

Commodity supply chains and corporate action

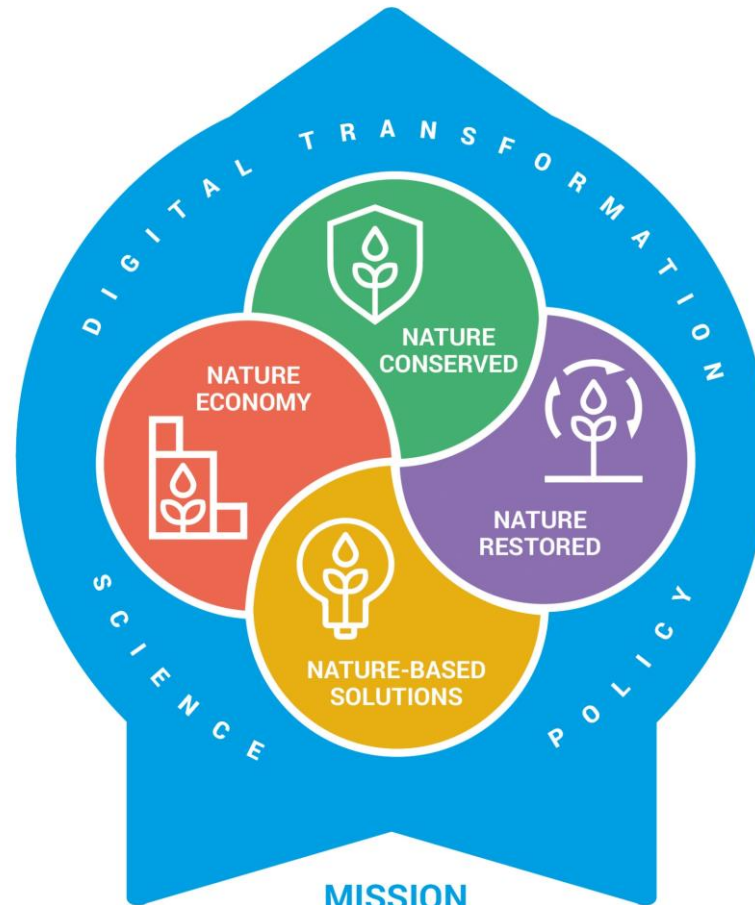
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UNEP-WCMC

VISION 2050

Living in harmony with nature



MISSION

We develop knowledge and capacity
for a nature-positive world

Trade Hub project

The **TRADE Hub** looks to address the intractable challenge of how to “**eliminate the negative impacts on people and ecosystems from trade**”

Selection of Commodities

- **wild-sourced species**
- **agricultural commodities**
 - Soy
 - Oil Palm
 - Rattan
 - Rubber
 - Coffee
 - Cocoa
 - Bush Mango
 - Sugar
 - Bamboo





Contents:

- Nature within supply chain management
- Nature-related metrics and tools
- Nature related impacts of commodity trade
- Challenges to sustainable trade of commodities
- Solutions and interventions needed

The global agenda on nature and forests

The Climate agenda

- Paris agreement and GHG protocol
- Corporate value chain (scope 3) standard
- Science Based Targets Initiative (SBTi) guidance for the FLAG sector
- Taskforce for Climate related Financial Disclosure (TCFD)

The Nature agenda

- CBD draft post 2020 global biodiversity framework – target 15
- Science Based Targets Network (SBTN) guidance in development covering upstream
- Taskforce for Nature related Financial Disclosure (TNFD)



The importance of supply chains in TNFD and SBTN

Both require the full value chain to be mapped and upstream priority activities and locations to be identified

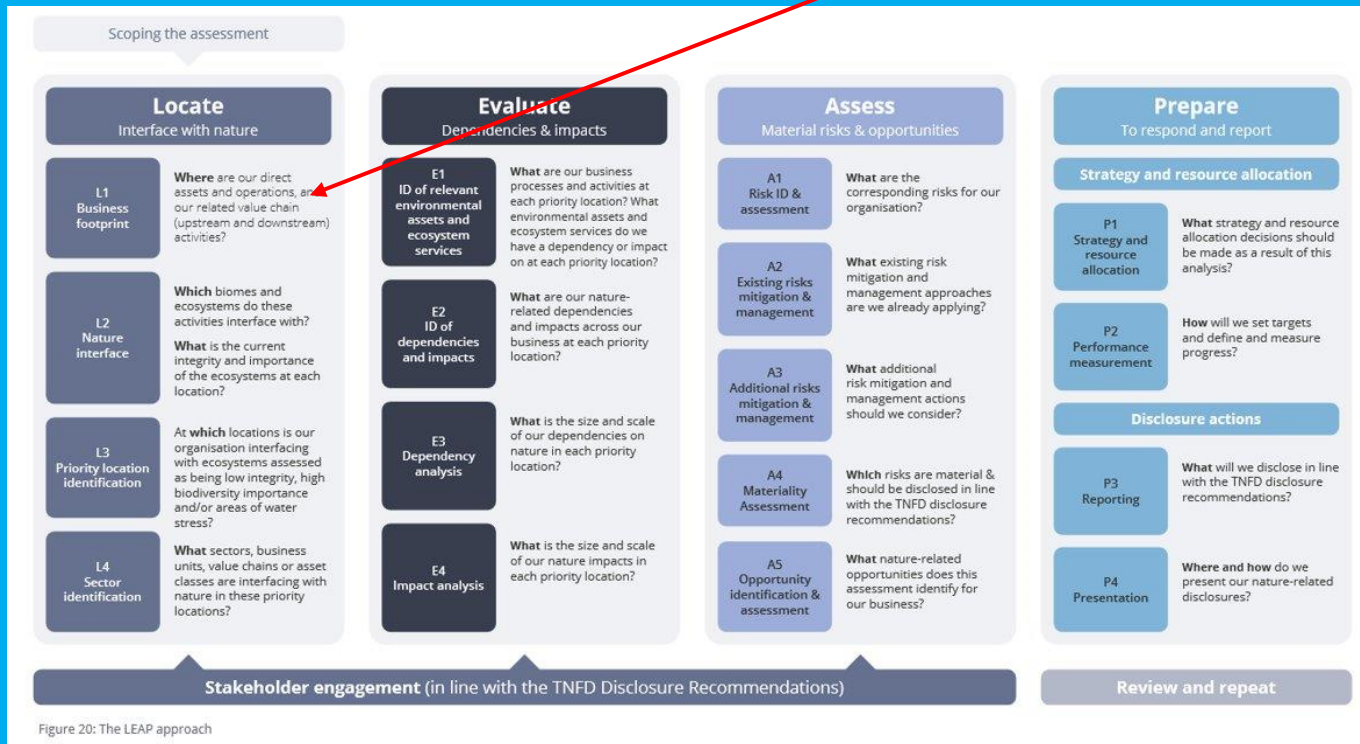
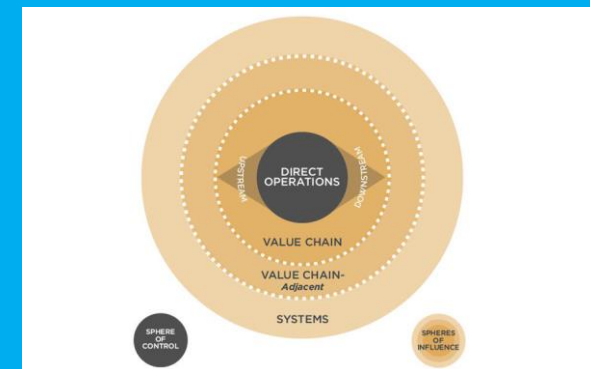
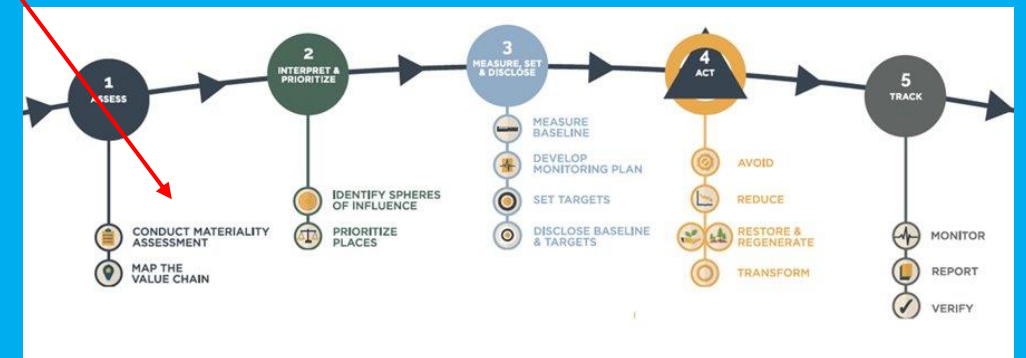


