

Governing transboundary climate risk in agriculture supply chains

Insights from the Brazilian-German Supply-Chain

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Outline

- What is transboundary climate risk?
- Why does it matter for agriculture supply-chains?
- Brazilian-German coffee supply chain
- Who should govern transboundary climate risk?



Transboundary Climate risk



The diagram illustrates the five domains of the Doughnut Economics model, arranged in a circle around a central point. The domains are represented by colored wedges, each with a dashed line and a small circle labeled 'R'.

- DM** (Doughnut Model) is at the top center.
- T ransboundary** is at the top right.
- T eleconnected** is at the right.
- Finance** is at the bottom right.
- Trade** is at the bottom center.
- Biophysical** is at the bottom left.
- People** is at the top left.

The wedges are colored as follows: DM (purple), T ransboundary (blue), T eleconnected (orange), Finance (red), Trade (green), Biophysical (light blue), and People (dark blue). The dashed lines and 'R' circles are also colored to match their respective domains.

Properties of Transboundary Climate Risk

What can trigger them?

Different types of events can create transboundary climate risks

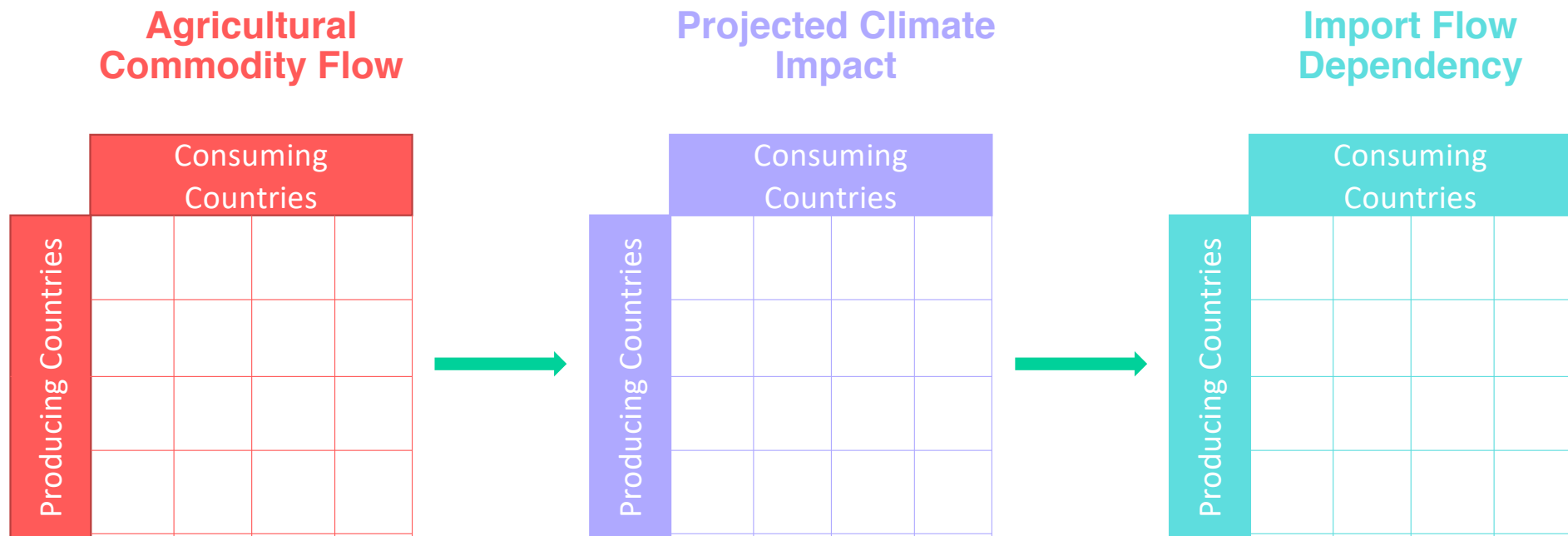


Transboundary Climate risks

*Climate Change and Agricultural
Commodity Flows (Trade pathway)*



Trade pathway: Assessing Agricultural Transnational Climate Risk Flows



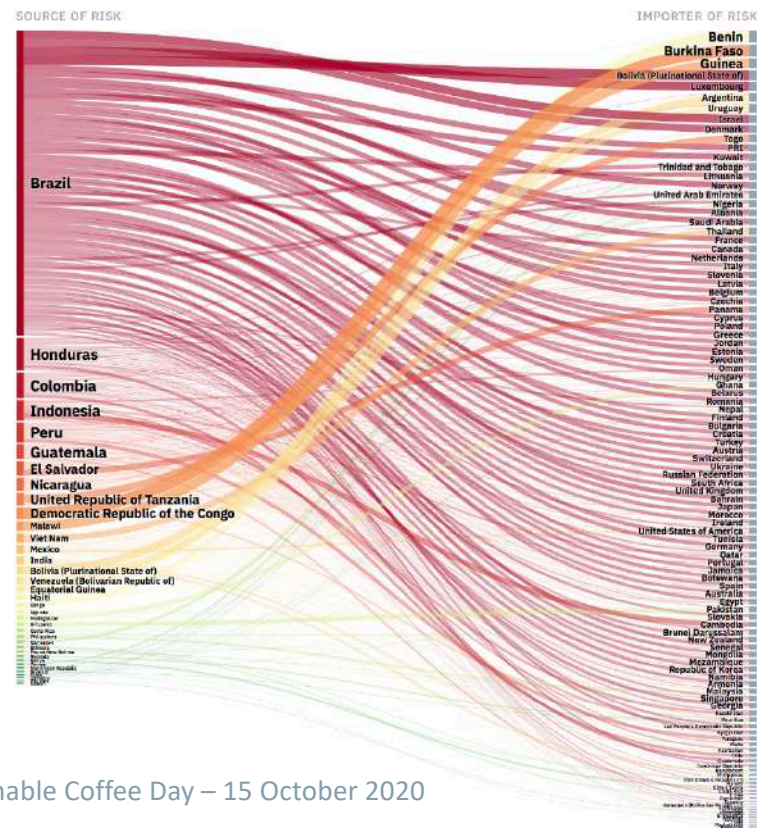
Assessing Agricultural Transnational Climate Risk Flows

- Combined several climate impact models with agricultural trade data and food security indicators for six key crops

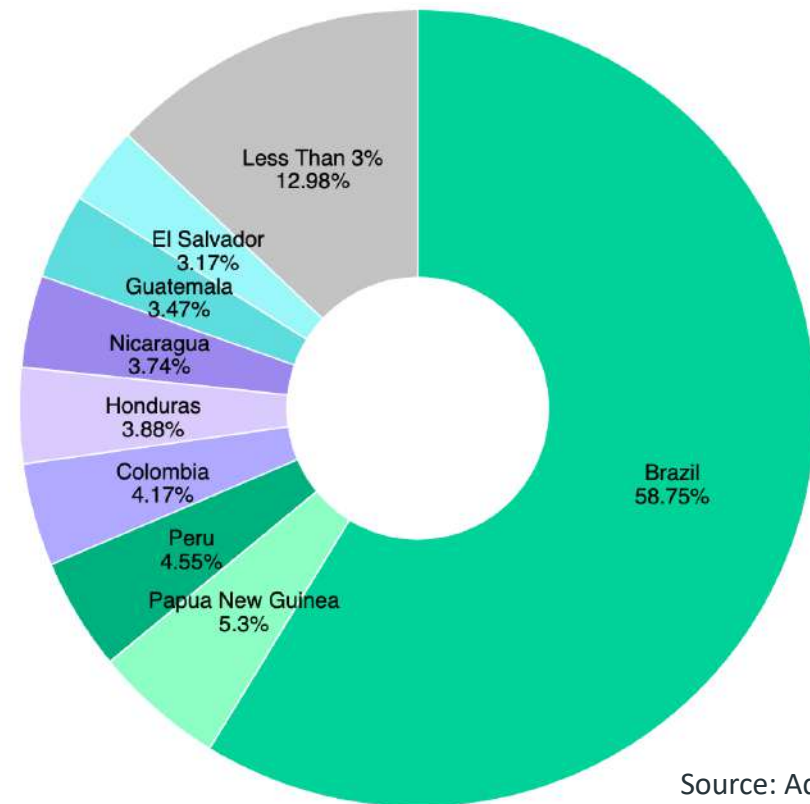
	EPIC	GEPIC	LPJmL	pDSSAT	PEGASUS	GLOBIOM	RCP 2.6	RCP 4.5	RCP 6.0	RCP 8.5	2030	2050	2100
Maize													
Rice													
Wheat													
Soy													
Sugar													
Coffee													

Transboundary Climate Risk and impact

Coffee Arabica Risk Exporters and Importers (RCP 8.5, Optimised)



Share of German Risk flow Arabica Coffee (RCP 8.5)



