included; (iii) if the habitat is natural or critical, limit procurement to those suppliers that can demonstrate that they are not contributing to significant conversion (by delivery of certified product, or progress towards verification of certification under a credible scheme in certain commodities and/or locations); and (iv) if a supplier cannot demonstrate that it is not significantly converting natural or critical habitats, then, where possible, shift the primary supply chain over time to suppliers that can demonstrate that they are not significantly adversely impacting these areas, and (v) provide for ongoing review of primary supply chains.

IFC clients must assess whether there are any incidents of harmful child labor, forced labor, or significant safety issues in their primary suppliers. If such incidents or issues are identified, the client must work with suppliers to take corrective action. In the event that corrective action is not feasible, the client will gradually change to suppliers that are managing the risk of child labor, forced labor, and safety issues adequately.

TABLE 8. IDENTIFYING MANAGEMENT TACTICS BASED ON RISK AND LEVERAGE

	No Leverage Due to Blocking Institution	Low Leverage Due to Market Transactions
In all cases:	<ul style="list-style-type: none"> • Ensure the supplier has the capacity to adopt management measures. • Make use of institutions in the supply chain that provide a basis for E&S risk management. • Ensure suppliers are incentivized to adopt E&S risk management actions. 	
High Risk	<ul style="list-style-type: none"> • Conduct emergency joint interventions by industry and government based on partnerships. • Consider exit if alternative supply is available. 	<ul style="list-style-type: none"> • Consider exit if alternative supply is available (such as sourcing certified product on the spot market). • Develop purchasing policy and procedures defining (critical) E&S criteria for suppliers in the risky areas.
Medium Risk	<ul style="list-style-type: none"> • Engage with blocking institution, where present, through public-private partnership. • Engage with industry, civil society, and government partnerships to introduce sectorwide change. • Use traceability systems, certifications and standards, and grievance mechanisms as institutional bases for engaging with partners to manage E&S risks. • Influence governments for changes in E&S risk regulation (particularly where the risks are country-related) • Consider exit and alternatives to selecting suppliers. 	<ul style="list-style-type: none"> • Engage with industry, civil society, and government partnerships to leverage change in the market. • Introduce traceability (through certification if appropriate). • Engage with commodity roundtables to encourage sectorwide change (particularly where the risks are crop related). • Define progressive purchasing targets, linked to economic incentives, of certified commodities, as feasible. • Influence governments for changes in E&S risk regulation (particularly where the risks are country-related). • Consider exit and alternatives to selecting suppliers.
Low Risk	<ul style="list-style-type: none"> • Review risk assessment periodically. • Identify a long-term strategy for responding to changes in E&S risk and integrate within a responsible sourcing policy. 	<ul style="list-style-type: none"> • Review risk assessment periodically. • Identify a long-term strategy for responding to changes in E&S risk and integrate within a responsible sourcing policy.

Continued on next page

TABLE 8. IDENTIFYING MANAGEMENT TACTICS BASED ON RISK AND LEVERAGE

	Leverage Based on Vertical Coordination	High Leverage Due to Vertical Integration
In all cases:	<ul style="list-style-type: none"> • Ensure the supplier has the capacity to adopt management measures. • Make use of institutions in the chain that provide a basis for E&S risk management. • Ensure suppliers are incentivized to adopt E&S risk management actions. 	
High Risk	<ul style="list-style-type: none"> • Undertake a field-level appraisal to better understand the nature of the risk. • Develop purchasing policy and procedures defining minimum (critical) E&S criteria for suppliers in the risky areas. • Include specific E&S provisions and standards of performance in contracts with suppliers. • Follow up with regular third-party audits until out of high-risk status. • Consider exit if alternative supply is available. 	<ul style="list-style-type: none"> • Undertake a field-level appraisal to better understand the nature of the risk. • Introduce certification where available or undertake regular audits until out of high-risk status. • Stop supply until it is clear risks are being properly managed.
Medium Risk	<ul style="list-style-type: none"> • Monitor risks and audit suppliers. • Establish a preferred supplier program to incentivize performance. • Implement traceability systems. • Introduce certification and standards into the chain with third-party verification. • Build capacity of suppliers, potentially with participation of local civil society or government. • Agree with suppliers on supplier codes of conduct based on a shared vision. • Share costs for sustainability improvements and consider ways to incentivize performance through contracts, financing mechanisms, production support, and capacity building. • Implement a grievance mechanism on key E&S issues. • Influence governments for changes in E&S risk regulation (particularly where the risks are country related). 	<ul style="list-style-type: none"> • Introduce internal systems for monitor risks and audit suppliers. • Implement traceability systems • Introduce certification and standards into the chain with third-party verification. • Introduce systems for disclosure of key information—encouraging a dialogue and sharing of information between parent and subsidiary company. • Set expectations and goals, and use these as the basis for supplier codes of conduct (including competitive benchmarking to incentivize performance). • Build capacity of suppliers, potentially with participation of local civil society or government. • Implement a grievance mechanism on key E&S issues. • Influence governments for changes in E&S risk regulation (particularly where the risks are country related).
Low Risk	<ul style="list-style-type: none"> • Review risk assessment periodically. • Implement a grievance mechanism for key E&S issues. • Adopt a long-term view on E&S impacts for the supply chain (including how to select suppliers) and integrate within a responsible sourcing policy. 	<ul style="list-style-type: none"> • Review risk assessment periodically • Implement a grievance mechanism for key E&S issues. • Adopt a long-term view on E&S impacts for the supply chain (including ensuring capacity of suppliers to manage E&S risks) and integrate within a responsible sourcing policy.



HOW TO CREATE SUPPLY CHAIN POLICES AND PROCEDURES

Once the development of strategy and tactics for E&S management in the supply chain is completed, a company's internal staff and suppliers need to put them into practice. To do this, a company needs documented policies and procedures for everyone to follow. For example, a company's Supplier Code of Conduct says that it will not allow harmful child labor in its supply chain. How will that company track this? How will suppliers know this and assure the company that they are not employing children? How will a company track any potential violations or work with the sourcing team to make sure no purchase orders are issued to potential violators?

A company must make sure that its supply chain policies and procedures are understood at all levels of the company, as well as by its suppliers, their workers, and external stakeholders.

Policies do not have to be long and technical like legal documents. They should be clear and simple statements of the principles in the Supplier Code of Conduct. A responsible sourcing policy typically defines commitments to certain performance levels such as certification schemes, as well as to establishing traceability in supply chains, working with suppliers, and eliminating unwanted sources. It should also provide a framework for action and set objectives. The policy should reflect what the organization is actually planning to do. A good policy should be SMART (Specific, Measurable, Achievable, Relevant and Time-bound):

Specific—It should include the minimum requirements and long-term goals of the company. For example, minimum requirements for current suppliers could include compliance with core ILO standards and zero deforestation.

Measurable—It should include tangible targets. For example, a company may set a target of having 30 percent of products sustainably certified within 3 years.

Achievable—It should be realistic, knowing that the targets are possible to achieve and the actions are implementable. A good policy should be based on the current performance level of suppliers.

Relevant—The targets and actions should be linked and related to the overall objectives and long-term goals of the policy.

Time-bound—It should include a time frame for suppliers to comply, as well as deadlines for eliminating unwanted sources and for meeting certification targets.



A typical policy usually includes the following themes:

- Overall statement of corporate responsibility and in-house sustainability principles
- Commitments on responsible sourcing (i.e., targets)
- Minimum requirements and time-bound goals: specific requirements (e.g., only RTRS soy is acceptable) and targets (e.g., by 2015 X percent of materials certified).
- Program of continuous improvement: A responsible sourcing policy is ultimately only a framework for action, and may be short on implementation details. Almost certainly, it will need to be supported by more detailed practical guidance, which may take the form of guidelines for buyers, codes of practice, or buying rules.
- Practical guidance for staff: What does the policy mean to staff in practice? For example, buyers need to understand the technical details relating to practical implementation, in terms of what type of evidence to require from suppliers, and acceptable timelines.
- Code of practice for suppliers: A company also needs to communicate the responsible sourcing policy to its suppliers. This may include what type of information and evidence suppliers must provide.

Box 8 and Box 9 provide sample guiding principles and guidelines for operation, which can be modified to reflect a company's approach.

Box 8. Sample Guiding Principles

Our Company will extend the principles of no harmful child labor, forced labor, significant safety issues related to supply chain workers, or significant conversion of natural and/or critical habitats, as feasible, to our suppliers.

We will notify our suppliers of the requirements concerning child labor, forced labor, significant safety issues related to supply chain workers, and the significant conversion of natural and/or critical habitats, seeking to minimize their presence:

- We expect our suppliers not to employ workers under the minimum age for employment as defined by national law.
- We expect our suppliers not to employ workers between the minimum age and 18 in dangerous work or work that interferes with their education or development.
- We expect our suppliers not to employ forced labor.
- We expect our suppliers to respect workers' rights to retain their personal documents and money.
- We expect our suppliers to respect workers' rights to leave the workplace after work.
- We expect our suppliers to respect workers' rights to resign.
- We expect our suppliers to not convert, use, or expand into natural or critical habitat for production.

We will monitor our suppliers for compliance concerning child labor, forced labor, significant safety issues related to supply chain workers, and the significant conversion of natural and/or critical habitats.

Box 9. Sample Guidelines for Operation

1. Our Company's purchasing department will maintain a supply chain map of all suppliers that is updated on a quarterly basis. This map will be distributed to our Internal Labor Standards Performance Team, CSR Team, and Sourcing Team as soon as it is updated.
2. Our Company will notify all suppliers of our labor compliance and environmental policies, and ask them to adopt these principles in their companies. Notification will include at least one letter from the General Manager and one joint letter from the Internal Labor Standards Performance Team, CSR Team, and Sourcing Team and purchasing departments, as well as regular follow-up communications.
3. Each existing and new supplier will be rated by the Internal Labor Standards Performance Team, CSR Team, and Sourcing Team using our internal rating system/counterparty assessment or another credible, consistent rating method.
4. New suppliers must meet a minimum score of _____ to become a supplier.
5. When evaluating a new supplier, the purchasing department will follow our Company's New Supplier Procedures Checklist.
6. Existing suppliers scoring XX (low) will be required to commit to a corrective action plan designed to move them up to one tier over a 12-month period. Those failing to improve will be suspended until the corrective actions have been implemented. Those who continue to fail to improve within 6 months after the initial suspension will be terminated.
7. Our Company will give preference to suppliers scoring a higher performance rating.
8. We will implement a zero tolerance policy for all suppliers with respect to harmful child labor, forced labor, significant safety issues affecting supply chain workers, and significant conversion of natural or critical habitat. Our Internal Labor Standards Performance Team, CSR Team, and Sourcing Team will evaluate and help improve suppliers' performance with respect to these principles through evaluations and audits, self-assessments and questionnaires, document reviews, training, and toolkits.
9. Our Internal Labor Standards Performance Team, CSR Team, Sourcing Team will complete a risk assessment for each supplier and subcontractor in the supply chain map. Based on the risk assessment, the Team will work together with purchasing departments to select those suppliers who pose the highest risk and with whom our Company has the highest leverage. The Team will develop an annual supplier improvement plan for these "strategic suppliers" to guide them toward meeting the Performance Standard 2 and Performance Standard 6 requirements, including monitoring, training, and technical assistance.
10. Every six months, the Internal Labor Standards Performance Team, CSR Team, and Sourcing Team will collect and review information from each strategic supplier that demonstrates evidence of meeting our requirements and also managing their suppliers. This may include evaluations and audits, self-assessments and questionnaires, document reviews, and interviews.
11. Purchase orders will specifically refer to supply chain requirements, our labor policies, and our environmental sustainability policies.
12. Where feasible, our Internal Labor Standards Performance Team, CSR Team, and Sourcing Team will provide training and toolkits to help strategic suppliers make continual improvement toward meeting our supply chain requirements.

Step 3. Implementation, Monitoring, and Review

Once a strategy outlining the E&S management approach in the supply chain is developed (with priorities and acceptable performance levels), the strategy needs to be implemented. Some tools to do this appear in Table 9.

TABLE 9. TYPES OF IMPLEMENTATION TOOLS

Activity	Type of tool	Potential costs	Time to implement	Key partners in development and/or implementation
Supplier codes of conduct	Process improvements	Low	Short	IFC Performance Standards, UN Global Compact, ILO, roundtables, industry and other sector alliances
Supplier scorecards	Process improvements	Low	Short	IFC Performance Standards, UN Global Compact, ILO, roundtables, industry and other sector alliances
Supplier contract clauses	Process improvements	Low	Medium, recurring	IFC Performance Standards, UN Global Compact, ILO, roundtables, industry and other sector alliances
Supplier communication	Building skills, sharing information	Low	Medium, recurring	Suppliers
Incentivizing performance	Process improvements	Variable	Recurring	Suppliers, senior management, other internal departments
Financing mechanisms	Process improvements	Variable	Ongoing	Domestic financial institutions
Capacity building of suppliers	Building skills	High	Long Recurring	Suppliers, roundtables, consultants
Capacity building of smallholders	Building skills	High	Long Recurring	Suppliers, roundtables, consultants, local service providers, extension offices, local government
Building partnerships	Building skills, information sharing	Medium	Long	Range of potential stakeholders, roundtables, industry and other sector alliances
Supplier audits	Information gathering	Medium (Traders, processors)	Short Recurring	Auditing companies, third-party certification schemes; for primary production, local NGOs, governments, research organizations
		High (Primary production)	Short–Medium Recurring	
Grievance mechanism	Process improvements, information gathering	Low	Medium Ongoing	Senior management, other internal departments, communities, NGOs, local government, roundtables, suppliers
Updating approaches	Process improvements, information gathering	Low	Ongoing	Senior management, other internal departments

Box 10: Using Supplier Codes of Conduct

Many companies use Supplier Codes of Conduct in their purchasing decisions. Such Codes range in complexity from simple guiding principles to more detailed specific requirements. For example, as part of its corporate social responsibility program, Cargill developed a Supplier Code of Conduct that is incorporated into its normal contracting procedures for suppliers. Specifically, it looks to manage the risk of child labor in supply chains.^a

Negative E&S risks often occur in second- and third-tier suppliers. In cases of high leverage, there may be an opportunity to extend performance management benchmarks to second- and third-tier suppliers. One example of this is Bunge's Global Labor Policy. As well as referring directly to its own operations, Bunge expects that its suppliers and their suppliers and subcontractors should be compliant with this policy.^b For a policy to be effective and credible, monitoring and auditing systems should be used.

