

# Scalable sustainability insights of agri commodity imports

Final deliverable TKI Seed money project 21.25

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# Outline presentation

1. Introduction to the project

2. Findings on data availability

3. Discussion on our findings

4. Next steps



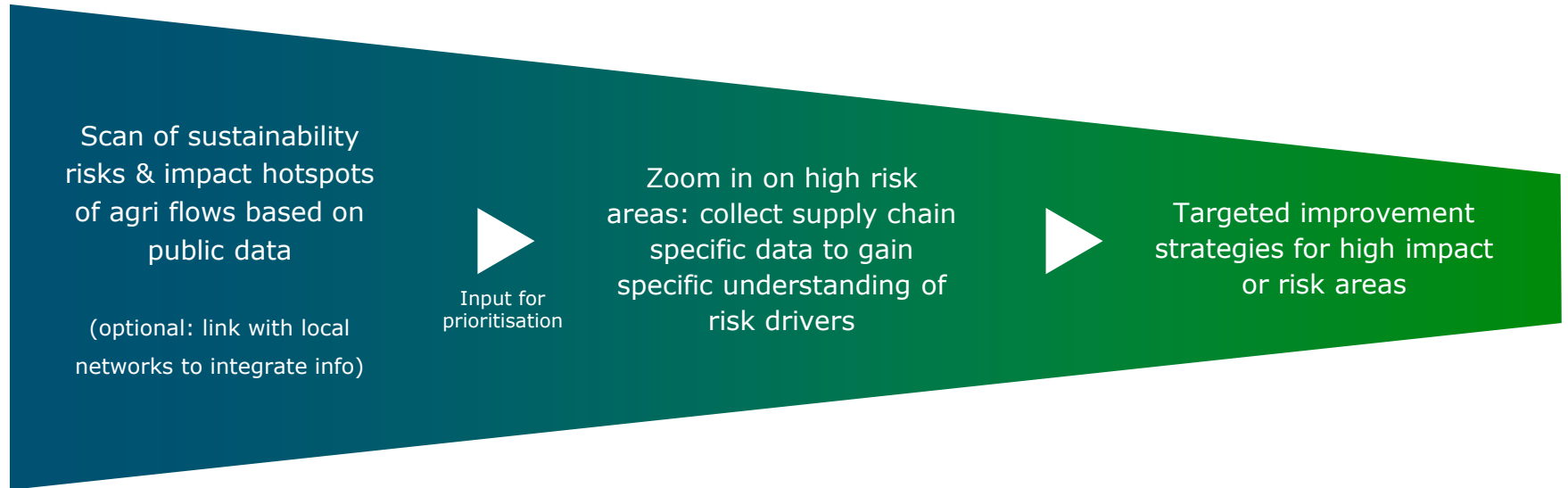
# 1. Introduction to the project

- Client: Port of Amsterdam
- Background: an increasing need for knowhow on the environmental and social risks/impacts attached to imports, in line with (expected) due diligence legislation
- Goal: use one product flow from one country as an example to better understand the options to develop a sustainability dashboard
- Learnings from this example are useful to better understand the options to develop a scalable tool/platform for other crops/countries

# Introduction to the project - continued

- Testcase: soy sourced from Brasil
- Why soy: much discussed product, ample information seems available, scattered over a variety of (data) sources with different notions/definitions of risks and impacts
- Risks/impacts: as defined in the (data) source. For instance, deforestation, biodiversity loss, working conditions
- Steppingstone for PPS (2-4-yr project) for multiple crops and countries