Figure 20: The LEAP approach



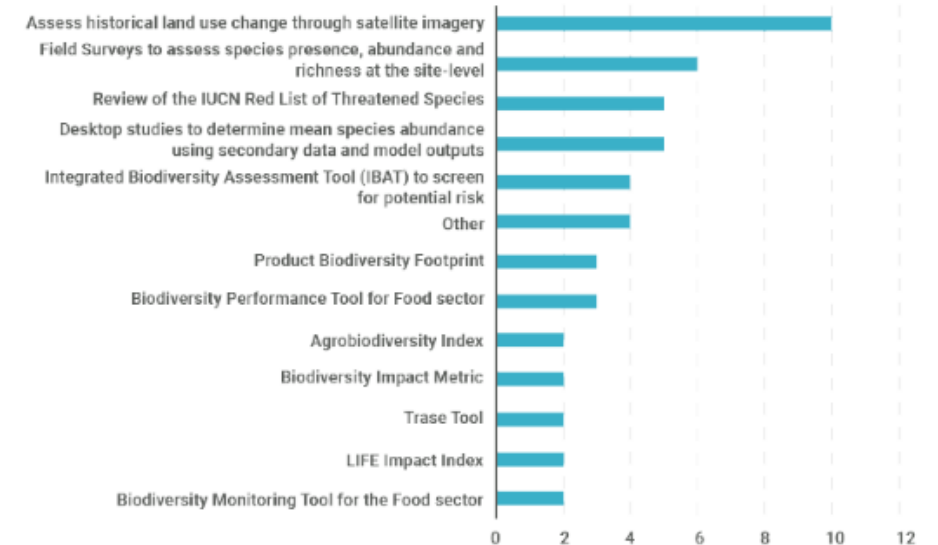
Corporate metrics on nature and trade

- To assess risk
- To assess performance
- To track progress against targets
- External reporting and disclosure

- Metrics - a mathematical representation of reality (e.g. Mean Species Abundance, STAR)
- Data / Model - measured or modelled information (e.g. GLOBIO, RedList)
- Tools - packages of data and one or more metrics (LC-IMPACT, IBAT)
- Frameworks - criteria and guidance for decision-making (e.g. LandScale, Soy Toolkit)



Please identify which tools or approaches you have used or are considering to measure biodiversity? (Cumulative answers) (n=16)



A recommended standard for measuring biodiversity

To support standard setters including the TNFD and SBTN


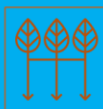


WHAT to measure
HOW to measure
WHICH tools (supply chain guidance coming)



Supply chain level

Good practice

Best practice

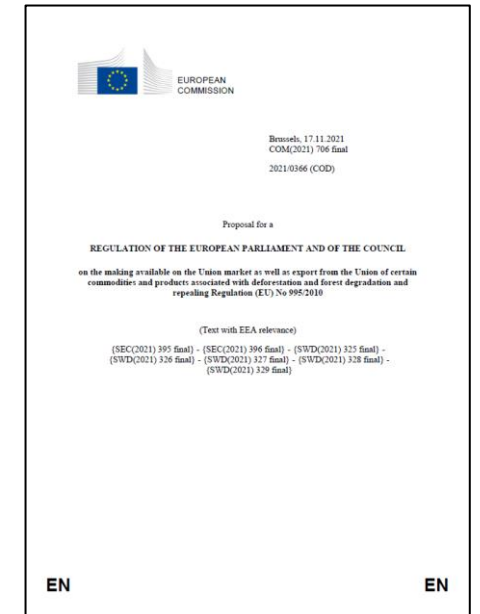
	What to measure	Characteristics of measurement approach	Most applicable methods
Screen 	<ul style="list-style-type: none"> Ecosystem extent & condition & species extinction risk at broad-scale sourcing regions 	<ul style="list-style-type: none"> Feasibility (applicable for screening)– High Spatial precision– Low (screening/measuring can use models based on global data) Accuracy– Low (e.g., can measure potential impact based on sector-average impact driver-data) 	<ul style="list-style-type: none"> ✓ Spatial overlay with biodiversity data layers (ecosystem extent/condition) ✓ Species threat and range layers
Measure 	<ul style="list-style-type: none"> Potential impacts on ecosystems based on volumes of materials sourced (or revenue) within each country sourced from 	<ul style="list-style-type: none"> Responsiveness – Medium (responsive to changes in impact drivers along supply chain) Spatial precision– Low (screening/measuring can use models based on global data) Accuracy– Low (e.g., can measure potential impact based on sector-average impact driver-data) 	<ul style="list-style-type: none"> ✓ Modelled state based on pressures (sector averages)
Screen 	<ul style="list-style-type: none"> Ecosystem extent & condition & species extinction risk at specific sourcing locations Potential impacts on ecosystems based on volumes of materials sourced (or revenue) within each country sourced from 	<ul style="list-style-type: none"> Feasibility (applicable to screening)– High Spatial precision– Medium (reflects differences in potential impact based on sourcing region) Accuracy– Medium (screens potential impact based on company-specific impact driver data) 	<ul style="list-style-type: none"> ✓ Modelled state based on pressures (including land use intensity) ✓ Spatial overlay with biodiversity data layers (ecosystem extent/condition)
Measure 	<ul style="list-style-type: none"> Measurement of potential impacts reflects differences in biodiversity between sourcing locations and production processes at sourcing locations Measurement of impact drivers & state at sampled sites using primary data is used to complement full-supply chain measures 	<ul style="list-style-type: none"> Responsiveness Medium (reflects changes in production practices at source location) Spatial precision– Medium (reflects differences in potential impact based on sourcing region) Accuracy– Medium (screens/measures potential impact based on company-specific impact driver data) 	<ul style="list-style-type: none"> ✓ Modelled state based on pressures (including land use intensity) ✓ Primary data based on species/habitat surveys (for measuring impact) at sampled sites