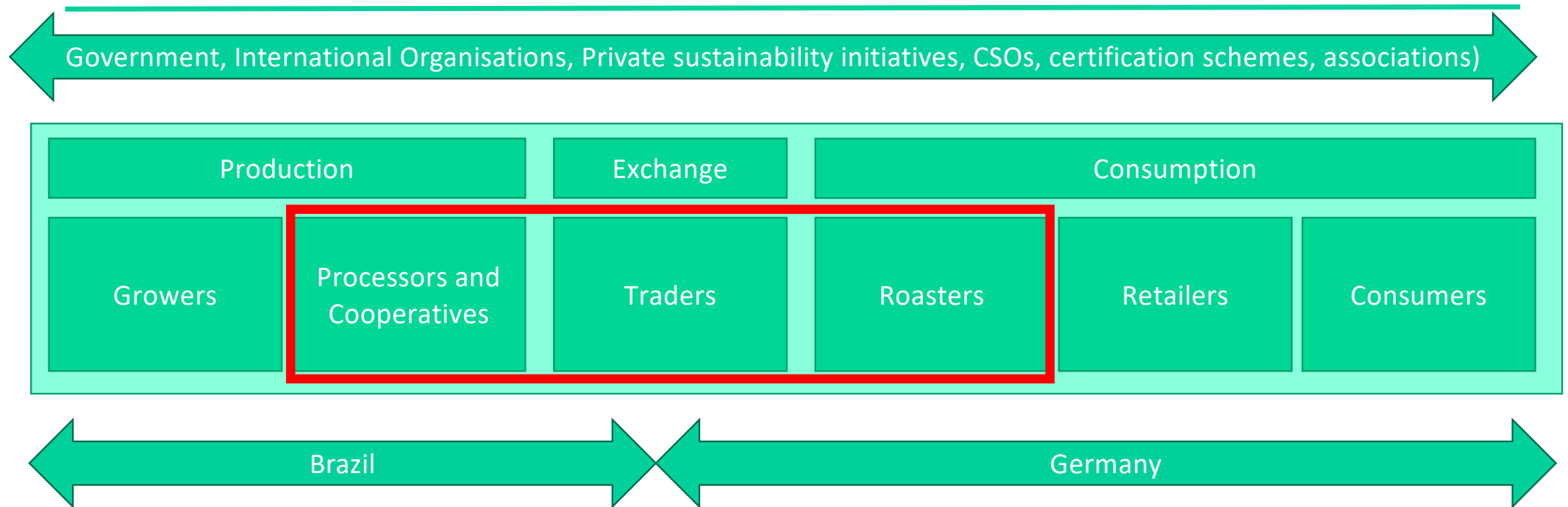
Source: Adams et al. Fc.

Coffee supply-chain

*Mapping key actors in the
Brazilian-German supply-chain*



Coffee supply chain



Interviewed actors

Roasters and traders	Cooperatives	Certification schemes	Associations	Government	International Organisations	Private sustainability initiatives
<ul style="list-style-type: none"> • Neumann Coffee Group • Benecke • List+Beisler • Hacofo • Benecke & Rehm Coffee • Louis Dreyfus Brazil • OLAM Brazil 	<ul style="list-style-type: none"> • Minasul • Coopercam • Cooxupé • Cocatrel 	<ul style="list-style-type: none"> • Ecocert • 4C • UTZ/Rainforest Alliance • Fairtrade • Certifica de Minas • Matas de Minas 	<ul style="list-style-type: none"> • DKV • BSCA • CNA • CNC • CeCafé • ABICS 	<p>Germany</p> <ul style="list-style-type: none"> • BMZ • BMU • GIZ • KfW <p>Brazil</p> <ul style="list-style-type: none"> • MAPA • Ministry of Economy • MAPA MG • SEAPA • SENAR • BNDES 	<ul style="list-style-type: none"> • EU Delegation in Brazil • EC DG Trade 	<ul style="list-style-type: none"> • HRN Stiftung • C&C • ICP • SCC • GCP • IWCA • SEBRAE • SAFE Platform

Conceptualising governance of transboundary climate risk



- 
1. How can German actors exert influence over resource governance in Brazil?
 2. What are the potential outcomes for smallholder farmers?
 3. Under what conditions are those interventions legitimate?

Brazil



Government
(Incl. Ministries, Agencies...)

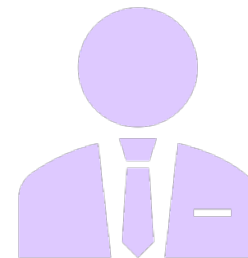


Private Sector
(Incl. Farmers, Cooperatives, Traders...)