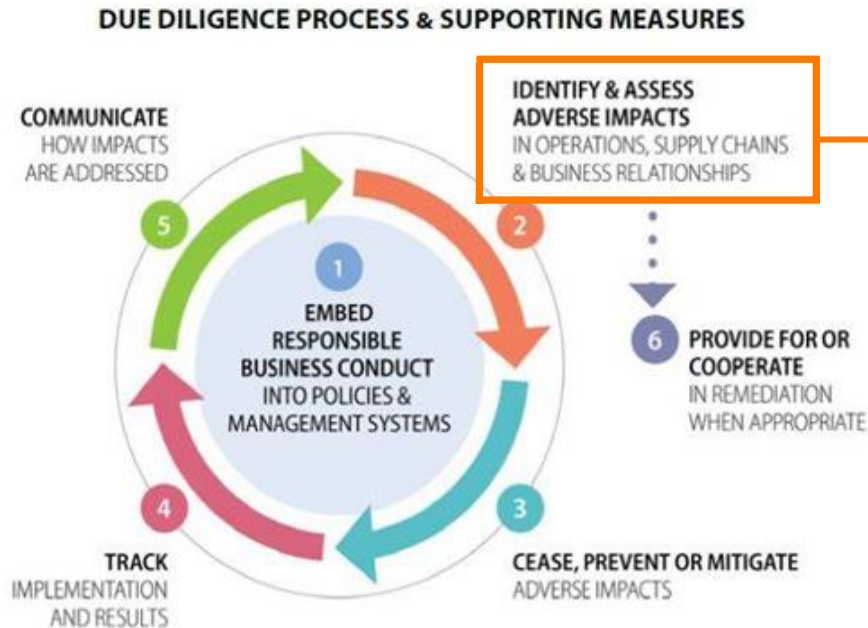
# SMP focus on first step in funnel of improving sustainability impacts of agri commodities



**FOCUS of PPP**

**Aim: Define consistent and robust sustainability risk & impact hotspots based on the best available data**

# A first step in a due diligence process



**FOCUS of PPP:**  
Sustainability insights of agri commodities for better prioritisation in the early phases of a Due Diligence or sustainable sourcing management

*OECD Due diligence for responsible business conduct*

## 2. Findings on data availability

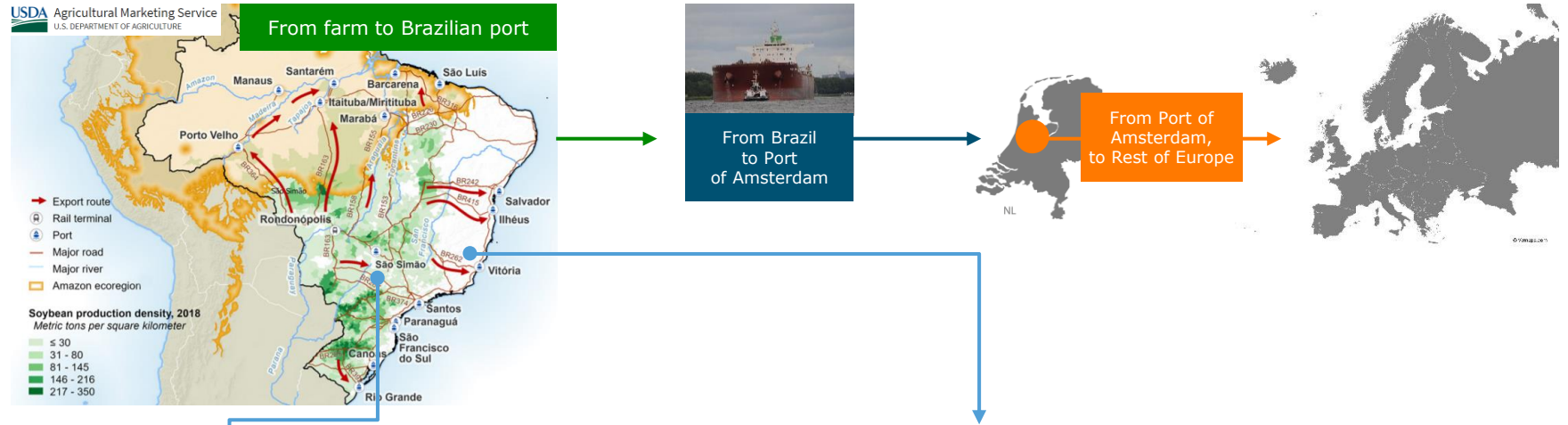
# Data availability – method

- Scan of available databases:

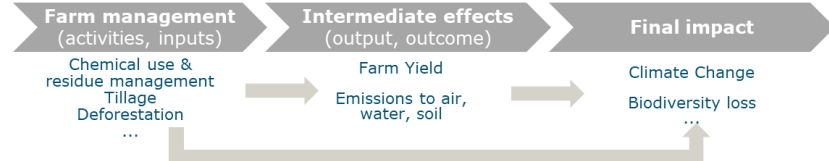
- What is known for soy with regard to trade, environmental and social indicators?
- At what level (national/regional)? In what part of the chain (production, transport, processing, consumer)?
- Can data be combined?
- See also Annexes for more details
- Next slides show general findings
- Separate Excel file shows data sources and findings in more detail