^a Source: <http://www.cargill.com/corporate-responsibility/responsible-supply-chains/ca-transparency-supply-chains-act-disclosure/index.jsp> <http://www.cargill.com/wcm/groups/public/@ccom/documents/document/cr-commitment.pdf>.

^b Source: http://www.bunge.com/citizenship/global_labor_policy.html.

**HOW TO CREATE AND USE A SUPPLIER CODE OF CONDUCT**

A Supplier Code of Conduct helps a company to communicate its beliefs and expectations to its suppliers. It is important to think through the creation of the code and tailor it for the individual company.

Similar to a Company Code of Conduct that defines principles and expected conduct within the company, a Supplier Code of Conduct can be developed for the supply chain. The Supplier Code of Conduct is the policy statement that defines principles and conduct that each supplier is expected to follow. This can address the suppliers' management philosophy, governance, environment, corruption, transparency, and treatment of employees and other stakeholders.

Writing a Supplier Code of Conduct should involve people from departments including procurement, finance, trading, CSR/sustainability to ensure that the code is aligned with the overall goals of the company for managing performance and risk in the supply chain.

Supplier Codes of Conduct can be used alongside or as an alternative to defining contractual obligations. They require suppliers to reach a certain level of performance. They can be a tool for companies with high leverage. Such companies may be able to demand that their suppliers meet certain expectations. Supplier Codes of Conduct are performance-based approaches (along with contract clauses and supplier scorecards, see Box 10) that may also be used to begin a process of continuous improvement.



HOW TO DEVELOP AND USE SUPPLIER SCORECARDS

Supplier scorecards can help companies improve information sharing within their supply chain and drive continuous improvement of suppliers based on their conformity with codes of conduct.

Supplier scorecards are increasingly seen as an effective way to contribute to E&S risk management. However, there are a number of challenges associated with implementing them. There is a need for strong company buy-in: the scorecard must be aligned with a company's business goals and receive support from the company's board. Internal stakeholders may fail to provide the necessary input for scorecards to work—internal support and discipline with regard to a scorecard is critical.

Scorecard metrics can also present challenges. Developing business-appropriate metrics and key performance indicators is not easy, and borrowing from other companies can be problematic as their indicators can fail to align with the company's goals. Companies should be careful not to track too many performance measures or suppliers. Quality should be prioritized over quantity for supplier scorecards.

- It is important to involve suppliers in the development of scorecards and metrics. Suppliers need to be clear about their customer's performance expectations.
- Suppliers need to understand the scorecards, and metrics need to be clear and understandable.
- Systems need to be closely linked into operational metrics for business as there is a risk of these becoming “tick-the-box” exercises where suppliers are incentivized only to meet the minimum requirements for the audit or compliance standards.
- Extra costs need to be considered in business planning. Incentive mechanisms can be operationalized by increasing volumes purchased or using incentives such as expedited payments or moving toward more collaborative approaches.

A number of major companies, such as McDonald's, Walmart, and Procter & Gamble (P&G), use scorecards. Scorecards can differ in their method of measurement—e.g., Walmart opts for a goal-oriented approach requiring information about suppliers' sourcing policies and use of third-party certifications, whereas P&G takes a performance-based approach measuring actual results per unit of output.²²

Example: McDonald's

McDonald's began using supplier scorecards in 2005 in partnership with Conservation International. The scorecard focuses on environmental impacts of the supply chain and measures water, energy, waste, and air quality. So far, the scorecard has been applied to major suppliers of beef, poultry, pork, bakery products, and potatoes. Suppliers are required to report quarterly and annually. According to McDonald's, significant improvements in supplier performance have already been observed.²³

²² <http://www.greenbiz.com/blog/2010/07/13/comparing-walmart-and-pg-supplier-sustainability-scorecards>.

²³ http://bestpractices.mcdonalds.com/sections/1/case_studies/107.



HOW TO USE SUPPLIER CONTRACT CLAUSES TO MANAGE E&S RISK

The most straightforward step in supplementing policy commitments to improve E&S performance in the supply chain is to define E&S requirements in suppliers' contract clauses.

Contract clauses contain the legal details that make up a contract between a buyer and a seller. These clauses provide protection for both sides entering into the agreement. E&S contract clauses can be either a separate part of a contract or an integral part of the product definition. It is increasingly common to embed E&S requirements in contract clauses. There are several types of clauses that can be included to manage E&S risk:

Declaration of Compliance: The simplest contract clause is one that confirms that a product will be supplied that meets a series of E&S requirements. For example, a company requests its suppliers to supply products that are RSPO certified, or suppliers must demonstrate that their products meet the minimum legal requirements.

Evidence of Compliance: Another important aspect in the contract clause is to ask suppliers to provide evidence of compliance. A typical example would be a certificate of compliance with a sustainability scheme and an invoice that demonstrates that the products delivered are certified.

Right to Audit: Including a clause for the right to audit allows the buyer to undertake an audit (or nominate another party) to check that the clauses are being met. Suppliers are often reluctant to commit to allowing audit access to their upstream supply chain for reasons of commercial confidentiality. This can be addressed by using third-party auditors bound by confidentiality, so that the buyer receives confirmation of compliance without receiving commercially confidential information. Of course, a buyer does not have to exercise a contractual right to audit, though occasional audits will send a signal to suppliers that a buyer is serious about these clauses.

Buyers responsible for negotiating contract clauses need clear rules for decision making; e.g., where counterparties are not willing to accept the clauses. The following aspects can be considered when drawing up and negotiating a contract:

- Nonnegotiable clauses;
- Clauses that can be amended or removed;
- Decision point for buying if clauses are not met (security of supply, price threshold); and
- Alternatives (other product available that will also meet requirements).

It is also extremely important that the buyer does not simply assume that the supplier knows the implications of the sustainability contract clauses, which in reality may not be able to be met without direct additional effort on the part of the supplier. Timelines for compliance and supplementary capacity-building efforts may be necessary.

Even in a low-leverage situation, including contract clauses related to E&S risks can be an important market signal and, in cases where off-the-shelf solutions such as certification are available, an effective approach.



HOW TO COMMUNICATE AND ENGAGE WITH SUPPLIERS

A company must ensure that suppliers receive clear, consistent messages from all departments and senior management. Further, it is important to make sure that suppliers understand that they are partners in improving E&S performance and that the company is clear about the roles and responsibilities of each partner and is committed to working together to meet expectations.

It is also critical to send a clear message about the importance of labor and environmental standards performance to suppliers, informing them about the company's adoption of a responsible sourcing policy and what it means for them. Specific goals and incentives or penalties should be established with suppliers.

Letters to Suppliers

Suppliers will be more likely to take a labor and environmental performance commitment and program seriously if they see that it has the support of senior management. See Box 11 for a sample CEO statement to suppliers.

Once suppliers have received the CEO statement, they will need further communications on the company's policies and procedures. These should detail the company's requirements and the supplier's responsibilities. Suppliers need a clear picture of how they will be evaluated and how their progress related to labor and environmental standards performance will be tracked.

First, send a letter with a statement from the CEO or from senior management to suppliers (Box 11), stating the principles of your sustainability and responsible sourcing program.

Follow the CEO statement with a letter to suppliers (sample in Box 12 and Box 13), providing more information on the responsible sourcing policy or labor and environmental standards performance program. Send the letter jointly from the labor and/or environmental/sustainability standards performance team leader and a representative from the sourcing department.

It is also important to communicate the requirements to potential new suppliers, introducing the labor and environmental standards performance program.

A letter stating the subcontracting policy should be sent to new and existing suppliers along with the Supplier Social and Environmental Responsibility Agreement. New suppliers should receive this information before any purchase orders are placed. The letter should be sent from the head of sourcing or cosigned by the leaders of the sourcing, labor and/or environmental/sustainability performance standards teams (see Box 14).

Meeting with Suppliers

In addition to sending letters, it is important to meet with suppliers, either by telephone or in person, to answer questions about the sourcing policy. Meetings can follow letters described above, or may be used in advance of sending letters to keep suppliers updated on the policy implementation—this will depend on the types of relationships a company has with suppliers.

Meetings can also be important ways to communicate with suppliers when risk assessments identify significant supply chain risks, or when instances of noncompliance are discovered, to gauge suppliers' willingness and ability to take remedial actions.

Box 11. Sample CEO Statement to Suppliers
Your Company Letterhead

Dear Supplier:

Our vision for [Company] is to become one of the most respected and admired companies in our industry. We aspire to conduct ourselves in an ethical, legal, and socially responsible manner, befitting a world-class company.

Corporate social responsibility, which spans both environmental and social issues, is a growing concern to investors, consumers, and to all of us. Our [Company] Code of Conduct includes guidelines for labor and environmental standards performance that are based on the International Finance Corporation's Performance Standard 2: Labor and Working Conditions, and Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. A key component of our Code of Conduct is the Supplier Code of Conduct that we expect you to follow. We are initiating the integration of our labor standards performance and expectations regarding environmental footprint into all of our day-to-day business activities—inside our company and with our suppliers. We believe that improving labor and environmental standards performance must be a foundation of our long-term growth and profitability together.

While [Company] recognizes that our suppliers operate in a variety of legal and cultural environments, our Code of Conduct sets forth the basic requirements that all suppliers must meet to do business with [Company]. We hope that you will recognize the value of the Code of Conduct to bettering working conditions at your company and bettering your business overall. We will provide technical assistance, training, and other development initiatives to help you implement the management systems to make continual improvements at your facility. We welcome your input and feedback every step of the way.

We are making a long-term commitment to continually improving labor and environmental standards performance in our supply chain. Internally, we are striving to make labor and environmental standards performance a routine part of our purchasing process and supplier evaluation. We are initiating programs to make sure you get a consistent message from our buyers and our labor and environmental standards performance team.

I thank you for your efforts in partnering with us as we strive for continual improvement and for your continued dedication to our mutual success.

[Signature of CEO]

Box 12. Sample Existing Supplier Letter from Sourcing Team Your Company Letterhead

Dear Supplier, Importer, Trading Company, or Agent:

We are writing as a follow-up to our CEO's letter to you dated _____. The purpose of this letter is to provide you with additional background and to initiate a plan of action. Attached are the CEO letter, our [Company Name] Code of Conduct, and our Supplier Code of Conduct.

Our Company Code of Conduct covers how we deal with our workers and stakeholders. A key part of our Company Code is our Supplier Code of Conduct, which specifically addresses the labor and environmental standards performance of our suppliers.

We expect you, as a supplier, to establish your own company code of conduct and create a supplier code of conduct for your suppliers, based on ours.

Our Code of Conduct is based on the International Finance Corporation's Performance Standard 2: Labor and Working Conditions and Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Performance Standard 2 is based on the international workplace norms of International Labour Organisation (ILO) conventions, the Universal Declaration of Human Rights, and the UN Convention on the Rights of the Child. Our code is rooted in a management systems approach that helps to embed policies and procedures into daily business and ensures systematic improvement in workplace conditions. We can work with you to implement these systems in the most efficient way possible.

While [Company] recognizes that our suppliers operate in different legal and cultural environments, our Code of Conduct sets forth the basic requirements that all suppliers must meet in order to do business with [Company]. In all our sourcing, we will use suppliers who meet minimum criteria in audits of their operations to our Code of Conduct, and give preference to those performing at the highest levels.

At [Company], implementing our Code of Conduct has led to substantive improvements and we believe you will experience the same. We believe there are benefits in production and in marketing, including improved worker morale and retention, improved quality and productivity, market differentiation in reaching new customers, and more stable, long-term growth among existing customers.

We hope that you will recognize the value of the Code of Conduct in bettering working conditions at your company and bettering your business overall. We can provide technical assistance, training, and other development initiatives to help you implement the management systems to make continual improvements at your facility. We welcome your input and feedback every step of the way.

We will be in touch soon to schedule a meeting or phone conference with you to get started on this important initiative.

[Signatures of Sourcing and Labor/Environmental/Sustainability Standards Performance Team Leaders]

Box 13. Sample New Supplier Letter from Sourcing Team**Your Company Letterhead**

Thank you for your interest in becoming a supplier to [Company]. In evaluating potential suppliers, we consider a balance of quality, price, performance, and labor and environmental standards performance.

As part of this New Supplier package, we are sending you:

- Our Supplier Code of Conduct, which is based on IFC Performance Standard 2: Labor and Working Conditions and IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources.
- Environmental and Social Risk Self-Assessment.

These are the steps that we will follow:

1. We ask you to complete and return the Self-Assessment. We will treat this as confidential.
2. If you are SA8000 certified, please notify us and provide us with a copy of the certificate, as this will qualify you for our highest labor standards performance rating and eliminate many steps in the following process. If you have another social certification or have recently completed an industry or corporate code audit, please provide us with documentation, as this may also speed the process.
3. If you are certified to a specific internationally recognized certification scheme that addresses labor and environmental issues and risks, please provide us with documentation.
4. Based on the business discussions and your labor and environmental standards performance rating, we will determine whether to place initial orders with you.
5. At that point you will receive our Supplier Toolkit, which includes our Supplier Social Responsibility Agreement for you to sign and return.
6. We will work with you to form internal capacity and assist you in implementing management systems for labor and environmental standards performance.
7. We will work with you to develop a plan and schedule for ongoing audits, training, and implementing systems for continual improvement.

