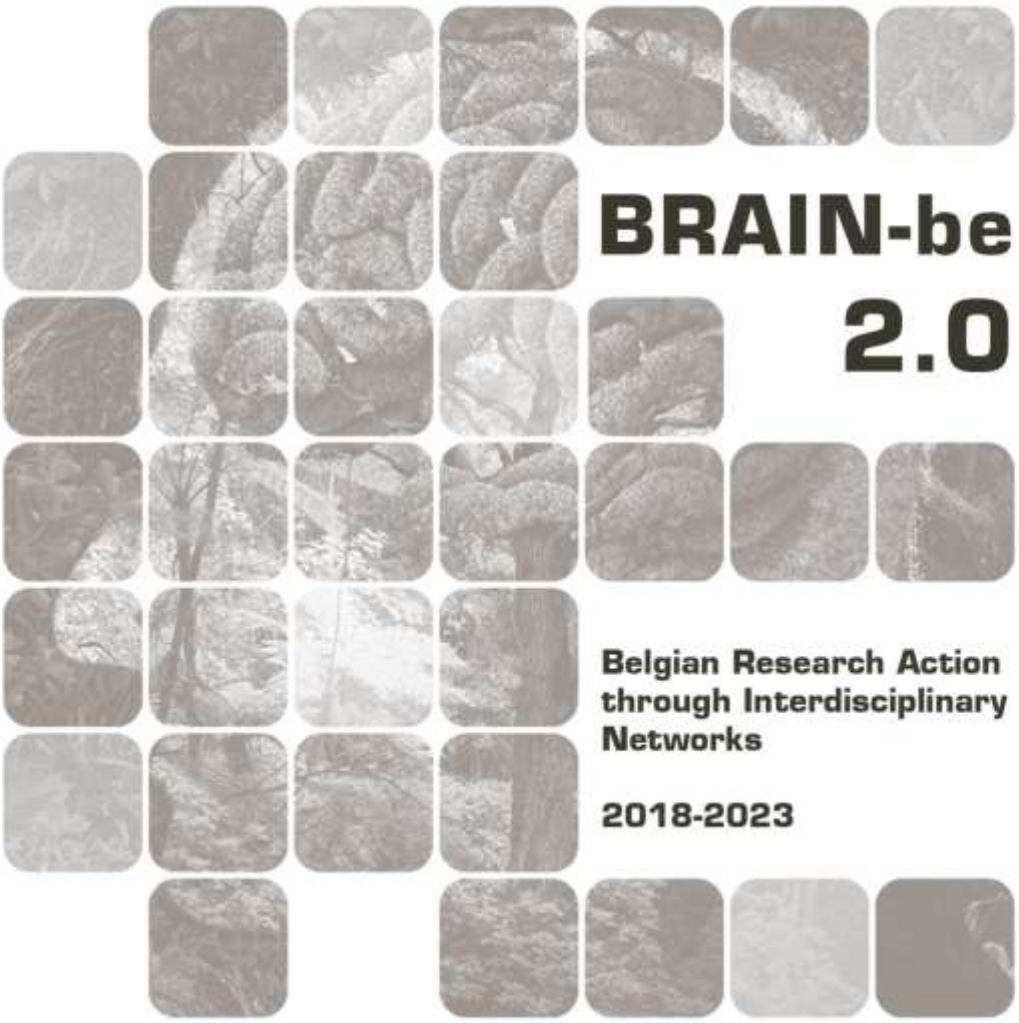

EPICC

Environmental Policy Instruments across Commodity Chains (EPICC): Comparing multi-level governance for Biodiversity Protection and Climate Action in Brazil, Colombia, and Indonesia

Tomaso Ferrando (University of Antwerp)

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NETWORK PROJECT

EPICC
Environmental Policy Instruments across Commodity Chains (EPICC): Comparing multi-level governance for Biodiversity Protection and Climate Action in Brazil, Colombia, and Indonesia

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ABSTRACT

The **Environmental Policy Instruments across Commodity Chains (EPICC)** project was launched to address the urgent governance challenges posed by global value chains (GVCs) for agricultural and mineral commodities. The expansion of these chains — particularly for products like soy, cattle, palm oil, gold, and tin — continues to be one of the major drivers of deforestation, biodiversity loss, and greenhouse gas (GHG) emissions in tropical regions (Brondizio et al., 2019; Baccini et al., 2017). These socio-ecological impacts are amplified by the increasing distance between the sites of extraction and consumption, particularly between biodiversity-rich countries like **Brazil, Colombia, and Indonesia** and **European consumer markets** (Bright et al., 2020; De Lombaerde & Rodriguez, 2018).

In recent years, European governments, corporations, and consumers have become more attentive to the environmental and social externalities of global commodity chains, with initiatives such as the **European Deforestation-Free Products Regulation (EUDR)** attempting to mitigate deforestation linked to EU consumption. However, while well-intentioned, these largely **unilateral, top-down policy instruments risk producing unintended consequences** in producing territories, where land disputes, social inequalities, and biodiversity threats are deeply embedded within local socio-political contexts (Muradian et al., 2024).

What distinguishes EPICC is its **commitment to multi-level governance (MLG) and telecoupling frameworks**, as well as its **transdisciplinary, participatory, and decolonial research methodology**. MLG examines the complex interactions between actors at multiple governance levels, from international bodies and national governments to Indigenous peoples, farmers, NGOs, and local communities (Oberlack et al., 2018). Telecoupling offers a lens to analyse how socio-environmental effects, power asymmetries, and governance interventions link distant territories through commodity chains (Friis et al., 2016; Liu et al., 2018).