# Findings: Soy flow Brazil to EU (I)



## Soy production at Brazilian farms: social & environmental risks and impacts



# Example: Soy flow Brazil to EU (II)



Generic steps to generate scalable sustainability profiles of agri commodities

## Step 1: Origination: what is known?

From farm to Brazilian port to Port of Amsterdam



## Step 2: Material sustainability themes?

Define themes based on literature review or use existing materiality analysis



## Step 3: Inter-relation of themes?

Explain how one sustainability risk relates to the other

## Step 4: Define KPIs

Define KPIs (risk scores) for each theme separately and test feasibility with data availability



## Step 5: Generate scalable risk levels

Estimate risk scores by combining public sources as input for prioritisation





### Production

### From farm to Port in Brazil

### Form Port in Brazil to Port in the Netherlands

### From Port in the Netherlands to Final Destination/Consumption

Resource and farm management sustainability aspects at production level

### Environmental risks

Calculation and modelling of **environmental impacts** (relying on assumptions e.g., means of transport and distances, inputs) through Life Cycle Analyses and Carbon Footprints methods at all supply chain stages.

Disclosure of **hotspots** (locations with highest environmental impacts and risks) in the supply chain.

### Resource and Farm management

Sustainable Farming Practices and Good Agricultural Practices

Deforestation (history and future projection)

Chemical Use (Fertiliser and Manure)  
Crop Protection  
Land Use  
Energy Use  
Water Use

Yield/Production

Area Harvested

### Risks

Agricultural Water Risk

Biodiversity loss

Deforestation

### Impacts

Emissions

Acidification

Eutrophication

Biodiversity

Climate change

Land Use

Fossil resource scarcity

Water Consumption

Hotspots

Hotspots

Hotspots

National level data

Mode of transport level data

Mode of transport level data

Mode of transport level data



Production

From farm to Port in Brazil

From Port in Brazil to Port in the Netherlands

From Port in the Netherlands to Final Destination/Consumption

Agri-origination, production and trade data

Main export routes

Transportation modes

Quantity produced

Main inland export routes and q and cost per route

Export quantity by exporter

Exported quantity from BR port to NL port

Import quantity

Producer

Exporters

Importer

Retailer

Traceability data (per trader) – CONFIDENTIAL Information

Area planted

Export quantity by port

Export quantity by state

Consumption

Truck rates for selected Brazilian soybean export transportation routes

National, state level data, municipality level data

National, state level data, municipality level data

National and state level data

National level data



Production

From farm to Port in Brazil

Form Port in Brazil to Port in the Netherlands

From Port in the Netherlands to Final Destination/Consumption

**Identification of RISKS**

Poverty and Inequality

Social Requirements; Responsible working conditions: (Workers, Gender Issues)

Environmental responsibility

Deforestation

No illegal deforestation

Land rights

Respect of Legal Use of Land

GAP

No conversion of natural habitats

Protection of community Relations

Smallholder farmers

Forced or Child Labour

Sustainable Nutrition

Responsible European Consumption

International and national level data. Not all soy specific.