We are serious about our commitment to labor and environmental standards performance in our supply chain. We consider our suppliers to be essential partners in this effort. Please feel free to contact us with any questions you may have.

[Signatures of Sourcing and Labor Standards Performance Teams as applicable]

Box 14. Sample Supplier Sub-contractor Policy Letter from Sourcing Team

Your Company Letterhead

Dear Supplier,

Thank you very much for your commitment to producing for us in accordance with our Company Code of Conduct. We appreciate the investment you are making and look forward to continual improvement and benefits for your work and employees.

We take this opportunity to remind you that our Code of Conduct requires the effective management of subcontractors related to IFC Performance Standard 2: Labor and Working Conditions and IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. We understand it may be necessary for you to use subcontractors from time to time. However, we must know of their use and be assured that you are responsible for the labor and environmental standards performance in the subcontractor facilities, fields, and/or production sites.

If you are using subcontractors, they become an integral part of our supply chain. Therefore, they need to be included in a regular monitoring and auditing program. We ask that you report to us each subcontractor that you hire to fulfill any production work on our behalf, as well as provide a contact person at the subcontractor through whom we can communicate and implement our Code of Conduct.

You are expected to communicate our commitment, as well as your own commitment, to decent working conditions to each subcontractor. You are also expected to effectively monitor and regularly report to us on your subcontractor's compliance with our Company Code of Conduct.

This action will be factored into our regular performance review of your facility and/or production site. Please make sure each subcontractor receives a copy of our Company Code of Conduct, your Supplier Statement of Commitment, a copy of your Supplier Code of Conduct, and a copy of your monitoring procedures.

For our part, we will work with you to actively engage your subcontractors. We will help you communicate policies and implement an effective monitoring and remediation program. We will also include them in our monitoring schedule by conducting spot checks. We will also work with you to develop and implement a training program to help them towards continual improvement.

We hope that you will not view this as a burden on the production process, but rather an opportunity to help you build strategic relationships with your subcontractors and draw upon our Company's labor and environmental standards performance resources. We hope that you will select subcontractors that follow the best standards and work with us to guide them towards continual improvement.

We understand your concern about potential circumvention. Per our Supplier Social and Environmental Responsibility Agreement, we will not circumvent you to directly place orders with your subcontractors.

Box 14. Sample Supplier Sub-contractor Policy Letter from Sourcing Team *continued*

Just as we expect you to meet our performance standards, we expect you to select subcontractors who meet our minimum social and environmental performance criteria. If we find that your subcontractor has significant noncompliances, we will reserve the right to suspend or discontinue production until the noncompliances are resolved.

We look forward to actively supporting you in your efforts to implement better working and environmental conditions throughout your supply chain. A representative from our company will schedule a visit with you shortly to discuss this subcontracting policy, to develop a workplan, and to provide you with management systems tools to implement it effectively. In the meantime, please feel free to contact me directly with any questions or concerns. Thank you again for your continued partnership with our [Company].

**HOW TO INCENTIVIZE PERFORMANCE**

For management strategies based on supplier engagement—either through collaboration or top-down command-and-control approaches—companies need to consider a range of incentives for performance.

Although it may be possible to penalize failure to perform, this will be most effective in vertically coordinated relationships where the supplier has no other market, and such cases are rare. In vertically integrated approaches that rely on compliance, box-ticking approaches to risk management may undermine true sustainability improvements that require more holistic and innovative approaches.

Suppliers can be incentivized by increased rewards, reduced business risks, and/or process efficiencies, such as:

- Improved payment terms;
- Longer and more stable contracts and provision of production inputs;
- Reducing the number of audits or sharing the costs of sustainability improvements;
- Offering financing linked to improved performance; and
- In the case of certification, identifying new routes to market or premiums associated with a certified product.

Buyers may look to improve collaboration with suppliers through a preferred supplier program or involve them in strategy meetings and planning.

Buyers may introduce competitive benchmarking against other suppliers. This would work well for vertically integrated companies, which can then provide recognition and awards for subsidiaries that meet or exceed key E&S targets.



FINANCING MECHANISMS

A major challenge to implementing E&S risk management practices in supply chains is lack of financial capacity for producers and processors to invest in sustainability. Innovative financial tools are one way to help overcome this challenge.

Companies seeking to manage E&S risks in their supply chain should consider what role they could play in financing, enabling, or facilitating financing for their suppliers through credit, loans, guarantees, or other financial instruments to enable suppliers to invest in better E&S performance. See Table 10. Financing can incentivize or reward good E&S risk management practices of producers and suppliers. In many supply chains, forms of this financing are often seen as a way for a company to coordinate production by helping to overcome existing market failures, such as lack of access to inputs or credit.

Business Models for Delivery of Supply Chain Financing

Supply chain financing can be delivered through a variety of business models:

- A company acting as a lead firm—such as a buyer or trader—can use its own capital or borrow money from a financial institution to directly finance its suppliers;
- Commercial financial institutions provide financing to producers and processors;
- Microfinance institutions provide financing to small-scale producers and processors;
- Farmer credit unions—farmers who are part of a cooperative—each deposit money into a pool, from which funds can then be loaned to members;
- Government agencies;
- NGOs; and
- Multilateral or bilateral aid agencies.

TABLE 10. EXAMPLES OF SUPPLY CHAIN FINANCE INSTRUMENTS²⁴

Type	Example
Agricultural product-based: financing tied to the eventual sale/purchase of an agricultural product	Trader credit, input supplier credit, marketing company credit, lead firm financing
Accounts receivable-based financing: based on a receivable such as an invoice	Trade receivables finance, factoring, and forfeiting
Physical asset-based: uses assets such as a commodity as a guarantee	Warehouse receipts, financial leasing (lease purchase), and repurchase agreements
Financial enhancements: financial contracts that spread risk among several parties	Securitization instruments, loan guarantees, and joint venture finance

When seeking to finance small and medium-sized enterprises, such as producers (e.g., small farmers) and processors, involving a diverse range of actors and using individual specialties improves the quality of financing. For example, international financial institutions can provide targeted funding into value chains. Local financial service providers can deliver this financing on the ground, helping to reduce transaction costs and improve the

²⁴ In April 2011, the Rainforest Alliance and Citi Foundation hosted a workshop on Sustainable Supply Chain Finance which identified these instruments; see <http://www.rainforest-alliance.org/sites/default/files/publication/pdf/svcfw-report.pdf>.



depth of delivery in rural areas. NGOs and development agencies can play a vital role in providing supply chain actors with the necessary technical assistance and capacity building to ensure that financing is well understood and implemented appropriately; for example channeling repayments through existing producer associations or cooperatives. Finally, buyers of agro-commodity product can commit to purchasing guaranteed amounts—this helps to provide security for initial investors and a potential mechanism for loan recovery.

A major barrier to success is lack of trust between producers and local financial institutions owing to past experience with financing and to grievances. Key to overcoming this is building good relationships among all actors involved in the chain. One example of building trust is the CRDB Bank Tanzania (formerly the Cooperative Rural Development Bank), which works in the high-price-volatility markets of cotton and coffee: CRDB combines traditional collateral management with innovative instruments for managing price risk. The key to success of both techniques is CRDB's staff of relationship managers, who take a unique hands-on approach to managing client accounts.²⁵

Enabling Conditions for Sustainable Supply Chain Financing

There are several enabling conditions that can contribute to expanding the use of financing for E&S risk management:

- **Increasing long-term investment:** Financing should look to take a long-term view, as often farmers need working capital to make the necessary investment in sustainability. Tools include forward contracts (agreeing to buy product at a price agreed upon today); off-take agreements (guarantees to buy a percentage of a farmers product); and land leasing.
- **Employing better risk mitigation tools:** Better business practices can help mitigate risks associated with volatile commodity prices, including more equitable sharing of risk throughout the value chain (rather than farmers shouldering all risks). Rabobank's Sustainable Agriculture Guarantee Fund is one example. This fund provides a guarantee to local banks that lend to small and medium-sized enterprises in sustainable agriculture. This guarantee is structured to decrease over time until the local financial institution is comfortable financing the sector.
- **Articulating the business case:** Research and studies can help build the business case for sustainable supply chain financing.
- **Increasing the reach of certification and taking greater advantage of its benefits:** The majority of funding for certification activities comes from government or philanthropic sources. Given the business case for certification (potential for increased economic returns, opportunities for learning, but especially lowering E&S risk), more funding should come from the private sector. Work is needed to demonstrate and quantify the business case and make the case for support of certification as an attractive investment.
- **Capacity building:** Often farmers lack the capacity to understand how to use financing effectively. One recent example is a project by Nespresso, ECOM, and the Rainforest Alliance that is designed to use IFC funding to increase access to finance in the coffee sector. The study identified a lack of financial literacy of many producers as the cause of a surprisingly low uptake of financing. Conversely, financial institutions do not understand the on-the-ground realities of farmers, resulting in a perception among financial institutions that the sector is risky.
- **Increasing local engagement:** Local banks and governments need to become more involved in financing commodity producers. As noted above, this can help reduce the transaction costs of financing as well as increase the depth of financing penetration.

²⁵ World Bank, Agriculture and Rural Development Department, 2005. "Rural Finance Innovations: Topics and Case Studies," Report Number 32726-GLB.



APPROACHES TO BUILDING CAPACITY OF SUPPLIERS

A key obstacle in promoting improved E&S performance along a supply chain is lack of understanding of E&S risk issues and lack of supplier capacity to make the necessary changes. It does not matter how strict the potential requirements are; if suppliers do not meet the requirements, it will be immensely difficult to implement actions to promote improved E&S performance. Training and targeted capacity-building programs for suppliers are two ways to overcome these obstacles.

Scope of Capacity Building

Training is one of the most important elements of supplier development. Supplier training needs vary depending on the nature of the business relationship with the supplier and the degree of risk to the company. Attention should focus on the riskiest suppliers and those suppliers that the company can influence.

If suppliers are packaging fruit into boxes bearing the buyer's company name, the supplier needs training on E&S practices as if they are part of that company. If a company is buying fertilizer from a large multinational with a credible labor standards performance code, that supplier is probably not a primary target for training on labor standards. E&S standards performance training for suppliers can be part of the production training provided them or part of the ongoing communication with the company.

As emphasized throughout this Handbook, an ESMS is the key to managing E&S performance. Teaching suppliers how to implement a management systems approach to labor and environmental standards performance will result in lower risk, and less time and money spent on audits. E&S standards performance should be positioned as an investment, not a cost. Auditing is a cost. Training is an investment.

Types of Capacity Building

The most common form of capacity building is delivered through an awareness-raising and training program, which helps suppliers understand expectations and requirements regarding E&S performance. Supplier training aims to raise awareness of the E&S issues along the supply chain, such as compliance with legal or industry norms for labor practices or appropriate use and storage of insecticides and pesticides. It also raises awareness of tools to improve E&S performance, such as E&S impact assessment, stakeholder engagement, and certification standards.

Training programs should focus on the issues most relevant to the staff being trained. Topics may be broad, such as how to communicate the company's commitments, or technical.

To drive E&S improvements along the supply chain, it may be necessary for a company's direct suppliers to also impose or promote such changes within their own suppliers through a Supplier Development Program. One way to build suppliers' capacity is to work with them to develop their own responsible sourcing or corporate responsibility policy and program, and embed such requirements within their business. The program can also include assessment of their suppliers and reporting mechanism to measure progress. Companies can share examples of best practice and case studies with suppliers to provide insights on how to address E&S issues. Helping direct suppliers to develop responsible sourcing programs can raise performance levels and motivate changes along the supply chain.

For many capacity-building schemes, it is important to include economic incentives alongside awareness raising if producers are to engage in these activities. Common examples would be to offer better terms for prefinance arrangements or longer contracts. These incentives provide a signal to the producer that investment in capacity building is economically rational. It may be helpful to position the training as a benefit that is offered only to key suppliers. The labor standards and environmental performance team member in the company should be trained to provide the supplier training.



Challenges in Capacity Building

There are a number of potential challenges to supplier capacity building. Investing in suppliers through capacity building can be risky in an open market, given that suppliers are free to supply to others. One limitation is side-selling, whereby other traders reap the benefits of investments in supplier capacity. Ways to overcome this may include improved incentives that are linked to contracts or purchasing agreements.

A major limitation on supplier capacity-building programs is the cost of implementation. Cost sharing arrangements can be formed with producer groups, local NGOs, government extension agencies, and public and foundation donors. Partnering with such stakeholders can reduce costs and broaden the impact of capacity-building activities.

In the absence of extension services, training tends to focus on the easier targets. To access more remote suppliers, buyers may need to work with nontraditional actors, e.g., input suppliers. Building relationships with supply chain actors and partners, including farmers and farmer groups, is crucial for effective capacity building. Suppliers may have high turnover rates. Training may need to be repeated to keep up with attrition.

Overcoming such limitations will likely require high levels of collaboration between supply chain actors and perhaps commercial rivals. Making precompetitive investments to improve the reach and effectiveness of capacity building can have broad benefits. This is particularly true in the case of smallholder-dominated crops, where even well-established single company efforts are unlikely to reach large numbers of producers. Examples of this approach include the Gates Foundation-funded Cocoa Livelihoods Program²⁶ being implemented by the World Cocoa Foundation and the Dutch Sustainable Trade initiative.²⁷

²⁶ <http://www.worldcocoafoundation.org/what-we-do/current-programs/CocoaLivelihoodsProgramSummary.asp>.

²⁷ <http://www.idhsustainabletrade.com>.

EXAMPLE: COCOA

An interesting example of capacity building is the Vision for Change initiative^a of Mars Chocolate in Côte d'Ivoire. Although Mars buys chocolate products rather than cocoa beans, they are concerned enough about the sustainability of cocoa farmers to invest in a network of Cocoa Development Centers (CDCs) and Cocoa Village Clinics (CVCs). The network teaches, promotes, and implements rehabilitation techniques that can help small-scale farmers. These techniques are based on three key pillars:

- Rehabilitation of old and aging farms with good planting material.
- Soil fertility management.
- Good agricultural practices, including pest and disease control.