National assessments and evolving legislation

National efforts to assess the embodied impacts of trade that include deforestation and nature

Emerging legislation including:

- EU deforestation free
- EU corporate sustainability due diligence
- UK due diligence provisions within the Env Act



National statistics on nature and trade

WHAT WOULD YOU LIKE TO SEE?

Visualize the **Tropical Deforestation (ha)** associated with **United Kingdom's** commodity **consumption**

Producing Countries **Commodities** **Year** **Domestic Flows**

Select or type to search... Select or type to search... 2017 Include

[FEWER FILTERS](#) [UPDATE DATA](#)



JNCC Report
No. 681

Towards indicators of the global environmental impacts of UK consumption:
Embedded Deforestation

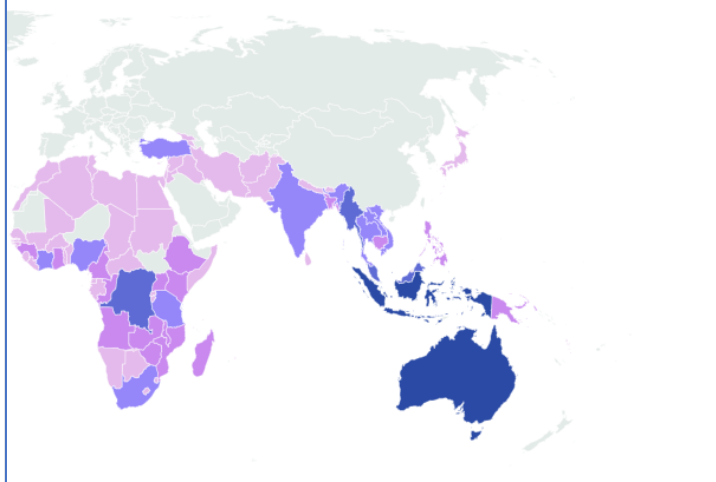
Croft, S., West, C., Harris, M., Otley, A. & Way, L.

May 2021

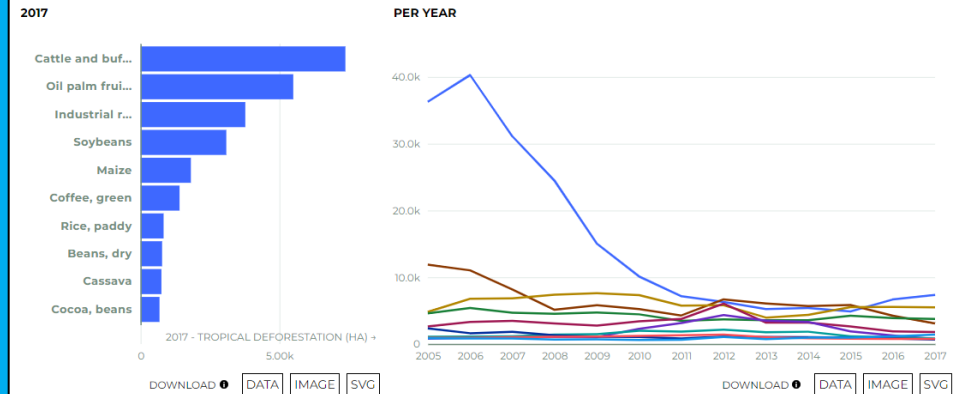
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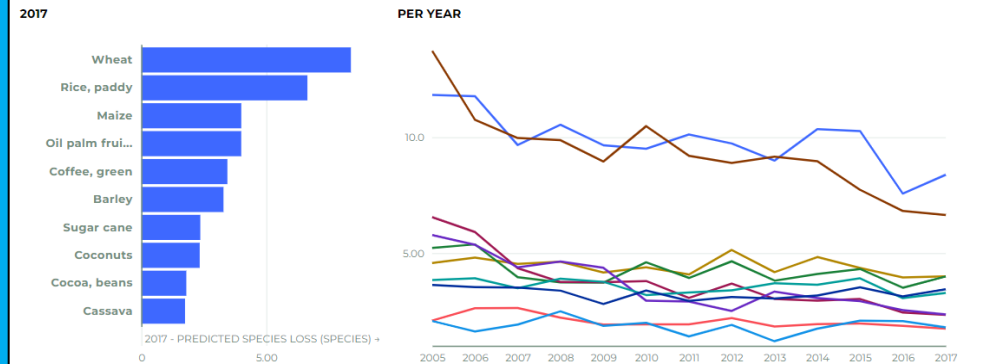
[Zoom Out](#)