# 3. Discussion on our findings

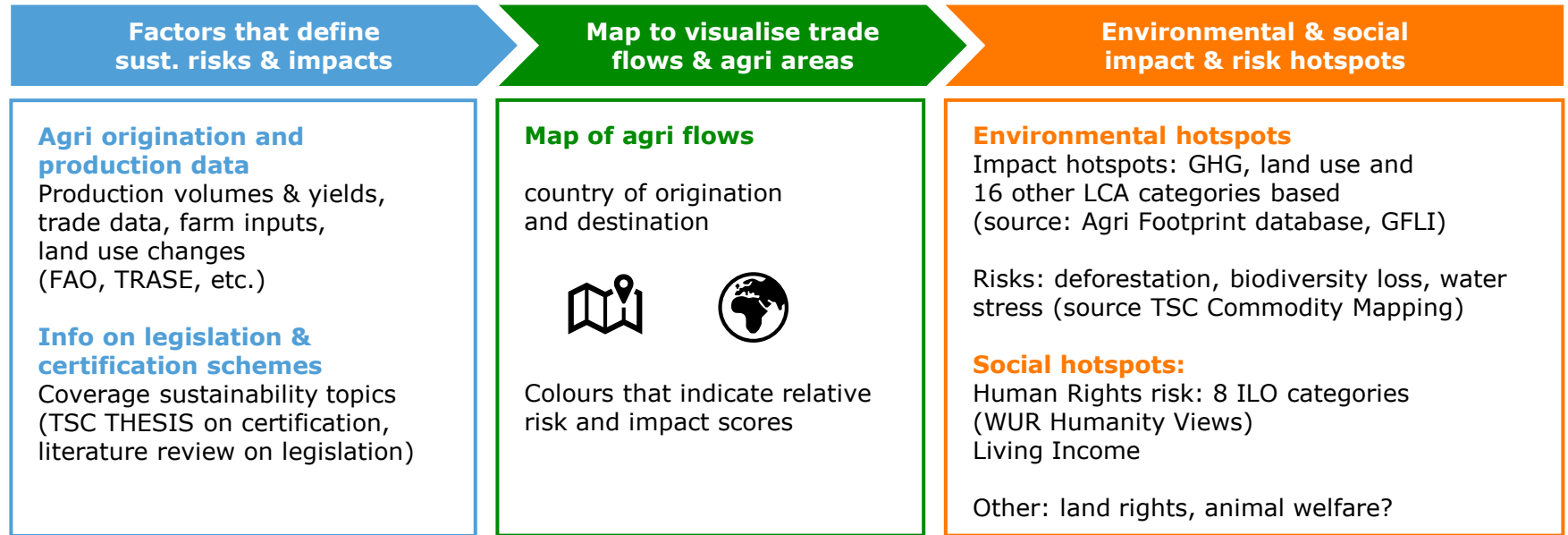
# Main gaps in data availability

- Information per theme
  - Ample information on environmental aspects, trade
  - Much less information on human/social indicators
  
- Information per level
  - Mostly on national level, much less on regional level
  
- Information per part of the value chain
  - Farm level: more information available than for other parts of the value chain
  - From producer to port and from port to destination: mixed
  - Environmental impact for full value chain, environmental & social risks at farm level

# 4. Next steps



# End goal PPP: a sustainability dashboard



A dashboard with sustainability profiles of agri commodities and contextual info that define these profiles as starting point for a due diligence

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# Annexes

1. The expected innovation of the PPP

2. Current tools that include a piece of the puzzle

3. Agri origination & production data

4. Environmental hot spots

5. Social hotspots

6. Different perspectives for sustainability profiles

# 1. The expected innovation of the PPP

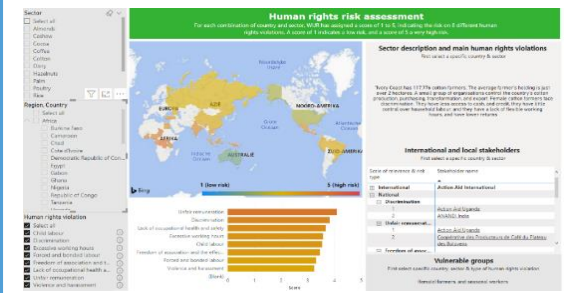
1. All key sustainability insights at one place for the world's key agri flows
  - Environmental and social, risks and impacts
  - Smartly linking big data sources and tools
  - Filling in gaps with new scores (e.g. human rights)
2. Link farm level drivers with sustainability hotspots, show sensitivity (e.g. GHG with(out) land clearing) & segmented insights within countries
3. Adjust robustness of score depending on level of origination data
4. Compare sustainability of agri commodities from different origination

# 2. Current tools that include a piece of the puzzle


LCA footprint info for selected agri flows



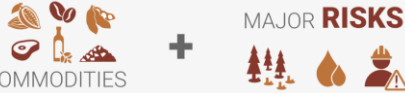
Human Rights risk info in agri for 19 commodities & 33 origination countries



Sustainability risk indications



OVER 100 COMMODITIES + MAJOR RISKS

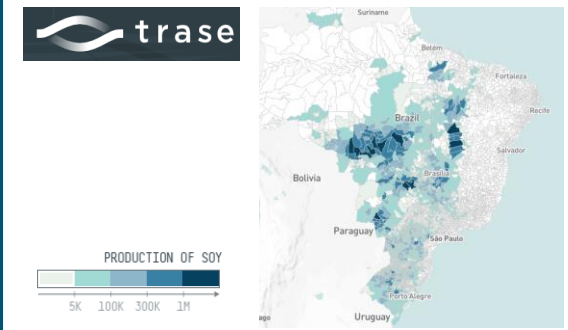


WHERE...  
...commodities are produced for different supply chains

WHAT...  
...potential issues or risks occur in these commodity producing regions

HOW...  
...a user can address these issues by utilizing TSC KPIs and working with partners on the ground

Traceability data: agri product, trader, origination & destination country



# 3. Agri origination & production data

## Agri origination and production data

Production volumes & yields, trade data, farm inputs, land use changes (FAO, TRASE, etc.)