Cargill also invests in farmer field schools in cocoa in Côte d'Ivoire. As a result of this training, farmers are benefitting from a 30 percent increase in their incomes from higher yields, as well as an improvement in the quality of their crop. This quality and yield improvement is expected to increase farmers' earnings and contribute to the future economic sustainability of cocoa production in Côte d'Ivoire.

^a <http://www.mars.com/global/about-mars/mars-pia/our-supply-chain/cocoa.aspx>.

**APPROACHES TO BUILDING CAPACITY OF SMALLHOLDERS**

Certification and compliance costs can be particularly problematic for smallholders and small and medium-sized enterprises, compared with larger farms and estates where costs can be absorbed more easily and participants benefit from economies of scale. While there are inevitably some tradeoffs between managing supply chains for both E&S performance and smallholder inclusion, a variety of actions can help ensure that smallholders do not lose out unnecessarily from E&S risk management in supply chains.

Producer Organizations. The organization of smallholders is key to reducing the transaction costs associated with building technical skills, transferring technology, and conducting cost-effective certification. Otherwise, the costs of compliance and certification can be prohibitive. Producer organizations can be initiated by the producers themselves or by other businesses or NGOs.

Group Certification. Where a certain standard allows for group certification, a number of smallholders can be brought together under a single “group manager” (i.e., an individual, organization, company, association, or other legal entity), who acts as a source of information and can also organize a certification process. Internal management and control systems within producer groups are vital for successful engagement with certification. Although group certification is an option for small farmers and costs less pro rata across the group, it has some downsides. First, the group certificate depends on all farmers being compliant. If one farmer is not compliant, then it is likely that this farmer will be dropped from the group. However, there is also the risk that all others in the group may lose the ability to use the certification.



Second, the owner of the certificate often controls the market access provided by the certificate. If a lead farmer or exporter is the owner of the certification, products sold through any entity other than that group cannot be called certified—even if the products are identical and grown in the same way as those that are marketed through that group.

Certification is most successful when there is already an ethos of organization and cooperative behavior, rather than an organization that has been convened only to get benefits from certification.

Subsidized Training, Support Services, Audits, and Certification. Some agribusiness companies may choose to share the costs of audits and certification, at least at the establishment stage. There may already be programs associated with standards schemes that provide training and services to support smallholder certification.

An example is the Soy Producer Support Initiative initiated by Solidaridad, the World Wildlife Fund, and the RTRS. The Soy Producer Support Initiative channels support to 25,000 small-scale farmers in Argentina, Bolivia, Brazil, Paraguay, and India, preparing them for certification.

Another example is Fairtrade, which has established a Producer Certification Fund to assist producer groups that may find the costs of Fairtrade certification difficult to meet.

The Ethical Tea Partnership (ETP) redefined its role to support the tea sector by facilitating third-party certification where this is of interest to producers and ETP members.

Promoting Smallholder-Specific Elements within Standards and Certifications. Apart from group certification, other smallholder-specific elements have been built into Fairtrade and UTZ Certified standards systems, for example. Both systems have a stepwise certification approach that reduces up-front investment whereby producers are certified based on a periodically increasing number of requirements. Costs can also be lowered for compliance with standards by advocating mutual recognition between standard systems combined with audits, or advocating peer-reviewing systems over expensive external inspectors.

Management of Side-Selling. Side-selling—where smallholders sell to alternative buyers rather than through certified supply chains or prearranged buyers—is the main commercial risk with smallholder sourcing models. It results in a reluctance of agribusiness buyers to advance credit (prefinancing), technology, or invest in technical upgrading of smallholders. Many approaches to manage side-selling have been tried and many have failed. Some of the more successful approaches revolve around a combination of one or more of the following: (a) respect and loyalty, especially through fairness in trading; (b) regular (e.g., monthly) discussions with farmers about market price to adjust contract prices based on a transparent formula, and; (c) purchase of 100 percent of harvest, including B and C grades.

Improving Access to Supply Chain Finance. Contracts between smallholders and buyers can facilitate access to formal supply chain finance because the farmers have defined sales terms and fixed market prices for their products, reducing risk for the financial institutions.



BUILDING PARTNERSHIPS TO INCREASE LEVERAGE

One way to engage external stakeholders is to consider forming a partnership. Partnerships can take many forms and can be used to build trust, catalyze industry- and/or sector-wide change, and provide a way for lead companies to share best practices (See Box 15). Multistakeholder partnerships allow several actors to collaborate on defining sustainability issues and to work together to implement practices effectively and efficiently.

Partnerships allow for transparency and information sharing in addressing a broad range of E&S issues that affect poor producers. They also align roles and responsibilities according to areas of expertise. Expert stakeholders can prove useful in the implementation of supply chain sustainability initiatives and can bring local expertise as well as resources and legitimacy to sustainability efforts. At the local level, these partnerships can facilitate capacity building of suppliers and assist targeted responses to known E&S issues and risks.

Partnerships can occur among companies and their industry peers, civil society actors, and/or governments. Establishing partnerships is one way to potentially manage E&S risk, especially if the company is in a position of low leverage (e.g., because trade is based on spot market transactions, making supply chain traceability almost impossible), has low buyer influence, or is facing a blocking or disabling institution.

In addition to industry peers, companies looking to initiate multistakeholder partnerships will engage with the public sector (either national or local) and/or civil society groups (both local and international). The presence of both large industry actors (with sufficient purchasing power and influence to change the market) and large NGOs (with the necessary professional knowledge, internal commitment to partnering activities, legitimacy, and trust in the sector) can help drive partnerships towards “changing the political order” and help set standards and a vision for the industry or country as a whole.

EXAMPLE—OLAM

Many partnerships can help create shared value for business and producers. One example is Olam, a leading agro-commodity trading company, which has been active in working with industry partners on improving productivity in the cocoa sector in Indonesia and Côte d’Ivoire. In a joint project with the Blommer Chocolate Company and Amarta (the Agribusiness Market and Support Activity—a USAID-Indonesia funded project to support the Indonesian government), Olam helps to train farmers in good agricultural practices, yield improvement, and postharvest management. The project also raises awareness among farming communities about the use of child labor, a key risk in cocoa supply chains.

Box 15. Staged Approaches to Partnerships

Companies can follow a staged progression when developing partnerships with relevant supply chain actors. Establishing partnerships can potentially change the governance structure of the supply chain and result in improved E&S risk management overall and for the company.

1. **Build Trust.** Organizations engage and agree on the ground rules of a partnership to provide security, equity, and fairness. A first step is to ensure that all members' presence is legitimate and that each member will be heard, respected, and treated with dignity. This can be achieved by developing a written **Memorandum of Understanding**. Further steps such as agenda building and confidentiality clauses are needed to ensure that serious collaborative work can be done.
2. **Explore Collaborative Advantage.** A key aspect of effective partnership is that collaboration enables something to be achieved that could not have been achieved by any one of the partners acting alone. Understanding the mutual benefit needs to be an explicit goal. Partnerships can provide collaborative advantage through the acquisition of additional resources as well as skills, relationships, and consent. Central to the partnership is the idea of a reciprocal relationship.
3. **Constitute a Rule System.** Developing rules—normally codified in contracts, formal agreements, or standards—helps to signify the commitment of partners to the partnership. The rule system is used as a tool for coordinating, avoiding misunderstandings, and addressing possible unforeseen contingencies. The contractual nature of this step changes the partnering process fundamentally—voluntarism is replaced by a formal commitment.
4. **Change the Market.** To influence the governance of the supply chain, partnerships need to develop entrepreneurial leadership. The central mechanism in this phase is legitimacy—when the rule system becomes accepted as a relevant alternative or supplement in the supply chain.
5. **Change the Political Order.** Partnerships can potentially create a new environment to discuss sustainability. Some partnerships can lead to the setting of a new agenda at the sector-level, such as the Forest Stewardship Council definition of sustainable forestry becoming the *de facto* definition used by governments, the private sector, and civil society.



Industry Partnerships

Industry partnerships can provide a way for leading companies to share knowledge about practices in supply chain sustainability with their peers. These types of partnerships are also useful for smaller companies that lack leverage; it enables them to potentially create a stronger “voice” when communicating collectively with direct and subtier suppliers.

Often, groups will work together to develop joint standards and implementation practices. By doing so, companies can reduce the burden of numerous duplicate efforts for individual suppliers. Working together can help raise the bar for the industry as a whole and also avoid burdening suppliers (who may have multiple consumers) with company-specific requirements for E&S risk management. Groups can also work together on capacity-building initiatives and raising supplier awareness.

There are many examples of industry partnerships. One is the Sustainable Agricultural Initiative (SAI) founded in 2002 by Nestle, Unilever, and Danone. The SAI platform now counts over 30 members from across the food industry. Its mission is to “facilitate sharing, at the precompetitive level, of knowledge and initiatives to support the development and implementation of sustainable agriculture practices involving the different stakeholders of

the food chain.” The SAI has also published principles and practices for sustainable food production and works to build capacity for sustainable agriculture.

Another example is the World Cocoa Foundation (WCF), formed in 2000 by a number of chocolate companies. The WCF now has 75 industry members and is active in 15 producing countries. It aims to promote sustainability in cocoa through extension activities to improve productivity, help to establish cooperatives, encourage diversification on cocoa farms, and provide research to help reduce crop loss. The WCF helps to facilitate partnerships with governments, NGOs, and other industry players.

Multistakeholder Engagement

Multistakeholder partnerships are a means to overcome the accountability gap in supply chain investments, which often tend to focus on vertical investments into the supply chain and not on horizontal investments in the broader well-being of the producer base. Systemic issues such as poverty and food security require a holistic response, with the input of government and civil society actors. Industry initiatives are sometimes criticized as representing the lowest common denominator of sustainability among their members and failing to push for best practice. However, a defining characteristic of such partnerships is finding initial common ground and then progressing towards higher standards. This can be a slow and frustrating process for some; however, the benefit of widespread support should not be underestimated.



HOW TO USE SUPPLIER AUDITS TO MANAGE E&S RISK

Auditing suppliers can be an important part of E&S risk management. When desk review reveals that certain supply chains present a high level of E&S risk, auditing suppliers about their operations and the information they hold about the upstream supply chain can increase the amount of information about the actual risk, and improve supply chain mapping.

An organization may need to invest in its own capabilities to monitor compliance with E&S risk management strategies or, for certain risks, employ third parties. This decision depends on a range of factors, such as whether the company has the capacity and expertise to assess an E&S risk (for example, whether related to working conditions or habitat assessment); the cost and feasibility of internal and external investments; and the level of independent verification required by the internal and external stakeholders.

The results of performance assessments will moderate or exacerbate the risk ratings from a commodity-country analysis, which can be used to adjust the risk ratings in the supplier database and tailor the management approach.

Baseline Assessments

When desk-based supply chain mapping and risk assessment finds that certain identified supply chains, or specific raw material producers, present a high level of E&S risk, baseline assessments of actual E&S performance can be undertaken in a site visit, to increase the amount of information about actual impacts by targeting specific producers. The level of compliance with suitable E&S performance measures such as legality requirements, sector certification standards, or company policy or codes of conduct can be assessed, and then monitored.

Baseline assessments are field evaluation audits to assess the reality of specific E&S risks in a given locality. They can be carried out by company staff who have auditing skills and E&S knowledge, or they can be conducted by a more specialized third party.



Field verification

Supplier compliance with codes of conduct or other E&S risk performance measures can be regularly monitored and checked through audits. Audits can be targeted to the primary supplier (“direct” or “Tier 1”) as well as supply chain actors upstream (closer to primary production). A supply chain audit can involve visiting several stages in the supply chain between the supplier and primary production. At each stage, the company’s own practices as well as its mapping of suppliers and management of E&S risks in the supply chain can be examined.

Field verification covers a range of activities of variable intensity, which can be characterized as either:

- A. Scoping visits or rapid appraisals to identify key impacts, to draw high-level conclusions relating to adequacy of performance or the nature or scale of issues on the ground, an effective means of reviewing impacts when resources are limited; or
- B. Detailed verification assessments or audits, which are more comprehensive evaluations, typically measuring performance against a defined benchmark or standard.

More generally, verification is the act of checking compliance with a known set of requirements. To manage field-level impacts, verification can take place as a stand-alone business-to-business activity or can be implemented through a recognized certification scheme. When embarking on a process of independent verification, an organization must decide what it would like to demonstrate compliance with. It could use an existing standard, either directly or by adapting it for a particular situation, or it could write a new set of requirements (a company’s own standard or code of conduct).

Key to a field verification process is the determination of specific roles and responsibilities within the auditing team. A degree of local knowledge is essential to ensure effective auditing—and local or regional teams can help improve this knowledge. The process of auditing should be standardized and transparent to all involved—this will increase accountability and allow comparability of suppliers.

Suppliers who conduct self-assessments can provide the results to buyers as assurance of compliance, but should provide them to a third-party auditor where company involvement might skew the results and where it is important that the results are perceived to be objective. External experts can also be useful in helping a company if it has no internal competence (for instance, particular E&S expertise) to undertake such an assessment.

Integrating the results of E&S supply chain audits into key business performance indicators will help to mainstream E&S risk management.



KEY CONCEPTS

Components of a supplier audit should include:

- Management interview;
- Facility tour;
- Field sampling (if primary production);
- Stakeholder consultation;
- Worker interviews;
- Records review; and
- Assessment of management systems.

Effective audits should:

- Maintain independence from management for credibility with workers.
- Select a random sample of workers and, where applicable, field sites for interviews during all parts of the assessment.
- Hold informal conversations with workers during times and in locations where they feel comfortable and secure.
- Gather enough information to ensure an understanding of conditions and practices.
- Document information and assess workers' credibility.
- Validate information with other sources, e.g., documents, interviews, visual inspection.
- Always be aware of the need to protect workers' confidentiality and safety.