TOP 10 - BY TROPICAL DEFORESTATION (HA) COMMODITIES



TOP 10 - BY PREDICTED SPECIES LOSS (SPECIES) COMMODITIES

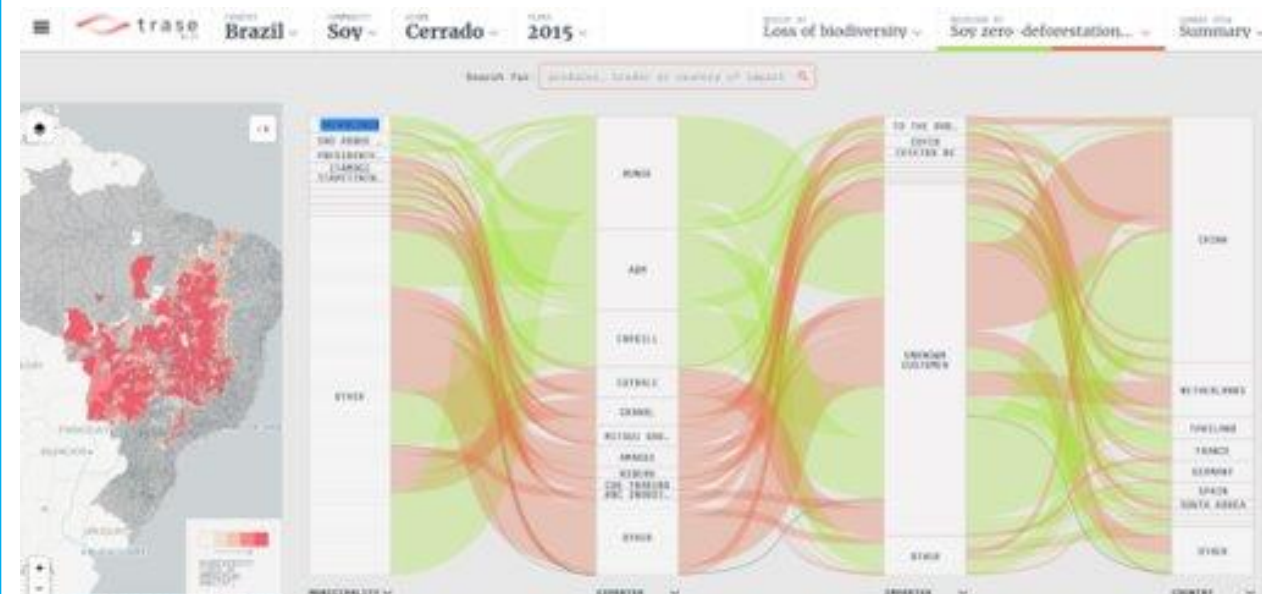
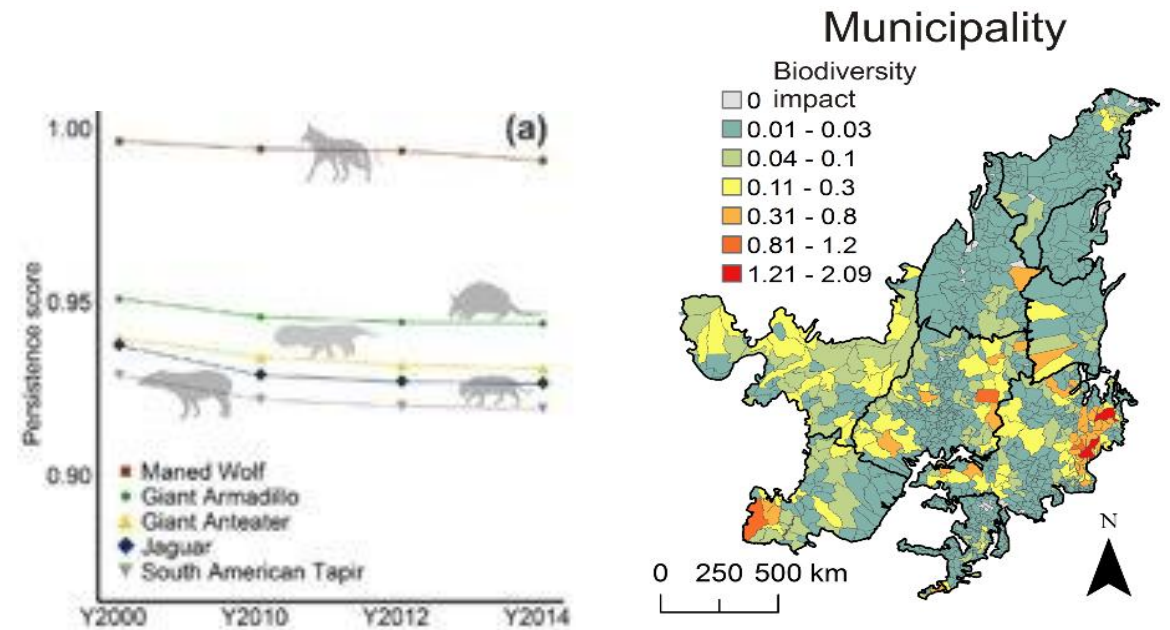


Linking trade flows to biodiversity impacts

Linking Trase data to biodiversity indicators to determine:

- Biodiversity impacts of different trade flows (China, EU, Brazil)
- Species level impacts for specific crops

"Connections between individual buyers and specific hot spots explain the disproportionate impacts of some actors on endemic species and individual threatened species"



Site level impact and risk tools



<https://www.ibat-alliance.org/>

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Integrated Biodiversity Assessment Tool

We host and maintain the three key global biodiversity datasets



IUCN Red List of
Threatened Species



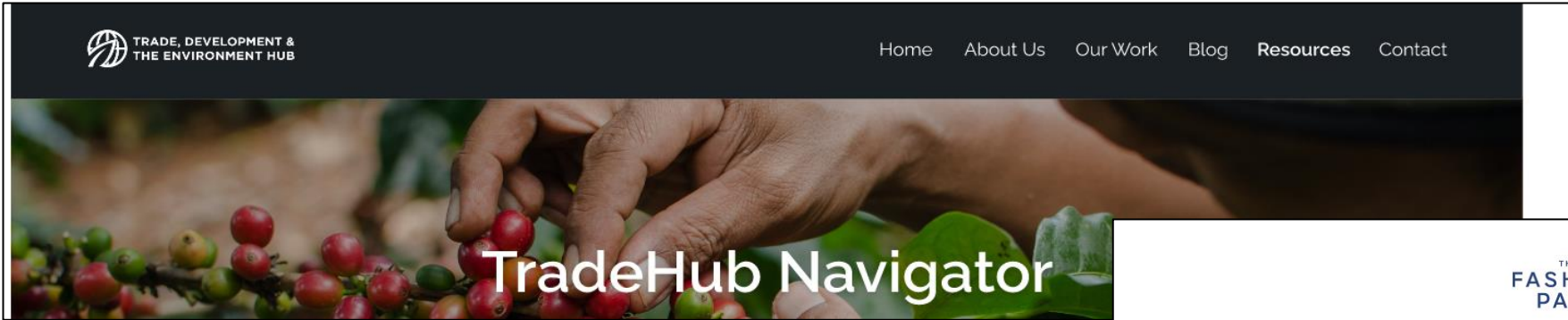
World Database on
Protected Areas





World Database of Key
Biodiversity Areas

About Us

Tool navigators



Lead organisation ▾ Typology ▾ Theme ▾  LEGEND

Name ▾	Resource ▾	Lead organisation ▾	Typology
AGRICTRADE	https://agrictrade.net/trade-data/	Agricultural Market and Trade Department of the Permanent Interstate Committee for Drought Control in the Sahel (CILSS)	

Social impacts of commodity production and trade

What do we need to make trade more socially sustainable within exporting countries?