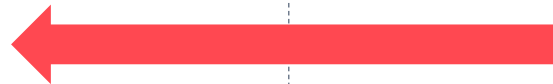
Germany



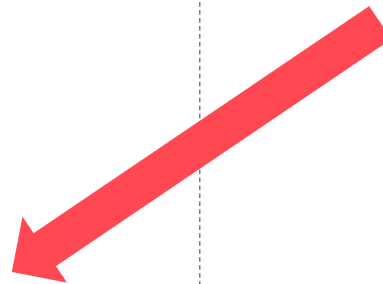
Government
(Incl. Ministries, Agencies...)



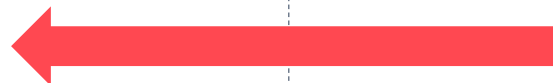
Private Sector
(Incl. Roasters, Traders, CSOs, consumers...)



International Relations



Development Cooperation



Transnational Governance

Effectiveness potential

International Relations

- Rare; low interest from relevant ministries
- Opportunity for strong ownership, but risk of politicisation

Development Cooperation

- Few activities in this space
- High effectiveness potential under right circumstances

Transnational Governance

- Most activities in this space (certification schemes, CSR)
- High interest, but insufficiently effective

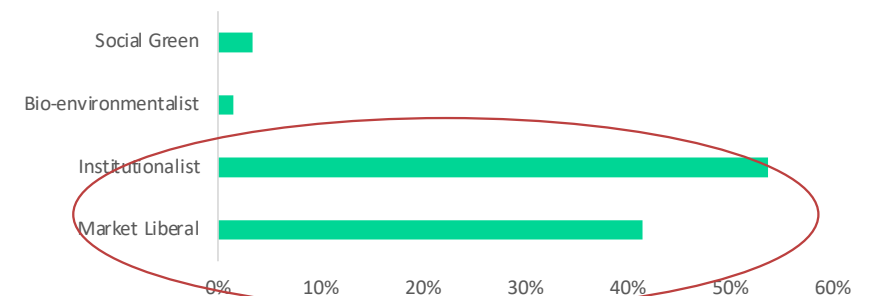
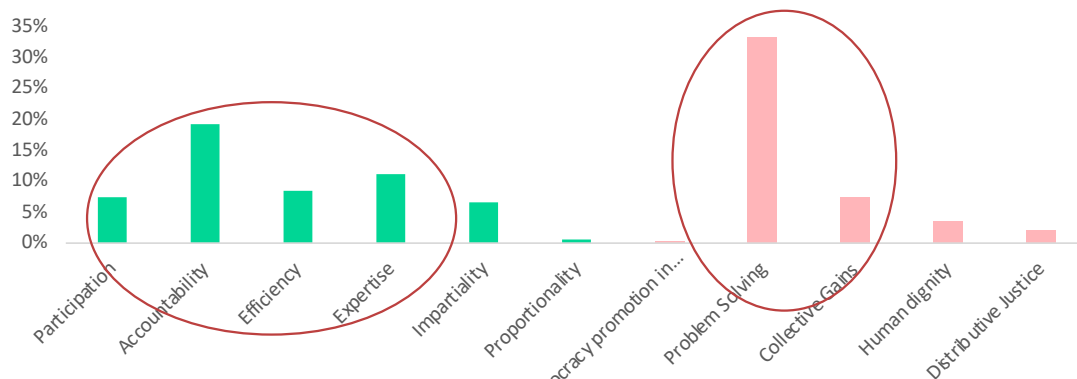
Applied

Legitimacy claims and ideological discourses

	Democratic	Technocratic	Fair	Market Liberal	Institutionalist	Bio-environmentalist	Social Green
Procedure	Participation; Accountability	Efficiency; Expertise	Impartiality; Proportionality				
Performance	Democracy promotion in wider society	Problem solving; Collective gains	Human dignity; distributive justice	Emphasises the utility of markets in stimulating innovation	Highlights the role of rules and institutions in providing incentives for environmental protection	Focuses on the need to address a crisis related to exceeding the earth's carrying capacity	Emphasises the need to address the social relations which generate environmental harm and structure uneven exposure to its effects

Source: Clapp and Dauvergne (2005)

Source: Tallberg et al. (2018)



A close-up photograph of a hand holding a green leaf. The leaf is covered in numerous yellow and brown spots, which are characteristic of a fungal disease. The hand is visible on the right side of the frame, with fingers holding the leaf. The background is dark and out of focus.

Thank you very much!

*Questions and comments are
welcome!*

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