Supplementary Field Verification Resources

Desk review of remote sensing data: Where raw material sources have been identified by a specific location, desk review can provide a detailed analysis of potential E&S impacts. Remote sensing (RS) data can include satellite-based spectral sensing and plane-based LIDAR (high-resolution laser range detection) and aerial photographs. GIS data also includes all kinds of non-RS data collected either from databases or from field studies. Distribution maps of resources can be created by interpolating data collected from a network of samples at the site and landscape level (e.g., soil types, soil nutrients and moisture, temperature and climate data, habitat suitability and species distribution models). Combining the RS and GIS data can give complete and detailed maps that can be used for modeling production parameters and potential E&S risks and impacts. This information can be used, for example, as part of the E&S risk assessment or to identify specific areas or information to check during field verification.

Stakeholder consultation: The rationale for supplementing desk reviews or field verification with some element of stakeholder consultation is that it produces a more accurate picture of risk levels or actual performance. Consultation potentially offers an efficient approach to maximizing the level of information available. Field verification activities are necessarily a snapshot of current activities and operations, and certain kinds of noncompliance are difficult to assess through direct field audits; for instance, the attitude of management towards unions and freedom of association. Consultation with knowledgeable and/or affected organizations and individuals is often essential in obtaining a reliable assessment of impacts. Fundamental to the efficacy of consultation is the identification of a representative set of consultees and the use of culturally appropriate consultation methodologies. It is also critical to verify the findings from consultation activities before confirming conclusions.



Impact assessment: As an alternative to assessment or verification against a defined standard, an organization can undergo an environmental and/or social impact assessment (ESIA), in which its full range of impacts are comprehensively identified and assessed. This may be necessary, for example, when trying to assess the type of habitat where primary production occurs, specifically in relation to the primary supply chain requirements of IFC clients under Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources.²⁸

All relevant certification standards require operations to undertake ESIA, in some form, as the basis for systematically managing and mitigating impacts. Environmental impact assessment is often a legal requirement of significant project development in many countries, although the technical quality of the legally required process cannot be assumed. A specific form of ESIA that is now being adopted as a critical component of many certification schemes is a requirement for an assessment of high conservation values, together with effective mitigation of any identified impacts. This methodology demands a clear focus on the most important E&S values, and their maintenance or enhancement.²⁹



HOW TO USE A SUPPLIER GRIEVANCE MECHANISM TO MANAGE E&S RISKS

Having a complaints management procedure with respect to suppliers is an important part of an ESMS. Complaints to companies about their suppliers are likely to occur. How these complaints are handled is important to the company's credibility and to the ultimate resolution of the problem.

Below is suggested text to use as a public statement of a complaints procedure. This statement should be sent to external stakeholders and posted for public viewing, and suppliers should be notified of this procedure. The sample document in Box 16 may need to be modified to reflect the company's internal policies and procedures.

The team responsible for implementing the strategy for managing E&S risks in the supply chain should outline the process of lodging a formal complaint (see Box 17). The team analyzes whether complaints about suppliers concern contravention of the code of conduct or contractual agreements. If so, it will be important to determine whether the supplier should be terminated or excluded, or if additional work with the supplier is needed to improve performance. It is important that repercussions for noncompliance are clearly set out at the time of the agreement, fully supported by senior management, and understood by the supplier.

If the concern or complaint about a supplier does not contravene any existing agreements with the supplier, the team responsible for implementing the strategy for managing E&S risks in the supply chain should review the existing policies and determine whether they need to be updated. Sample language for outlining requirements for suppliers is in Box 18.

²⁸ www.ifc.org/sustainabilityframework

²⁹ For more details, see www.hcvnetwork.org.

Box 16: What to Do If You Have a Concern or Formal Complaint about One of Our Suppliers

We are committed to continually improving labor and environmental standards performance in our supply chain.

We consider you a valuable partner in helping us monitor our suppliers and any companies they may be using as subcontractors. If you have any concerns about one of our suppliers, this document outlines the procedures to file a formal complaint.

Concerns or formal complaints may be done through written documents or through verbal channels such as our Company Code of Conduct Hotline. They may be forwarded directly to relevant departments of our Company or to external stakeholders such as NGOs or worker representative groups. We will accept written complaints in any language.

A formal complaint may be lodged by any interested stakeholder or stakeholder group, including a company worker, a contract worker, an auditing body, a supplier or subcontractor; a customer; or external party such as trade union or nongovernmental organization (NGO). It may be filed on a confidential basis to protect the anonymity of the interested party, but it must include contact information to enable follow-up and reporting. If you are concerned about releasing your identity to us, we encourage you to file the complaint through an NGO or trade union.

A formal complaint must be fully detailed and must include objective evidence that substantiates the alleged violation and contact information of the party filing the complaint, whether it is being filed directly or through a third party. We are also interested in concerns you may have so that we can address them before they become formal complaints.

Written complaints to the Company may be mailed or emailed to
 Company CSR Department
 Address / Fax / Email

Box 17: How We Address Your Concern or Formal Complaint

Once received, your complaint will be fully investigated by our Company, and you will be advised of the outcome of your complaint in writing once this investigation has taken place.

The prime purposes of our complaint investigation are to determine whether or not the allegation is accurate, and if it is, to find the root of the problem, to take corrective action, and to prevent it from happening again.

Step 1 Every formal complaint and concern is documented by the receiving person at our Company. It is classified as either a concern or a formal complaint.

Step 2 The complaint or concern is forwarded to the Company Labor and Environmental Standards Performance Team, Sourcing Team, and other relevant departments for evaluation. The supplier is notified of the complaint. The Labor and Environmental Standards Performance Team and Sourcing Team conduct an investigation, which may include analysis of audit reports; interviews with workers and local NGOs, supplier management, and relevant Company departments; on-site visits, etc.

Step 3 If the Labor and Environmental Standards Performance Team, Sourcing Team, and other relevant Company departments cannot resolve a formal complaint, the case is forwarded to the Company Executive Committee, which is composed of members of the Board of Directors.

Step 4 Each step of the process is documented. We share the results with suppliers and encourage them to communicate them to all workers. For formal complaints, the documentation is provided to the originator of the complaint and to interested parties. If the complaint was made through a third party, we ask the third party to forward the documentation to the originator of the complaint.

Step 5 Brief descriptions of the formal complaints and resolutions will be posted publicly on our website with directions on where to obtain the complete documentation.

Box 18: What We Require of Our Suppliers

Each of our suppliers is required to implement a complaints management procedure for dealing with complaints they receive directly as well as those brought to our attention and forwarded to them. As part of this procedure, **suppliers must post a “whistle-blower” policy** that protects complainants from retribution. We will check during our audits and on-site visits to ensure that no one who files a complaint with us is punished in any way.

Every supplier must fully cooperate with us, or our representatives, as we investigate concerns or complaints.

Every supplier must keep records of complaints and responses and make them accessible to us and to stakeholders.

Every supplier must appoint a management representative to be responsible for ensuring that there is a confidential, accessible system for workers to voice grievances. Grievances may be lodged anonymously or workers may identify themselves and any cocomplainant who wishes to be identified in a formal complaint.

A worker may lodge a complaint through the elected worker representative or trade union representative, where one exists. Our whistle-blower policy provides that lodging complaints will not expose the worker to any risk of reprisal. Nevertheless, the worker representative shall take precautions to ensure anonymity if the worker chooses not to identify him- or herself.

The worker representative, the worker, or any designated representative of the worker should take the complaint to the management representative, who must respond within a reasonable, set period of time.

We encourage complaints to be resolved directly inside the supplier, according to the supplier's complaints management procedures. However, as stated above, we have a system in place to handle complaints lodged directly with our Company.



UPDATING E&S RISK MANAGEMENT APPROACHES

Successful companies measure and improve their E&S performance. Companies should also help their suppliers to help them measure and improve their performance. Regular monitoring is crucial to ensure the risk management tactics effectively reduce E&S risks in the supply chain. The monitoring process must be checked against the commitments made in the responsible sourcing policy, as well as the management programs and action plans devised for each risk and supply chain.

Tracking and reporting progress to senior management, colleagues, NGOs, partners, shareholders, and other stakeholders can highlight the most important labor and environmental standards performance indicators, and show their relation to other business measurements. It is important to demonstrate that measuring and improving labor and environmental performance in the supply chain has a return on investment and a positive impact on business.



Progress against E&S risk management goals should be systematically measured and recorded; e.g., the percentage of product sourced that is certified or that does not originate from a particular region or country. Supply chain mapping and questionnaires can be useful tools for tracking progress against such goals (see previous section, **Toolkit 1: Assessing E&S Risk and Leverage in a supply chain** for details on supply chain mapping). The level of monitoring and audit needed is likely to be commensurate with the level of risk: e.g., regular auditing of supply chains with high risks and periodic self-assessment of supply chains with low risks.

The monitoring process should further consider the impact of policies on suppliers. E&S risk management may come with significant additional costs for suppliers—in terms of both finance and capacity. The costs of development should not fall disproportionately on the poorest and most marginalized producers and suppliers in the chain, such as smallholders in agriculture. This is a typical concern regarding the use of private voluntary standards in agriculture, for example, particularly in terms of how such standards may exclude smallholders.

E&S risk management strategies and tools should be adapted in line with the results of the monitoring exercises. Regular review of approaches is important and should incorporate the results of monitoring. Results may point to the need to:

- **Adopt more collaborative management approaches where top-down or command-and-control approaches place a burden on suppliers that they are unable or unwilling to meet.** Collaborative approaches can help to improve supplier buy-in, better share the costs and rewards of risk management, and ensure suppliers have the capacity to deliver. Tools for collaborating with weaker suppliers include capacity building of suppliers, incentivizing performance through contracts and financing mechanisms, developing joint codes of conduct, reducing the burden of multiple certifications through collaboration with standards systems, and partnering with local government or civil society to assist in a holistic response to local development. Tools for suppliers who are unwilling to meet added requirements include engaging in partnerships (through roundtables, for example) that raise the performance of the sector as a whole.
- **Increase leverage** where “work indirectly” strategies are failing to manage E&S risks effectively. To do this, an actor could change the nature of its trading relationships by moving toward more collaborative relationships, vertically integrating supply, or introducing a supplier preference program.
- **Identify opportunities in the chain for increased efficiencies and added value** through improved risk management; for example, by considering the potential for leadership on supply chain issues. Although the focus on this Handbook is on the risks of activities upstream, there is potential to create value by considering the downstream supply chain, such as developing new product or communicating E&S improvements in line with consumer demands. These ideas are explored further in **Part 2: The Business Case for Managing E&S Risk in Agro-Commodity Supply Chains**.
- **Exit (and/or avoiding sourcing with a particular supplier)** may be the only option when E&S risk management has been unsuccessful.

Maintaining an ESMS is a dynamic process. The Plan-Do-Check-Act cycle should be continually implemented and reviewed, reflecting both the dynamic nature of management actions as well as the changing nature of E&S risks in agro-commodity supply chains.

ANNEXES



ANNEX I. UNDERSTANDING AGRO-COMMODITIES

This section presents brief summaries of key points relating to supply chain governance (and any associated implications for risk management) of five commodities, together with applicable sustainability and certification initiatives:

- Palm oil
- Soybean
- Sugarcane
- Coffee
- Cocoa

Palm Oil

Overview of Commodity

Palm oil and its derivatives are made from the FFB of oil palm. The products of primary processing, namely CPO, palm kernel oil (PKO), and palm kernel meal (PKM), are traded as commodities with standardized quality levels. A range of products from further refining stages are also important commodities.

Oil palm's high relative productivity and the versatility of its products contribute to rapidly increasing production—palm oil is the highest yielding oilseed crop worldwide.³⁰ Food and household products are the most common uses for palm oil, although biofuel use is increasing. An estimated 74 percent of global palm oil usage is for food products and 24 percent for industrial purposes.³¹ In the United Kingdom alone, 90 percent of imported palm oil is used in the food sector.³²

In addition to widespread use in the food industry, palm products are used in animal feed, and derivatives are ingredients in personal care, cosmetics, cleaning, and industrial products. Despite some successful NGO campaigns (particularly in Europe) to increase consumer awareness and despite increasing media coverage,

³⁰ P. Thoenes, 2006, "Biofuels and Commodity Markets—Palm Oil Focus," FAO Commodities and Trade Division.

³¹ USDA, 2010, "Indonesia: Rising Global Demand Fuels Palm Oil Expansion," U.S. Department of Agriculture, cited in UNEP, "Oil palm plantations: threats and opportunities for tropical ecosystems," December 2011; FAO, 2009.

³² Note that this includes animal feed. Proforest, 2011, "Review of policy options relating to sustainable palm oil procurement," report for the U.K. Department for Environment, Food, and Rural Affairs.

global consumer awareness of the relevant sustainability issues is generally low, particularly as palm oil is an invisible ingredient in many products. Food products containing palm oil or its derivatives typically label them under “vegetable oil” on the ingredients list, although this is being reviewed in certain markets. For example, a July 2011 EU Regulation made it mandatory for companies to label palm oil used in food products.

Supply Chain Characteristics

Native to West Africa, oil palm is now grown in many countries within the band 10 degrees north and south of the equator. The largest palm oil-producing countries are Indonesia and Malaysia, accounting for approximately 90 percent of global production and trade.³³ Other significant producers are Papua New Guinea and Thailand, and there is rapidly growing interest in the development of significant new plantings in West and Central Africa and in Brazil. About 15 percent of exported global palm oil production goes to the EU (the main driver to date of sustainability initiatives in the sector) for consumption, but the combined markets of India and China account for more than double the EU figure.

There are now over 15 million hectares of oil palm under cultivation worldwide,³⁴ with total palm oil production of about 48 million tons. This reflects a 43 percent increase in the global area used for oil palm cultivation since the 1990s.³⁵ Palm oil is cultivated both on smallholder farms, either independent or run through government and state schemes, and on large private sector plantations with several thousand hectares.