The positive social impacts of sustainable trade: committing to wellbeing outcomes through and beyond market-based instruments.

The development of global agricultural value chains has been widely promoted as an economic development strategy in recent years. However useful for GDP growth, the intensification of production and global trade has imposed a heavy burden on the planet and people, with negative impacts such as deforestation and associated increase in carbon emissions, violation of human rights and impoverishment of rural livelihoods. In a single year, 'advanced economies' appropriated from the Global South commodities worth \$2.2 trillion in Northern prices. This would be enough to end extreme poverty 15 times over. Strong, or true social sustainability principles needs to be embedded in global value chains, which cannot be detached from local sustainability. There are mixed views on the actual tools and instruments that need to be implemented to concretely achieve this goal – but this article highlights one framework to understand the social impacts of trade, underlines how mainstream value-chain approaches have a limited effectiveness, and calls for a better coordination on the delivery of global sustainable development goals.

Arguments in favour of liberal trade policies exploit elusive ideas of fairness, but mainly emphasise its impact on the expansion of the global economy. The increase of production, consumption and net exports of agricultural commodities contributes to GDP figures, and to the overall level of affluence of a given country, as well as

Voluntary standards often overlook indirect livelihood impacts, and few deliver of poverty eradication (SDG1)



Gender imbalance from the ownership and control of resources in the coffee supply chain

Kangile et al 2022

The Role of Coffee Production and Trade on Gender Equity and Livelihood Improvement in Tanzania

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Citation: Kangile, J.R.; Kadigi, R.M.J.; Mgeni, C.P.; Kashaigili, J.; Munishi, P.K.T. The Role of Coffee Production and Trade on Gender Equity and Livelihood Improvement in Tanzania. Sustainability 2022, 14, 1095. <https://doi.org/10.3390/su14101095>

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Abstract: Achieving the sustainable development goals in developing countries will require the realization of benefits from the global supply and value chains, such as coffee, for inclusive economic development and poverty reduction. This study uses the data of 400 men and women randomly sampled coffee farmers from a developing country, Tanzania, to evaluate coffee income distribution, and how general coffee production and trade contribute to gender equity and livelihood improvement. Oaxaca–Blinder decomposition and Gini coefficient models are used for data analysis. We find a gender imbalance from the ownership and control of resources to the participation of men and women in the coffee supply chain. However, investing in supporting the coffee supply chain has an impact on livelihood improvement, due to coffee income inequality reducing effects. There is a gender gap in the income earned from coffee production and trading, which is 44% of the women's structural disadvantages. Empowerment for equal access to land and credit, and offering trade facilitation services will bridge the existing gender gap. Additionally, developing and disseminating new coffee production technologies that will reduce discrimination, by offering new opportunities and making coffee an inclusive supply chain, remains imperative.

Keywords: gender; trade; supply chain; coffee; livelihood

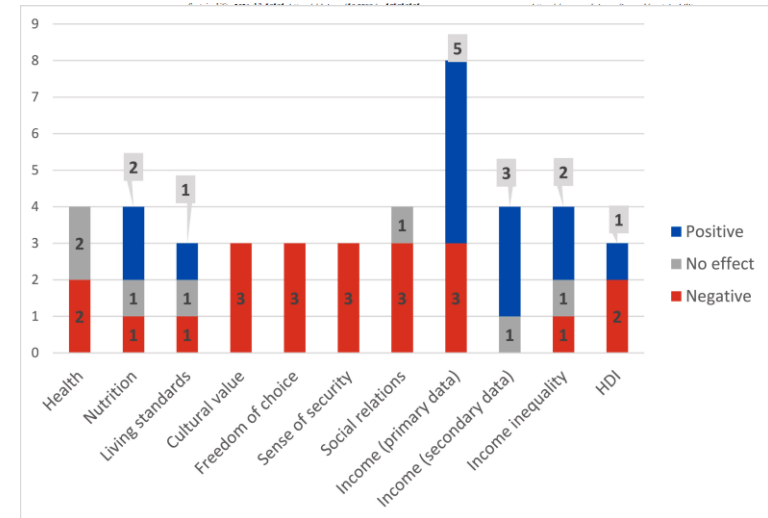
1. Introduction

Coffee is a commercial crop that is widely produced and traded in the world. The coffee trade amounted to USD 30 billion in 2019, representing 0.17% of the total world trade [1]. The main coffee importers in the world are the United States of America, Germany, France, Italy, and Belgium. These five countries imported coffee worth USD 13.81 billion in 2019 [1]. Coffee is produced by over 60 countries in the world. The main coffee producers are Brazil, Vietnam, and Colombia. These three countries produced about 56% of the total world coffee in 2019 [1]. Similarly, the same countries were the top exporters of coffee in the world in the same year. Brazil alone registered a USD 4.7 billion export value. Brazil is driving the coffee production and trade growth in the world. The world coffee production experienced a growth rate of 6.4% in the year 2020, while Brazil's coffee production grew by 18.5% [3].