	Origination	Agri production
<b>National level</b>	FAO/UN: all crops & countries TRASE: 6 countries, 13 agri products (per trader)	FAO/UN: all crops & countries Yields, volumes Farm inputs, Land use, Energy use, Emissions
<b>Sub-national level</b>	<ul style="list-style-type: none"><li>▪ TRASE: 6 countries, 13 agri products - soy included</li><li>▪ Comexstat (Brazil)</li></ul>	<ul style="list-style-type: none"><li>▪ USDA - Subnational level data (Brazil, US), 8 crops and 5 livestock cat.</li><li>▪ Local statistics per country</li></ul>

### Challenges:

- Matching different sources: data consistency & robustness, APIs available
- Province/state level for agri production fragmented over different (local) sources
- Traceability info at province/state level outside TRASE.

# 4. Environmental hotspots

	Impacts (farm to destination market)	Risks (farm level)
<b>National level</b>	<ul style="list-style-type: none"> <li>▪ Agrifootprint: 18 impact categories (including carbon footprint) for &gt;15 agri products &amp; &gt;15 countries</li> <li>▪ GFLI: 15 impact categories for 962 main feed ingredients.</li> <li>▪ Soy footprint calculator: 26 products</li> <li>▪ Sector and indicator specific tools</li> </ul>	<p>TSC Commodity Mapping: water stress, biodiversity loss, deforestation for &gt;100 crops and 100 countries</p>
<b>Sub-national level</b>	<p>Modelling required to generate results (based on agri production data at sub-national level and environmental impact factors)</p>	

## Environmental hotspots

Impact hotspots: GHG, land use and 16 other LCA categories based (source: Agri Footprint database, GFLI)

Risks: deforestation, biodiversity loss, water stress (source TSC Commodity Mapping)

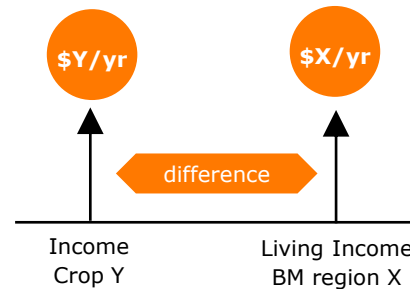
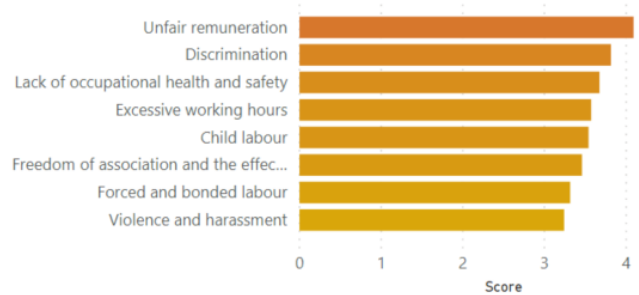
### Challenges:

- Matching different sources
- Modelling environmental impact at province/state level

# 5. Social hotspots

	Human rights risks	Living income
<b>National level</b>	WUR Humanity Views: 8 risk categories, scores 1-5 for 19 agri products and 33 origination countries, which can be scaled up.	Global Living Wage Coalition: benchmarks 40 countries. Income/Wage info in crop production?

<b>Sub-national level</b>	Child Labour for Cocoa in Ivory Coast, Ghana. Others depend on fragmented local data.	Prices paid to farmers (US) – American Soybean Association
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**Social hotspots:**

Human Rights risk:  
8 ILO categories (WUR Humanity Views)  
Living Income

Other:  
land rights, animal welfare?

**Challenges:**

- Defining Human rights risks at state level
- Defining living income/wage score in agri (i.e. est. difference from benchmark)



# 6. Different perspectives for sustainability profiles