As a consequence of the rapid increase in planted area in recent decades, palm oil has become an important driver of rural development in production countries. In Indonesia alone, oil palm provides employment for 14 million smallholders and plantation workers. Globally, about 3 million heads of household are involved in smallholder palm oil production.³⁶ Within the two major producing countries

³³ P. Thoenes, 2006, “Biofuels and Commodity Markets—Palm Oil Focus,” FAO Commodities and Trade Division.

³⁴ UNEP, December 2011, “Oil palm plantations: threats and opportunities for tropical ecosystems”; FAO, 2009, FAOSTAT online statistical service, Food and Agriculture Organization, Rome, Italy, available at <http://faostat.fao.org>, accessed August 2011; Fitzherbert, E.B., M.J. Struebig, A. Morel, F. Danielsen, C.A. Brühl, P.F. Donald, and B. Phalan, 2008, “How will oil palm expansion affect biodiversity?” *Trends in Ecology and Evolution* 23(10):539–545.

³⁵ RSPO, 2011, “Promoting the Growth and Use of Sustainable Palm Oil,” Roundtable on Sustainable Palm Oil, Zurich.

³⁶ Cheng Hai Teoh, n.d., “Key Sustainability Issues in the Palm Oil Sector,” discussion paper for multistakeholder consultation, World Bank Group.

of Malaysia and Indonesia, smallholder production (using the RSPO definition of smallholders as family-based enterprises producing palm oil on less than 50 hectares of land) accounts for 35–40 percent of total production area.³⁷

The basic unit of production is a CPO mill and its supply base, often consisting of both estate and smallholder production. The largest plantation companies are normally part of integrated supply chains (including plantations, refining, shipping, trading, and even consumer product manufacture). Large-scale plantations generally achieve considerably higher FFB yields per hectare than smallholder producers. In general, an integrated palm oil supply chain, or at least the management of CPO mills and a supply base consisting of a small number of large production estates, may present more opportunities for managing E&S impacts than dispersed smallholder production systems because of the ability to effectively control the impacts of production over a large area.

Strategies for managing E&S risks in smallholder production are likely to be different than those needed for large estates, and there are even different challenges and opportunities for managing E&S risk among smallholders, depending on the setup. The two main forms of smallholder production are:

- *Supported smallholders*, where smallholders cultivate palm oil as part of a dedicated supply chain with the direct support of government organizations or the private sector. Common examples include the nucleus-plasma systems in Indonesia, where smallholder plantings are established as an integrated part of a production unit;³⁸ and
- *Independent smallholders*, growers who cultivate palm oil without assistance from government or private companies and who sell their crop to local mills either directly or through traders.³⁹

³⁷ Vermeulen, S., and N. Goad, 2006, Towards better practice in smallholder production, Natural Resource Issues Series No. 5, International Institute for Environment and Development, London, UK.

³⁸ Vermeulen and Goad, 2006.

³⁹ Ibid.

FFBs are transported to CPO mills and processed locally within 24 hours of harvest to produce palm oil and kernels. The kernels are then further processed into palm kernel oil and palm kernel meal, either on site or by other processing facilities. Refining of the CPO can then take place in country or, more typically, in another consuming country.

The port of Rotterdam in the Netherlands is the world's leading trading hub for palm oil. A number of edible oil refineries process palm oil at the port, including those owned by IOI, Cargill, Loders Croklaan, MaasRefinery, Sime Darby Unimills, and Wilmar. The relatively concentrated EU market structure at the refinery level (and the fact that some of the main refiners are part of integrated supply chains that include CPO mills and estates) and, to a lesser extent, the consolidation downstream at major manufacturers and retailers offers the potential for a certain degree of leverage over the rest of the supply chain upstream. However, considerations of potential leverage also must recognize the limited role of the EU and individual companies in global palm oil consumption—Unilever is the largest single company purchaser of palm oil, but it purchases only 3 percent of global production.

Sustainability Initiatives

The major E&S risks associated with palm oil production are mainly related to the rapid expansion of the planted area: conversion of natural forests resulting in habitat and biodiversity loss, greenhouse gas emissions (especially where plantations have been established on peat land), and social impacts arising from conflicts over land use rights with local communities. In addition, there are considerable challenges related to labor welfare and rights, particularly concerning the use of migrant workers.

Some generic sustainability initiatives have been applied to palm oil on a small scale (such as organic production and schemes that have been approved under the EU Renewable Energy Directive), and, in 2011, the Indonesian and Malaysian governments both announced plans to establish national palm oil certification schemes (although these are not yet operational).

However, the sector-specific multistakeholder RSPO is the primary supply chain mechanism for promoting and demonstrating sustainability in the sector (see Box A.1). Leading RSPO member companies set targets of 100 percent RSPO-certified supply by 2015, although this does not necessarily imply full traceability because there are segregated, mass balance, and certificate trading⁴⁰ options. The Dutch industry also has a collective 2015 target for 100 percent RSPO supply, with interim annual reporting to monitor progress.

Box A.1. Sustainability in the Palm Oil Supply Chain—RSPO

The RSPO was set up in 2004 with the aim of developing a sustainability standard and certification system to bring certified sustainable palm oil to the market. The RSPO achieved a broad and inclusive membership base, with wide representation among major growers and users, and representation for social and environmental NGOs.

The RSPO certification scheme has been operational since 2007, with rapid uptake of both production and CoC certificates. Oil palm growers have demonstrably responded to market demands for sustainable palm oil. The production capacity of certified palm oil plantation areas as of December 2011 was 5.5 million metric tons of palm oil per year, from over 1.1 million certified hectares, amounting to 10 percent of global production. Buyers have been criticized for slow response to this availability—in 2011 only 52 percent of the globally available volume was purchased. However, major international businesses that use or sell palm oil, particularly those based in the EU, have made public commitments to 100 percent sourcing of sustainable palm oil by a deadline, typically 2015.

The RSPO has adapted its standards to make it possible for smallholders to get certified both as scheme smallholders and as independent producers. It also works to raise awareness among smallholders about the RSPO and market options.

Key challenges for the RSPO include promoting sustainable sourcing in non-European markets (especially China and India), maintaining the rigor of certification in the context of rapid growth, facilitating uptake of certification by smallholders, developing traceability that accounts for the complexity of some downstream supply chains (and the diversity of oleo-chemical derivatives), and improving the current low RSPO uptake in sectors such as animal feed.

⁴⁰ Green Palm certificate trading programme: <http://www.greenpalm.org>.

Branded product manufacturers and retailers are engaged in supply chain mapping and conversion to certified products with integrated supply chains and long-term supplier contracts, with these becoming key mechanisms to achieve sustainable sourcing goals. The World Wildlife Fund (WWF) has been active in the sector, developing a scorecard to rate the progress of downstream (mostly EU) companies in sourcing RSPO-certified raw materials, and publishing a handbook and online guide to support financial institutions in developing and implementing their responsible palm oil financing and investment policies.

Soybean

Overview of Commodity

Soybean is a species of legume native to South-East Asia, classified as an oilseed plant. The seeds (or beans), which are very high in protein (about 40 percent), are grown principally for their high-protein meal, which is often used for animal feed. Crops are annual. The soy is harvested, collected, and processed at crushing plants. Crushing plants produce both soy meal and soy oil, with one ton of soybeans producing approximately 0.18 tons of crude soybean oil and 0.79 tons of soy meal.⁴¹

Demand for soybean production has steadily increased worldwide: over the past 10 years soybean production has expanded at an average annual rate of more than 5 percent.⁴² Through a combination of increases in the planted area and increasing yield, global soy production has increased approximately tenfold since the early 1960s. Soy is now found in an estimated 60 percent of all processed food products in supermarkets.⁴³

⁴¹ USSEC, 2010.

⁴² FAO, 2006.

⁴³ FairFood Research: <http://www.fairfood.org/research/production-chains/soy>.

World soybean production stands at about 250–260 million tons a year.⁴⁴ Approximately 101 million hectares of land are harvested for soy production, with an average yield of 2.47 tons per hectare.⁴⁵ Approximately 6 percent of the soybeans are used directly as human food (such as milk and tofu), mostly in Asia. About 85 percent are processed, or “crushed,” with approximately 79 percent of the bean producing soybean meal (used mainly for animal feed, but with some application in the chemicals and food industries) and 18 percent producing raw soy oil (used mainly in human food and the nonfood industry). Of the oil fraction, 95 percent is consumed as edible oil and the rest is used for industrial products such as fatty acids, soaps, and biodiesel.⁴⁶

Supply Chain Characteristics

The United States is the largest producer of soybeans, but its share of global production has dropped from nearly 70 percent in the 1960s to about 35 percent in 2010 as production in other countries has increased. The proportion of global production in Brazil and Argentina has grown from nearly zero to 27 percent and 19 percent, respectively, over the same period. The four highest producing countries are the United States, Brazil, Argentina, and China. Together these countries account for about 90 percent of world output.⁴⁷

Despite being a large producer, China is by far the biggest importer of soybeans and the biggest producer of finished meal and oil products, with the EU as the second largest consumer. Together, these countries account for over 60 percent of soybean shipments. Soybean exports can be significant sources of income for countries. Soy is currently the leading agricultural commodity for Paraguay, the second for Argentina, the third for Brazil, and the fourth for the United States.

⁴⁴ USDA, 2010.

⁴⁵ Earth Policy Institute, 2009.

⁴⁶ http://www.soyatech.com/soy_facts.htm.

⁴⁷ FAO, 2006; Masuda, T., and P. Goldsmith, 2009, “World Soybean Production, area harvested, yield, and long-term projections,” IAMA 12(1).

The bulk of the world's soybean production comes from medium to large farms (over 1000 hectares) that use capital-intensive production methods and a high level of mechanization. While this is particularly characteristic of the Americas, in Asia and Africa soybean production occurs mostly on a smaller scale and uses labor-intensive cultivation methods.⁴⁸ The soy value chain is also characterized by a small number of trading and crushing companies, within the larger global agro-commodity trading companies such as ADM, Bunge, Cargill, and Dreyfus.

Biotechnology applications have been particularly important for soybean crops, with a notable increase in commercial production of genetically modified (GM) soybeans in over the past decade. In the three largest producing countries (United States, Brazil, and Argentina), 70–90 percent of soybean production is from GM varieties. This has caused widespread controversy because of consumer health and safety concerns, resulting in various national policies and regulations (such as for product labeling and traceability), with distinct processing and marketing chains emerging for GM and non-GM soybeans and products.

Sustainability Initiatives

Sustainability issues of greatest concern to stakeholders include GM soy, contested land rights and associated conflicts, impacts on the livelihoods of smallholders, land concentration, herbicide and pesticide impacts on human health (especially those linked to use of chemical-tolerant GMs), and natural forest or grassland conversion. With an increasing demand for soy and with greater awareness of the associated sustainability issues, many initiatives are being formed to recognize and address these issues.

A significant recent breakthrough has been the formation of the Roundtable on Responsible Soy (RTRS), which means that there is now an international standard for responsible soy with broad-based stakeholder support, and a certification mechanism for implementing sustainability in the soy sector (see Box A.2). Leading companies are setting targets of 100 percent sustainable soy by 2015 to 2020, as Unilever has (all beans by 2014 and all oils by 2020), and are using the RTRS as a platform. In the Netherlands, the second largest global importer of soy, many organizations have formed the Dutch Soy Coalition and in 2011 key figures from the Dutch industry and trade sectors committed to source 100 percent responsible soy by 2015. A range of other certification

⁴⁸ P. Thoenes, 2006, "Soybean International Commodity Profile," FAO.

programs are being applied, such as Cert-ID's Pro Terra certification scheme for non-GM soy, and generic schemes such as International Sustainability and Carbon Certification for particular application in the biofuels sector.

Box A.2. Sustainability in the Soybean Supply Chain—RTRS

The RTRS was founded in 2006 as a voluntary multistakeholder initiative to encourage the environmentally and socially responsible production of soybeans through the development and implementation of a global standard and certification scheme. The governance structure is designed so that the three constituencies of producers, industry trade and finance, and civil society are represented equally on the General Assembly and Executive Board.

The RTRS Standard was approved in 2010 after field-testing and public consultation processes. Certification began in 2011 (there are currently nine certified producers), and the first certified soy was sold to the European market in June 2011. At the beginning of 2012, the total volume of RTRS-certified soy was 420,000 tons. The first credits were traded in 2011 through the Credit Trading Platform, and by 2012 more than 140,100 credits had been traded.

Although the initial focus of the RTRS is on implementing certification in Brazil and Argentina, the involvement of U.S. growers' representatives has to date been limited. The RTRS emphasizes its commitment to small as well as large farmers and producers; smallholder cooperatives can apply for group certification, and the RTRS together with Solidaridad has established the Soy Producer Support Initiative (SOYPSI) to support small and medium-sized farms in preparing for RTRS certification. In 2011 more than 20,000 smallholders in India, Brazil, and Bolivia participated in SOYPSI projects, and additional projects will be carried out in Argentina and Paraguay.

Sugarcane

Overview of Commodity

Sugarcane is a tall perennial grass that can be cultivated in tropical and temperate climates. Sugarcane is grown on approximately 30 million hectares worldwide in over 120 countries and accounts for 65–70 percent of the world's sugar production, with the rest being derived from sugar beet.⁴⁹ Developing countries produce approximately 70 percent of the global sugarcane output.⁵⁰

⁴⁹ FAO, 2003.

⁵⁰ FAO, 2005.

Sugarcane is used to produce sucrose, ethanol (used as a biofuel, with more than half of world ethanol being produced from sugar and sugar byproducts), and animal feed. Sugarcane also produces a large amount of biomass per acre in the form of bagasse and cane stalks and leaves. Bagasse—the plant material remaining after the juice has been extracted from the sugarcane stalk—can be used for energy generation (often burned as fuel for the mills) and is becoming commercially important. Alcohol production results in the byproduct vinasse, which can be used as a fertilizer.