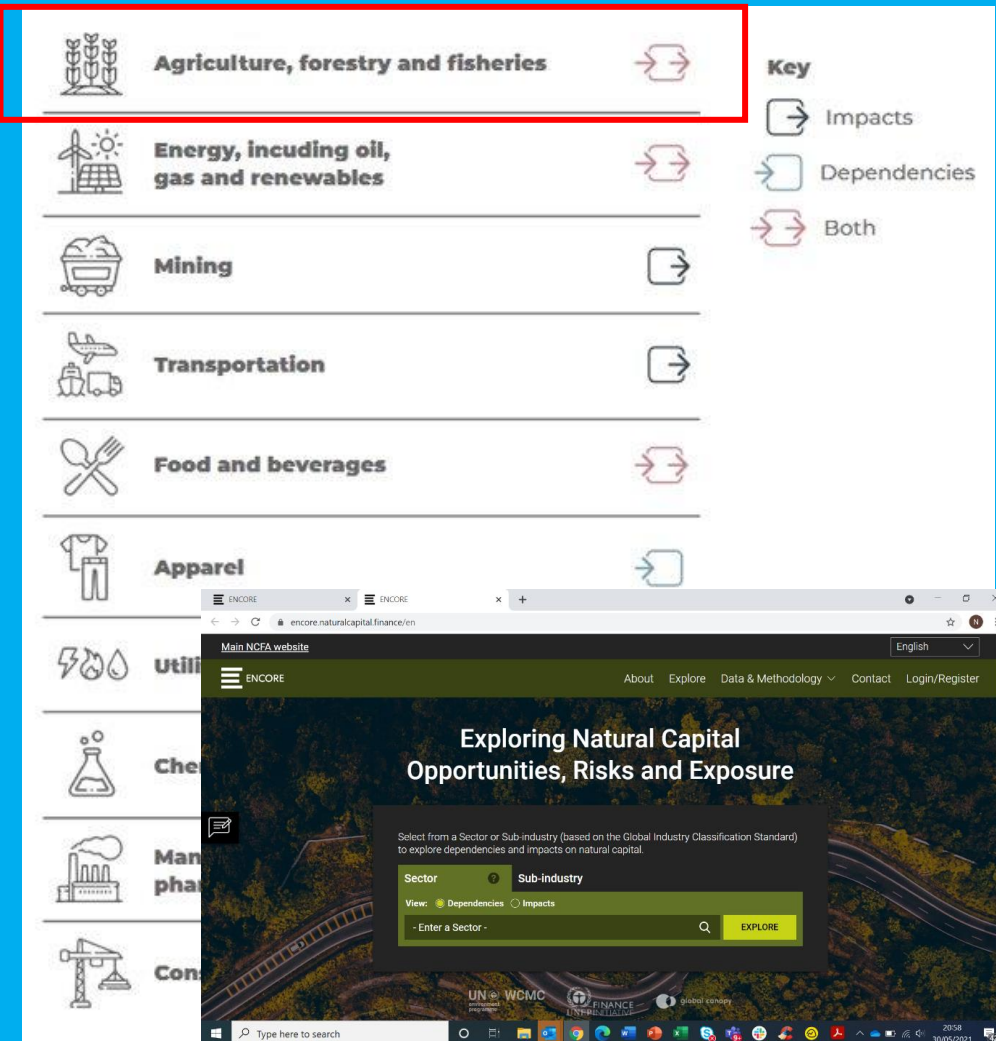
Africa grows about 11% of the total global coffee production [3]. The main coffee producers in Africa are Ethiopia, Uganda, Côte d'Ivoire, Madagascar, and Tanzania (Figure 1). These five countries produce about 76% of the total coffee production in Africa [2]. The coffee trade in Africa provides foreign currency to most of the African coffee-producing countries. The top five coffee-producing countries exported coffee worth USD 1.64 billion

The impact of soybean production on multidimensional well-being

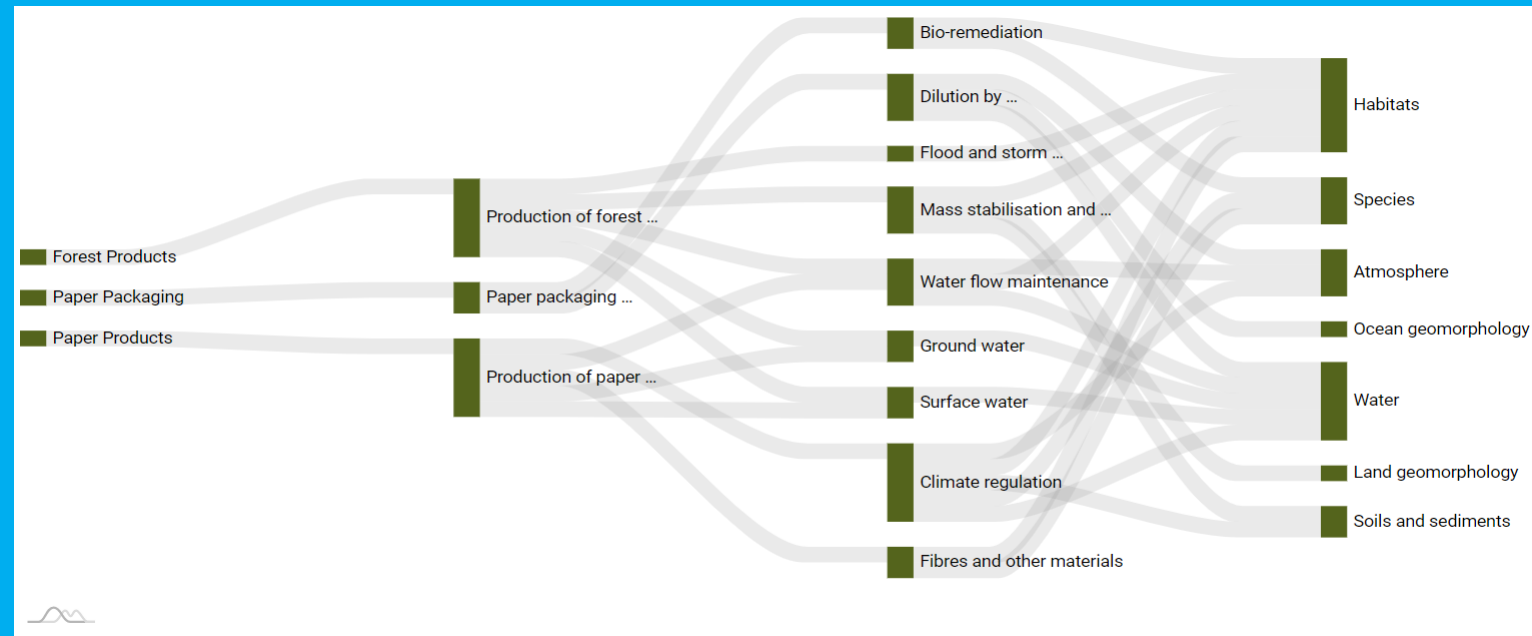
Dreoni et al 2022



Nature-related risks include dependencies



- Forestry has both significant impacts and dependencies on nature
- This creates an opportunity for solutions that protect and restore nature, improve well-being, and support resilient businesses



The challenge of traceability

- Complex supply chains
- Aggregated commodities
- Lack of direct supplier engagement

The potential of digital technologies to improve the sustainability of agriculture supply chains
A focus on blockchain to enhance the traceability of soy