Sucrose (the type of sugar molecule produced from sugarcane) is used abundantly in the food industry and often in a primary form. However, in industrialized countries, the bulk of sugar consumption (70–80 percent) is in processed food, with the major buyers of sugar being food processing companies. In several countries, such as Brazil, there is a strong emphasis on the use of biofuels and specifically ethanol from sugarcane.

Supply Chain Characteristics

Current global sugar production is estimated at 168 million metric tons.⁵¹ The largest sugarcane producer is Brazil, which accounts for 38 percent of world trade in sugar and saw a 47 percent net increase in sugarcane crop cultivation between 1997 and 2007, followed by India (which saw a 29 percent increase in that period), and China (which saw a 9 percent increase).⁵² Of the 120 sugarcane-producing countries, 15 (Brazil, India, China, Thailand, Pakistan, Mexico, Cuba, Columbia, Australia, the United States, the Philippines, South Africa, Argentina, Myanmar, and Bangladesh) account for about 85 percent of the planted area. Global demand is increasing, although two-thirds of sugar is consumed in the country of production, with only 50 million tons traded internationally,⁵³ a factor that can constrain the management of E&S supply chain risks.

⁵¹ USDA, November 2011, “Sugar: World Markets and Trade.”

⁵² World Bank, 2011, “Rising Global Interest in Farmland.”

⁵³ Fairtrade Foundation, 2011.

Sugarcane is cultivated both by small-scale farmers and by large plantations, the profile of the sector varying by country. For example, production in India takes place only across hundreds of thousands of smallholdings (commonly about 2 hectares), while in Brazil, large plantation units can consist of blocks totaling thousands of hectares. It is common practice in many producing countries, such as Brazil, for a mill to own the surrounding plantations or lease adjacent land blocks, as well as to buy from surrounding smaller producers, which allows the mill to coordinate harvesting more effectively.

Sugarcane is harvested mechanically or manually and transported to the mill. Initial processing into raw sugar occurs near the cane fields (usually within 70 km) for two reasons: (1) if not processed within 24–48 hours, the sugar content and therefore value decreases rapidly, and (2) the cane is bulky and relatively expensive to transport. The sugarcane is compressed to form a juice, which is then either dried to produce molasses, used for animal feed, refined to form raw sugar, or distilled to form ethanol. Many mills are integrated with ethanol distilleries and can vary their production ratio of sugar to ethanol as market prices change.

The products from primary processing—sugar or ethanol—are generally the traded commodities. Ethanol is transported to its destination where it is stored, aggregated, and subsequently used as a biofuel (mainly blended with gasoline) or in industrial applications. Raw sugar is shipped to refineries to produce refined sugar, the final products of which include powdered, granulated, and brown sugar. A high degree of integration is possible along the supply chain. Cosan, for example, is one of the largest sugar and ethanol producers in Brazil and last year started a joint venture with Shell, called Raízen, to produce ethanol, sugar, and electricity from sugarcane, as well as to distribute and market fuels.

Major companies for which sugar is an important raw material include large international food manufacturers such as Nestlé, Mars, Kraft Foods, Unilever, H.J. Heinz, and Campbell Soup; breakfast cereal manufacturers such as Kellogg; and beverage providers such as the Coca-Cola Company and Pepsico. Global trading companies such as ADM, Bunge, Cargill, Dreyfus, and Wilmar dominate global ethanol commodity trade flows. Over the past decade, the world sugar market has shown considerable price volatility, reaching a 30-year high in 2011, as world sugar stocks fell to their lowest level in 20 years.

Nationally and globally, there are multiple restrictions on the trading and pricing of sugar, and there has been significant intervention both domestically and internationally in the world sugar economy.⁵⁴ The Indian sugar industry, for example, is regulated across the entire value chain: land demarcation, the sugarcane price, sugarcane procurement, sugar production, and sale of sugar by mills in domestic and international markets. There are quota systems in place in Thailand, and price-setting and financial support in China. Although European countries do not grow sugarcane, they do grow sugar beet, and EU subsidies on sugar beet affect the trade in products from sugarcane production, including ethanol. The World Trade Organization (WTO) ruled that the export of excess European sugar has negative impacts on farmers in the developing world due to these subsidies.

Sustainability Initiatives

Much of the world's sugarcane production is still harvested manually by large, seasonal workforces. Organizations such as Amnesty International criticize the sugarcane industry for poor labor practices, including instances of forced labor and use of dangerous equipment such as machetes. Conversion of natural vegetation remains a significant issue in some locations of sugarcane expansion, while impacts on water quality and quantity and soil degradation are major concerns. Sugarcane is a water-intensive crop and is irrigated in dry areas, linking sugar production with significant declines in water supplies for surrounding areas—a particularly important consideration in water-stressed countries.

See Box A.3 for some descriptions on leading sustainability initiatives in the sugarcane sector.

⁵⁴ FAO, 2003.

Box A.3. Sustainability in the Sugarcane Supply Chain

Fairtrade sugar (one of the first Fairtrade products to be sold) significantly impacted the sugarcane industry, and through such initiatives, some farmer cooperatives are beginning to mill, refine, and directly export their product to international buyers, receiving a price premium that can be used for investment in their cooperatives, farms, and communities.

U.S. companies began sourcing Fairtrade-certified sugar in 2005, and by 2009 Fairtrade USA had certified over 11.3 million pounds of sugar—40 times the amount imported in the first year of the program.^a Organic sugar also represents a significant proportion of Fairtrade sugar entering the U.S. market—in 2009, nearly 85 percent was organic.^b Commitments from leading companies in the industry, such as Tate & Lyle's conversion to 100 percent Fairtrade retail-branded sugar in the United Kingdom, make a significant impact on Fairtrade sales.

Bonsucro (formerly known as the Better Sugarcane Initiative) is a leading international multistakeholder initiative established to implement a mechanism to achieve sustainable production of sugarcane. Bonsucro is working to drive the market demand for certified sugarcane produced against sustainability standards. The impact-based standard uses metric production measurements, which allow for aggregation. The unit of certification is the sugar mill, and audits are based on assessments of the mill and cane supply area.

The first Bonsucro-certified sugarcane production entered the global trading market in June 2011. Currently 296,280 hectares of certified sustainable sugarcane are being grown, representing 1.25 percent of the global sugarcane planting (Bonsucro, 2012). In July 2011, Bonsucro was formally recognized by the European Commission, so Bonsucro-certified ethanol now demonstrates compliance with the requirements of the EU Renewable Energy Directive and will count towards the national biofuels targets that 27 EU Member States must reach by 2020.

^a Transfair USA, "Fairtrade Certified Sugar, 2009 Impact Report."

^b Transfair USA, "Fairtrade Certified Sugar, 2009 Impact Report."

Coffee

Overview of Commodity

The coffee plant is a small evergreen shrub, which grows cherries containing green coffee seeds or "beans." The beans are extracted from the cherry through a dehulling process. Coffee beans are one of the world's most valuable agricultural commodities, and one of the most important exports for the least developed economies. Unroasted green coffee beans account for approximately 95 percent of coffee exports, with the remainder being instant coffee and roasted beans. The two most economically important varieties of coffee are the Arabica and Robusta varieties.

Coffee grows best in warm, humid climates with relatively stable temperatures. The top five coffee-producing countries are Brazil, Vietnam, Columbia, Indonesia,

and Mexico, although the crop is grown in more than 60 tropical countries. Total world production in 2010 was over 130 million (60kg) bags, with a total worldwide export of nearly 97 million bags,⁵⁵ at an estimated value of \$15.44 billion.⁵⁶

A relative supply scarcity in the mid-1990s—caused largely by climatic conditions—followed by a period of high prices resulted in a surge of planting that, coupled with the 1989 collapse of the quota system run by the International Coffee Organization, has altered the global supply structure and substantially reduced average growers' incomes. At the same time, the coffee roasting industry in importing countries continues to flourish, with growing profits. It is uncertain how long this trend can persist, with improvements to incomes needed in producer countries if there is to continue to be range of quality coffee to meet increasing demands.

Supply Chain Characteristics

The majority of the world's coffee supply (about 70 percent) is grown by smallholders cultivating areas of less than 10 hectares.⁵⁷ Most of these farms are run by family members. Some countries—such as Brazil, Guatemala, India, Kenya, and Vietnam—are also characterized by larger plantation areas covering hundreds of hectares. While large-scale production generally has a lower demand for labor per unit area (due to mechanization, for example), even large-scale production can generate high numbers of employment opportunities, particularly for temporary work during the harvest season.

There are several key actors in the coffee supply chain. The growers organize harvesting and often do some primary processing (drying and/or hulling). Intermediaries are involved in many aspects and at many stages, such as buying coffee cherries and green beans, primary processing, transporting, and selling coffee to processors or dealers. There can be up to five intermediary links in the chain. Processors can be individual farmers, cooperatives, or private mills that process the coffee from cherry to green bean. Exporters buy from cooperatives or auctions and then sell to dealers and brokers. Roasters buy green coffee from importers and brokers and then roast it; they can also be involved in marketing, branding, and packaging activities. Almost all green beans are roasted to make coffee beverages, including instant coffee (freeze-dried granules). A small amount of ground coffee is also used as an ingredient in processed food.

⁵⁵ ICO, 2011.

⁵⁶ ITC, <http://www.thecoffeeguide.org/coffee-guide/world-coffee-trade>.

⁵⁷ <http://www.teacoffeecocoa.org/tcc/Commodities/Coffee/Producers>.

International coffee trading companies operate in the coffee-producing countries through joint ventures with local operators. Five companies largely control this trade: Neumann and Volcafé (both based in Germany), Cargill, Decotrade (the trading arm of Sara Lee/Douwe Egberts), and Taloca (owned by Philip Morris/Kraft), both based in Switzerland. Almost 45 percent of the green coffee imports are purchased by five roasters, who sell their processed coffees in the European, American, and Japanese markets. Nestlé is the largest company in the soluble coffee market, and the other major roasters are Kraft, Tchibo (mainly for the German market), Proctor & Gamble (mostly selling in the United States), and Sara Lee/Douwe Egberts (selling mainly in the European and Brazilian markets).

Sustainability Initiatives

A major environmental challenge from the coffee industry in some producer countries is the development of higher-yielding varieties requiring full sun. This challenge is combined with the rapid rise in coffee consumption, which is causing increasing deforestation and resulting biodiversity and ecosystem impacts. Water pollution impacts are also arising, particularly from primary processing, as are impacts from heavy chemical use, especially on sun-grown coffee. Key social risks mainly relate to livelihood issues deriving from low producer incomes where the crop is smallholder-grown and poor working conditions on large estates.

There have been highly successful campaigns in consumer countries for Fairtrade and organic coffee, with increasing consumer awareness and demand. Sustainability initiatives are estimated to now affect 8 percent of world exports of green coffee—making sustainable coffee the fastest-growing market segment in traditional developed-country markets.⁵⁸ This has been seen particularly in Europe, with most major coffee retailers and supermarkets stocking either Fairtrade, organic, or environmentally friendly coffee—in the United Kingdom alone, sales of Fairtrade-certified coffee went from £13.7 million in 1998 to £157 million in 2009.⁵⁹ See Box A.4. for additional sustainability initiatives in the coffee sector.

Organic shade-grown coffee is also being promoted, emphasizing the importance of “bird-friendly” coffee in the conservation of migratory birds as well as forests. Sales of Bird Friendly coffee showed an average 145 percent annual increase between 2000 and 2008, with 1,400 growers in eight countries and more than 45 roasters

⁵⁸ ICO, 2010.

⁵⁹ Fairtrade Foundation, http://www.fairtrade.org.uk/what_is_fairtrade/facts_and_figures.aspx.

worldwide, with 16 importing companies.⁶⁰ Important progress is being made in developing pollution control technology in coffee processing, to reduce the volume of water needed in processing and therefore the amount of water being discharged.

Box A.4. Sustainability in the Coffee Supply Chain

In 2007 the International Coffee Agreement (ICA) was approved by 77 members of the International Coffee Council, entering into force in February 2011. Membership comprises both importing and exporting governments, including the European Union. The ICA specifically acknowledges the contribution of a sustainable coffee sector to the achievement of internationally agreed development goals, particularly poverty alleviation. Article 36 refers to the principles and objectives on sustainable development contained in Agenda 21.

The Common Code for the Coffee Community (4C Association), set up by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in 2003, is a multistakeholder sector initiative involving coffee producers, trade and industry, and civil society. Members (currently 160) follow a 4C Code of Conduct that covers social, environmental, and economic principles for all players in the green coffee supply chain, with the aim of establishing baseline requirements for sustainable production, processing, and trading of coffee and increasing purchases of sustainable coffee over time. Members are dynamic, providing guidance and commitment to continuous improvement from growers and their business partners to progress from the sustainability baseline to more demanding standards.

In contrast to the verification and regulation models outlined above, sustainably certified coffees come with an independent guarantee of having been produced in accordance with a set of specific standards relating to Fairtrade, environmental protection, and/or social development. Most major retailers and café chains in Europe and North America sell coffee that has been sustainably certified. There has been a proliferation of sustainable coffee certification schemes in the sector. Major schemes that are widely recognized include organic, Fairtrade, Rainforest Alliance, Smithsonian Bird-Friendly, and UTZ certification. Approximately 16 percent of current global coffee production is certified or verified, amounting to 9 percent of global coffee consumption.^a

An example of a long-established sustainability initiative working at all levels of the supply chain relates to the National Federation of Coffee Growers of Colombia, which was formed in 1927 and now represents over 563,000 small coffee growers. The Federation has a Coffee Fund to protect growers from volatile price markets, administers social development services (such as education and health care) to populations in coffee-growing areas, supports coffee quality programs and research, and promotes globally recognized marketing activities and brands such as the Juan Valdez Café products and café chain. The Juan Valdez Café business initiative alone now has more than 20,000 coffee growers directly owning shares of the company and the rest represented by the Federation. The Federation has a “Sustainability that Matters” program^b with four areas of action: Farm, Communities, Connectivity (information and communication technologies), and The Environment, which runs programs on environmental conservation, biodiversity, and climate change.