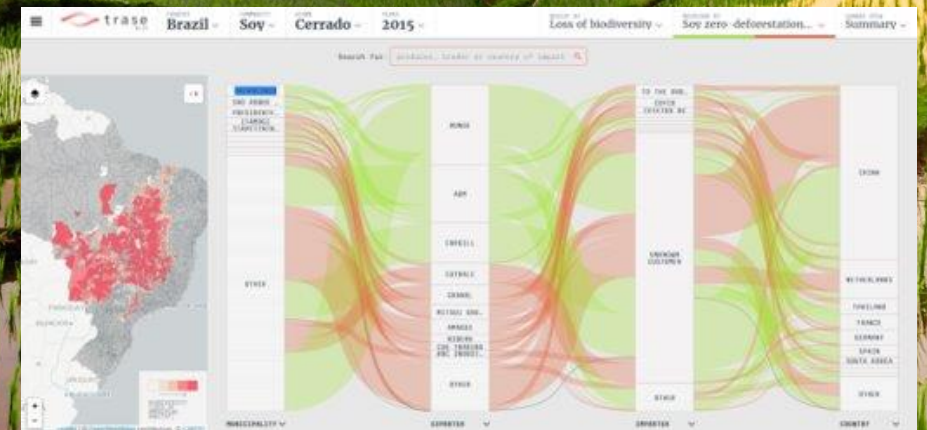
Julia Singer Hobart

October 2020

University of Cambridge Institute for Sustainability Leadership, Business & Nature

"the soy disappears into millions of products, so it's very difficult to trace. The efforts you have to make to trace it all the way from the farm to the end product that is a tremendous amount of money that nobody wants to pay for. End-customers are not paying"

Is full traceability to farm where we want the corporate investment to go?



The challenge of incentives

Cameroon's smallholders grow nearly all of its cocoa, and fifty percent of its oil palm.

The challenge of responsibility

- Robust procurement standards need to be coupled with investment and technical assistance that supports and rewards sustainable producers
- Common but differentiated responsibility can drive collective action to address challenges in shared landscapes

Taking responsibility for supply chain impacts: who, why and how?

What is the responsibility of supply chain actors in addressing production level impacts?

As attention grows on the negative impacts of unsustainable production (See [Discussion Paper 1](#)), responsibility is placed on all supply chains actors – producers, traders, retailers, brands, financiers – to manage production level impacts through what is known as ‘chain liability’. Equally, public sector institutions regulating trade are facing pressure to include environmental and social safeguards, leading to the evolution of methods¹, indices², and policies³ to account for the embedded impacts of trade.

If you are deriving benefit from the sale or consumption of a commodity, are you responsible for any negative externality associated with its production? The logical answer is ‘yes’, and it is increasingly understood that failing to address these impacts not only damages livelihoods and ecosystems (See [Discussion Paper 5](#)), but can lead to an array of risks for businesses and economies. These include supply chain risks, whereby the continued provision of commodities depends on both nature’s services and the producer communities, as well as risks associated with awareness of impacts by investors, consumers, and societies.

Many initiatives are guiding business to quantify and report on environmental impacts (e.g. [SBTN](#), [NCP](#), [TNFD](#), [CDP](#), [GRI](#)) and in response to the awareness around supply chain risks, encouraging them to account for impacts that occur upstream in

1 <https://hub.jnc.gov.uk/assets/709e0304-0460-4f83-9dcd-3fb490f5e676>

2 <https://www.sustainabledevelopmentindex.org/>

3 [https://ieep.eu/uploads/articles/attachments/9c951784-8c12-4ff5-a5c5-ee17c5f9f80b/Trade%20and%20environment_FINAL%20\(Jan%202020\).pdf](https://ieep.eu/uploads/articles/attachments/9c951784-8c12-4ff5-a5c5-ee17c5f9f80b/Trade%20and%20environment_FINAL%20(Jan%202020).pdf)

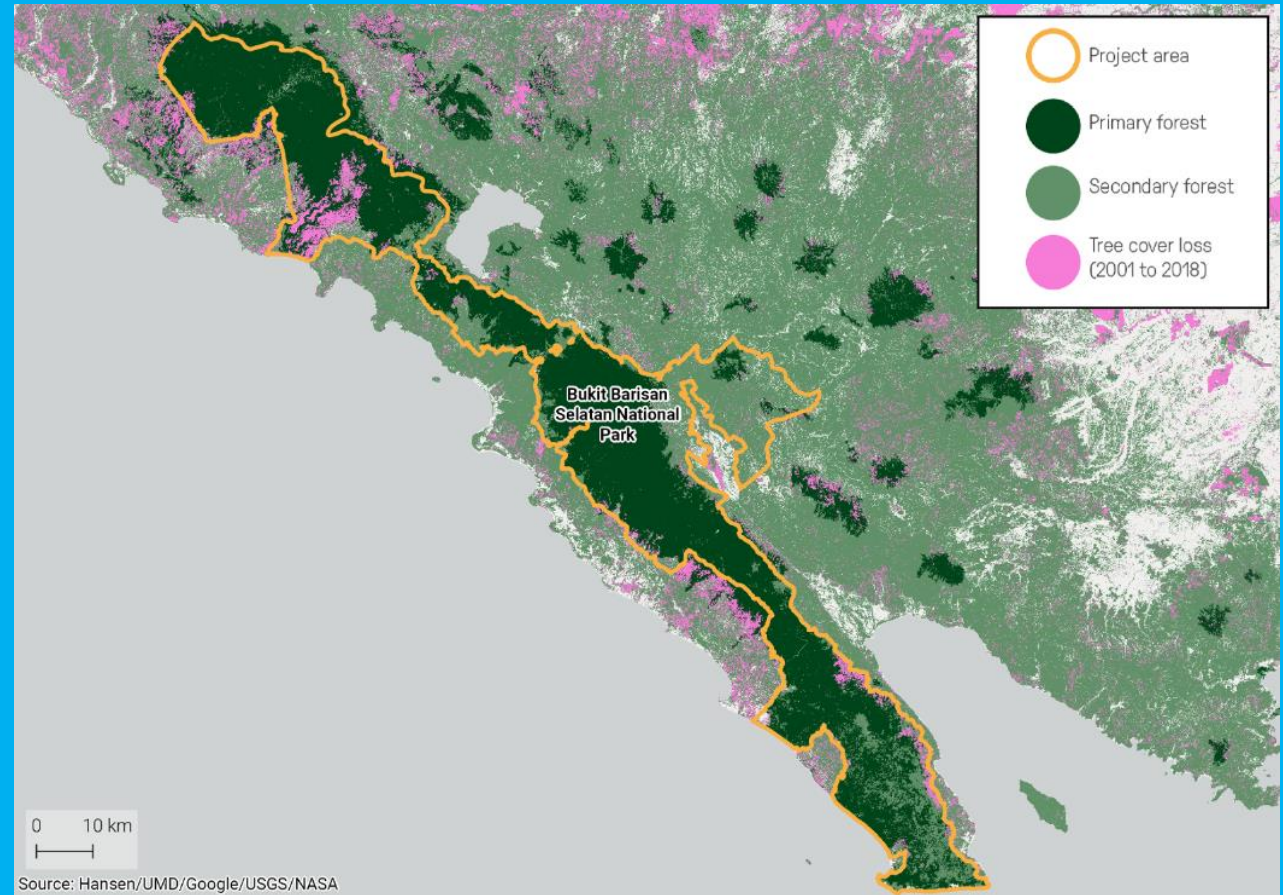


An example of collective action

Bukit Barisan Selatan Sustainable Commodities Partnership

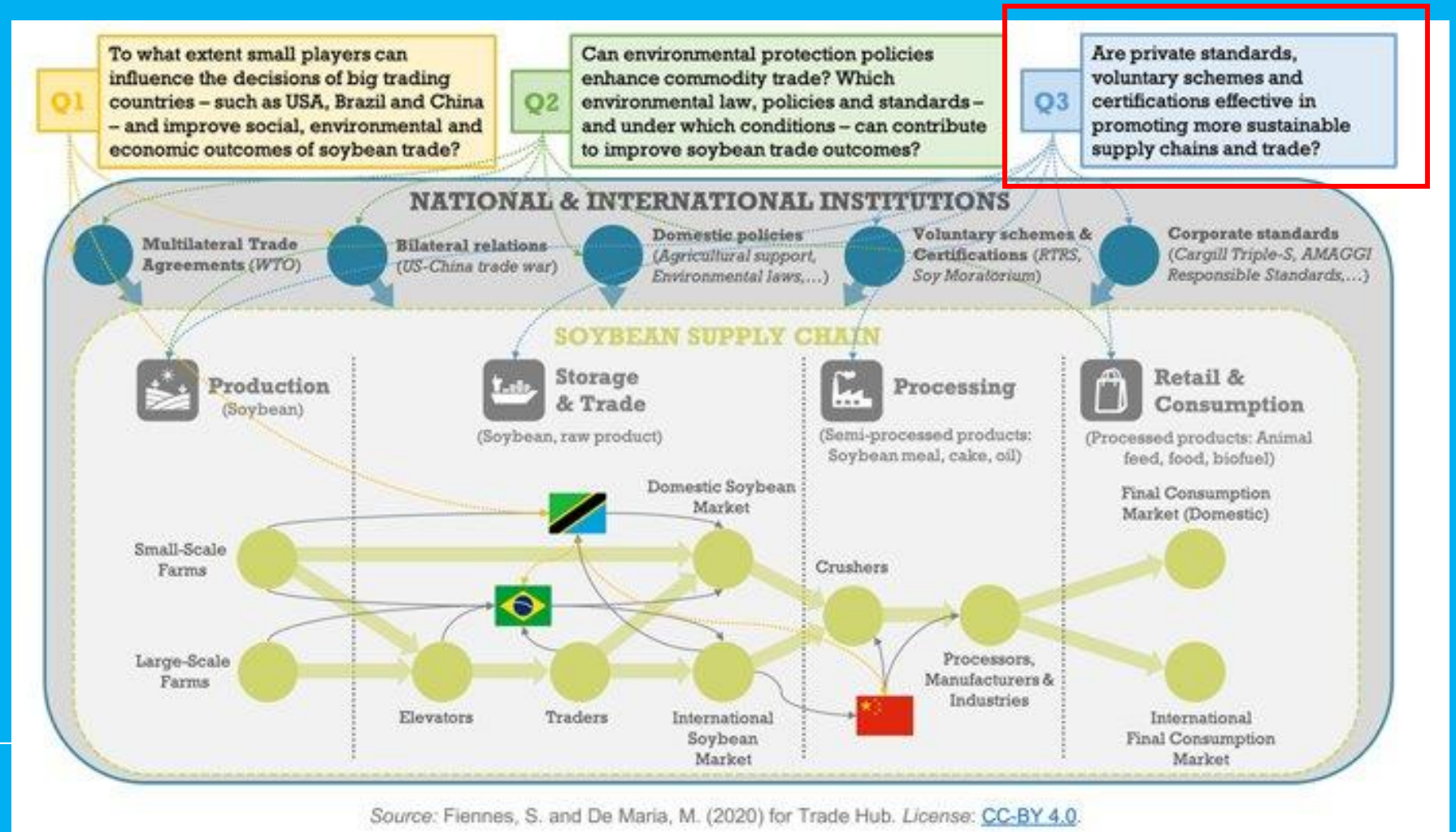
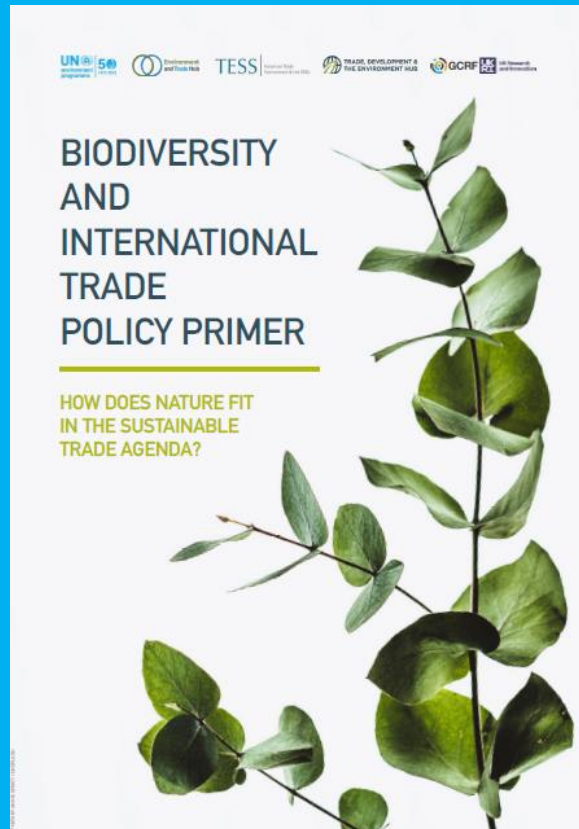
All companies sourcing coffee from the landscape are exposed to illegal deforestation within protected areas
Partnership established to tackle deforestation and improve livelihoods

- Technical assistance and inputs for improved productivity
- Access to finance
- Piloting a model for forest positive coffee



Changing the rules of Trade to drive action

In the case of soy...





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environment
programme

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