^a [TCC Coffee Barometer, 2012.](#)

^b See the Federation's Sustainability Report, 1997–2010: http://www.federaciondecafeteros.org/static/files/informe_sostenibilidad_eng.pdf.

⁶⁰ Smithsonian Migratory Bird Center, 2010, <http://nationalzoo.si.edu/scbi/migratorybirds/coffee/bird-friendly/ecological-benefits-of-shade-grown-coffee.cfm>.

Cocoa

Overview of Commodity

There are three primary varieties of cocoa that are commercially cultivated. The most popular variety is forastero (generally producing “bulk” cocoa); criollo (mostly grown in Latin America) and trinitario (a result of a cross between criollo and forastero) are generally sources of “fine flavor” cocoa. Cocoa pods are harvested by cutting or knocking pods off the tree. The cocoa beans (usually 20–50 in a pod) and their pulp are then removed from the pods and left in piles or bins for fermentation to occur—which can take up to seven days—and create the chocolate flavor. Beans are then usually dried in the sunshine to prevent mold. Pods should be fully ripe when harvested or the beans will have lower cocoa butter content and weaker flavors. The average cocoa tree takes 5 years to produce the first pod, and has a peak growing period of 10 years.

“Grinding” is the term given to the process of producing cocoa liquor, butter, and powder. Liquor is mostly sold to chocolate manufacturers; butter is largely used in chocolate manufacture but also in cosmetics such as creams and soaps; powder is used on a large scale by food industries for producing drinks, desserts, cereals, and confectionary. The by-products of the cocoa beans, such as the husks and shells, can also be sold and used for farming or even to generate bioelectricity.

Supply Chain Characteristics

Eight countries account for the majority of global cocoa production: Côte d’Ivoire, Ghana, Nigeria, Cameroon, Brazil, Ecuador, Indonesia, and Malaysia. Côte d’Ivoire and Ghana are the two largest cocoa-producing countries, accounting for almost 60 percent of the 3–4 million tons of cocoa produced worldwide each year.⁶¹ Two-thirds (66 percent) of this cocoa is exported as raw beans, with importing countries then processing and grinding it into finished or semifinished products.

An estimated 5–6 million cocoa farms exist worldwide, with 14 million workers employed in primary cocoa production. West Africa accounts for an estimated 1.2–1.5 million cocoa farms averaging 3–5 hectares in area and employing about 10.5 million workers. Large-scale cocoa plantations are found mainly in Brazil and Indonesia. Approximately 40–50 million people worldwide depend on cocoa

⁶¹ Tropical Commodity Coalition, 2011, <http://www.teacoffeecocoa.org/tcc/Commodities/Cocoa/Producers>.

for their livelihoods, with 5–6million⁶² smallholder farmers (mostly family-run) producing more than 90 percent of the world's cocoa.⁶³

Nearly all exported cocoa is sold through the physical market. Marketing channels between cocoa farmers and exporters often involve two middlemen—small traders who buy directly from farmers and then sell to wholesalers, who then resell to exporters. Alternatively, cocoa beans can be sold directly to exporters by farmers' cooperatives or even exported by the cooperatives themselves. Cocoa grading varies between producing and consuming countries, and is based on variables such as amount of mold, slate, and foreign matter.

Cocoa beans are traditionally processed in the Netherlands, the United States, Germany, and Côte d'Ivoire. Each country produces over 350,000 tons per year. More recently, producing countries have begun to develop their own facilities for grinding, in a move to increase export values. A small number of international companies are dominant in the grinding (processing) market: ADM, Barry Callebaut, Blommer, Cargill, and Petra Foods account for more than half of all trade and grinding activities.⁶⁴ After the grinding phase, a small number of international food companies also dominate the global chocolate and confectionary market, including Cadbury Schweppes, Ferrero, Hershey, Kraft, Mars, and Nestlé. Such companies previously operated vertically integrated supply chains through to the manufactured chocolate product. Many have now refocused on the final branded products, and greater horizontal integration arrangements are now more common in the trading and processing stages of the value chain. The five processing companies listed above have grown their cocoa operations as a result of mergers and acquisitions. The largest cocoa consumers are Europe (more than 1.2 million tons per year) and the United States (0.4 million tons per year), and the main processors and chocolate manufacturers are located there. The current annual global market value of the cocoa crop is \$5.1 billion.⁶⁵

Cocoa is traded on two world exchanges in two currencies: in London (LIFFE) in pound sterling and in New York (ICE) in U.S. dollars through spot and futures contracts, with the pound leading the price of cocoa. Cocoa prices are affected by various factors including stock/grind ratios, expectations for future production

⁶² [http://www.acdivoca.org/site/Lookup/ACDIVOCA_Cocoa_onepager/\\$file/ACDIVOCA_Cocoa_onepager.pdf](http://www.acdivoca.org/site/Lookup/ACDIVOCA_Cocoa_onepager/$file/ACDIVOCA_Cocoa_onepager.pdf).

⁶³ World Cocoa Foundation, Update 2010; ICO, <http://www.icco.org/economics/promotion.aspx>.

⁶⁴ Tropical Commodity Coalition, 2011, <http://www.teacoffeecocoa.org/tcc/Commodities/Cocoa/Producers>.

⁶⁵ World Cocoa Foundation, <http://www.worldcocoafoundation.org/learn-about-cocoa/cocoa-facts-and-figures.html>.

and demand, global food prices, disease, and weather conditions such as droughts and soil erosion. The price of cocoa has increased over the past five years but over a longer time period average annual prices are calculated to have fallen in real terms by about 2 percent per year.⁶⁶

Government policies influence the prices received by cocoa farmers; for example, high export taxes on beans will reduce prices given by traders to farmers. In Côte d'Ivoire farmers receive barely 40 percent of the international cocoa price.⁶⁷ The domestic supply chains in Ghana and Côte d'Ivoire operate according to different systems. The Ghana Cocoa Board (Cocobod) manages the entire supply chain, with the exception of product certified under sustainability schemes. It determines the price, buys and sells the cocoa, organizes quality inspections, regulates cocoa transportation, and conducts research into the national cocoa market, with resulting constraints on the ability of supply chain actors to influence practices and thereby effectively manage risk. In contrast, the cocoa sector in Côte d'Ivoire has been nearly fully liberalized since 1999.⁶⁸

Sustainability Initiatives

Child trafficking, harmful child labor, and the financing of conflicts are the most reported social concerns associated with the cocoa sector, especially in Africa. However, other issues that are equally serious include the labor-intensive nature of production and harvest, poor health and safety measures, and the effect on public health and the environment of pesticides and fertilizers used (Oxfam International, 2009).⁶⁹ The major environmental risk from cocoa production is the deforestation and degradation of forest resulting from land clearing for the ongoing expansion of smallholder cocoa farms.

Companies and traders are beginning to take action to assist farmers and reduce poverty among producers, not only from socially responsible motives but also from an increasing realization that cocoa volumes are at risk from decreasing cocoa yields and quality. Technical assistance can improve farming techniques and offer more fertile soils, as well as larger and higher-quality yields. An example would be the use of nontoxic fertilizers to improve crop yield as an alternative

⁶⁶ LMC, "International Cocoa Sustainability Report, 2010–2011," http://www.worldcocoaoundation.org/learn-about-cocoa/documents/LMC-WCFCocoaSustainabilityReport_2010-11.pdf.

⁶⁷ Oxfam International, January 2009, "Towards a Sustainable Cocoa Chain," Oxfam Research Reports.

⁶⁸ Oxfam International, January 2009, "Towards a Sustainable Cocoa Chain," Oxfam Research Reports.

⁶⁹ Oxfam International, January 2009, "Towards a Sustainable Cocoa Chain," Oxfam Research Reports.

to land clearance—it is estimated that increasing fertilizer use on cocoa-timber farms would have spared 2 million hectares of tropical rainforest in West Africa from being cleared (International Institute for Tropical Agriculture).⁷⁰

Increasing concerns about the role of child labor in cocoa production in West Africa led to the U.S. government's Harkin-Engel protocol being signed in 2001 by a range of stakeholders, including major industry actors. This protocol recognized the “urgent need to identify and eliminate child labor in violation of ILO Convention 182 with respect to the growing and processing of cocoa beans and their derivative products.” Following up on this, the International Cocoa Initiative (ICI) was formed. The ICI Foundation works with the industry, governments, civil society, and labor unions to achieve collaborative efforts to eliminate child labor and forced labor from cocoa production. However, many NGOs criticize these industry initiatives for having achieved relatively little over the past 10 years. More information on sustainability in the cocoa sector is in Box A.5.

⁷⁰ <http://www.cifor.org/mediamultimedia/newsroom/press-releases/press-releases-detail-view/article/238/low-fertilizer-use-drives-deforestation-in-west-africa-imperils-redd-implementation-says-new-study.html>.

Box A.5. Sustainability in the Cocoa Supply Chain

Several sustainability initiatives, programs, and systems have been developed by cocoa stakeholders, involving cooperation between producers, NGOs, governments, traders, processors, and manufacturers. Examples include the International Cocoa Initiative, World Cocoa Foundation, ICCO, Roundtable for Sustainable Cocoa Economy, and International Cocoa Verification Board.

The ICCO's 6th International Cocoa Agreement came into force in 2003, and in 2005 the total percentage of exporting countries acceding to the Agreement surpassed 80 percent. ICCO member countries now represent almost 85 percent of cocoa production and more than 60 percent of world cocoa consumption. A significant recent breakthrough of the current Agreement is the establishment of an explicit mandate on a Sustainable World Cocoa Economy, with a concept of sustainability encompassing social, economic, and environmental dimensions in both production and consumption.

Until recently, sustainability-related certification has taken place mainly with high-end specialty chocolate products for the organic and Fairtrade markets. However, certification is now becoming more mainstream—examples include the Fairtrade Cadbury Dairy Milk bar, which is now available internationally: Cadbury (now owned by Kraft) estimates that 350 million Cadbury Dairy Milk bars will soon carry the Fairtrade Mark each year, which will quadruple the amount of Fairtrade cocoa exported from Ghana in 2008 and benefit more than 40,000 farmers.

Consumer demand for Fairtrade cocoa products continues to increase; in the United Kingdom alone, sales went from £1 million in 1998 to £44.2 million in 2009. Mars has committed to sourcing from certified sustainable cocoa by 2020,^a and Nestle's famous KitKat bar is now Fairtrade certified in the United Kingdom and Ireland.

The Rainforest Alliance also has a cocoa sustainability certification program and is involved in other initiatives in the sector, such as a partnership with Olam International Ltd to implement a training program for farmers in Ghana on sustainable farming practices, linked to the objectives of improving yields while protecting forested landscapes.

^a http://www.fairtrade.org.uk/press_office/press_releases_and_statements/september_2011/mars_and_fairtrade_announce_collaboration.aspx.

ANNEX II. BUSINESS MODELS IN AGRO-COMMODITY PRODUCTION⁷¹

“Contract farming” entails preagreed supply agreements between farmers and buyers. The agreements usually specify the purchase price or how it will relate to prevailing market prices; they may also include terms on delivery dates, volumes, and quality. In many cases, the buyer, which is generally an agriprocessing company, commits to supply up-front inputs, such as credit, seed, fertilizers, pesticides, and technical advice, all of which may be charged against the final purchase price. There is a wide range of contract farming deals, from informal verbal purchase agreements to highly specified outgrower schemes around large estates.

Management contracts refer to the variety of arrangements under which a farmer or farm management company works agricultural land belonging to someone else. Management contracts may take the form of a lease or tenancy, but carry the connotation of stewardship and management of the land on behalf of the owner. To provide incentives for the farm management, the contract often entails some form of profit-sharing rather than a fixed fee.

Tenant farming and sharecropping are versions of management contracts in which individual farmers, for example smallholders, work the land of larger-scale agribusinesses or other farmers. In tenant farming the usual arrangement is a fixed rental fee, whereas in sharecropping the landowner and sharecropper split the crop (or its proceeds) along a preagreed percentage. Sharecropping has historical negative associations with indentured labor in the United States (e.g., as a system for freed slaves), but may be preferred to a fixed-rate tenancy because of the sharing of risk and better incentives for the sharecropper. Sharecropping has historically provided the landless with land access in many parts of the developing world, such as Ghana.

Joint ventures entail co-ownership of a business venture by two independent market actors, such as an agribusiness and a farmer organization. A joint venture involves sharing of financial risks and benefits and, in most but not all cases, decision-making authority in proportion to the equity share.

⁷¹ Vermeulen and Goad 2006.

In the palm oil sector, there are other models:

Supported smallholders are growers who cultivate palm oil with the direct support of either the government or the private sector. The basic concept is that the government agency or private plantation company provides technical assistance and inputs of seed stock, fertilizers, and pesticides on a loan basis, sometimes partially subsidized by the government. There may be a verbal or written contract delineating the agreement and possibly including guarantees of sales, plus terms for calculating the mill price. Examples of supported smallholder schemes are nucleus-plasma (Perkebunan Inti Rakyat or in Indonesia and the variety of land resettlement and rehabilitation schemes in Malaysia: Rubber Industry Smallholders' Development Authority (RISDA), Federal Land Development Authority (FELDA), and Federal Land Consolidation and Rehabilitation Authority (FELCRA).

Independent smallholders are growers who cultivate palm oil without direct assistance from government or private companies. They sell their crop to local mills either directly or through traders. In Malaysia, independent growers are proliferating as independent mills multiply and FELDA schemes mature towards less regulation and subsidy.

Collective landowner schemes are another option for local communities who hold land title or recognized customary land rights. These are land leases or joint ventures, whereby local landowners rent out use rights of their land to a plantation company, or collect a share of profits based on the equity value of their land. This is not strictly a smallholder model, but it can be an attractive alternative for local landowners. The mini-estate or Konsep Baru in Malaysia and lease-lease-back schemes in Papua New Guinea are current models.

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