EPICC's methodology was shaped by these frameworks and rooted in a **transformative, participatory research paradigm** (Mertens, 2007). The project created inclusive spaces for dialogue and knowledge exchange, where the experiences, worldviews, and priorities of communities affected by deforestation, mining, and land-use change could directly inform both research and policy recommendations. **Participatory mapping, multi-stakeholder workshops, qualitative interviews, and collaborative scenario-building exercises** were conducted in each case study country, ensuring that local actors were not merely data providers but co-creators of knowledge. In Brazil, for example, workshops with **Indigenous women in the Munduruku Apiaká territory** addressed the impacts of soy expansion; in Indonesia, co-produced documentaries with tin miners and palm oil farmers captured community perspectives; and in Colombia, participatory research with **women's collectives in Putumayo** highlighted local priorities for sustainable territorial futures.

The consortium's diversity — involving seven institutions across **Brazil, Colombia, Indonesia, Belgium, Germany, Norway, and Sweden** — was central to EPICC's comparative, multi-scalar design. The partners combined expertise in rural development, political ecology, landscape research, environmental law, sustainability studies, and social justice, enabling a rich, interdisciplinary examination of global governance mechanisms and their territorial consequences.

Objectives

The EPICC project was structured around five interconnected objectives:

1. **Mapping transnational governance networks** for six commodity chains linking Brazil, Colombia, and Indonesia with European consumer countries (Belgium, Germany, Sweden, Norway).
2. **Exploring how discursive and regulatory actions at different levels produce synergies or trade-offs** along these chains. Particular attention was paid to how environmental governance interventions, both public (like the EUDR) and private (certifications, voluntary standards), shaped biodiversity, climate, and social justice outcomes.
3. **Comparing governance structures across value chains and countries** to understand whether multi-level regimes reinforce or challenge asymmetrical power relations driving deforestation, biodiversity loss, and socio-environmental injustice.
4. **Critically analysing the implications of the EU Deforestation-Free Products Regulation (EUDR)** for producer territories, including how its design and enforcement mechanisms might affect local livelihoods, governance systems, and conservation priorities.
5. **Centering local voices in environmental governance discussions**, ensuring that the people most affected by global trade and environmental policies were part of the conversation about their territories' futures.

Conclusions

The EPICC project highlights that **environmental governance cannot be designed at the EU level alone**. Ensuring effective, legitimate, and just climate and biodiversity outcomes requires governance systems that are **multi-level, transnationally coherent, and politically attentive to the power asymmetries embedded in global commodity chains**. EPICC makes four main contributions to academic and non-academic discussions on the relationships between GVCs, governance, climate action and the loss of biodiversity.

1. New Empirical and Academic Contributions

Over its four-year duration, EPICC produced a wealth of empirical and academic outputs. These include **eleven peer-reviewed publications** in journals such as *Ecological Economics*, *Global Environmental Change*, *Political Geography*, and *Journal of Political Ecology*, alongside **three book chapters** and several master's and doctoral theses. These works interrogate:

- The tensions between environmental trade regulations and socio-environmental justice.
- Governance gaps and path dependencies in commodity chains.
- Participatory, decolonial research methodologies in contested territories.

Key publications include:

- *Will the EUDR reduce tropical forest loss?* (Muradian et al., 2024); *The Greening of Empire: The European Green Deal as the EU's first agenda* (Ferrando et al., 2024); *Reinforcing path marginalization at mining frontiers in Indonesia* (Schröter et al., 2024)

2. Inclusive, Transcontinental Stakeholder Engagement

EPICC engaged **over 200 stakeholders** through **multi-stakeholder dialogues, participatory workshops, interviews, and policy consultations**. Among the highlights:

- Brazil: Indigenous women's assemblies in the Amazon; collaborative documentation on soy frontiers.
- Indonesia: Co-produced documentaries with tin miners and palm oil farmers; policy workshops on mining governance.
- Colombia: Participatory scenario-building with small-scale miners and women's collectives.
- EU: Consultations with policymakers, NGOs, and producer country diplomats on the EUDR's territorial implications.

This engagement generated **locally grounded insights** which directly informed both academic outputs and EU-level advocacy. The project's **dedicated website, policy briefs, media collaborations, and exhibitions** ensured findings reached both policymakers and affected communities.

3. Key Policy Recommendations on the EUDR

As the EUDR moves toward enforcement in 2026, EPICC offers three vital recommendations for policymakers:

- **Reassess the temporal benchmark and legality provisions.** The 2020 deforestation cut-off risks validating harmful pre-2020 practices while marginalizing producers unable to prove legality through exclusionary national systems.
- **Recognize and strengthen local governance systems.** The EUDR must integrate **customary land rights and community-based verification mechanisms**, avoiding overreliance on remote sensing and formal legality, which often ignore Indigenous and local realities.
- **Institutionalize participatory governance.** Territorial stakeholders must be formally included in EUDR impact assessments, monitoring processes, and future revisions. Effective governance demands sustained dialogue between EU institutions and producing regions.

4. Rethinking Global Commodity Governance

EPICC's core conclusion is that **unilateral, top-down interventions are insufficient for addressing the social and ecological consequences of global value chains**. The governance of agri-food and mining value chains remains fragmented, with climate, trade, biodiversity, and justice agendas often poorly aligned.

The project advocates moving beyond market-based solutions and voluntary standards towards **structurally transformative policies** that:

- Prioritize **local socio-ecological priorities and land rights**.
- Integrate **climate and biodiversity goals into trade and investment regimes**.
- Support **territorially embedded, co-designed governance models** built on **participatory action and political inclusion**.

Keywords: global value chains; deforestation; telecoupling; territories; EU Green Deal

1. INTRODUCTION

Habitat conversion to productive land uses is among the main drivers of biodiversity loss worldwide (Brondizio et al., 2019; Newbold et al., 2015; Tilman et al., 2017). At the same time, deforestation in the tropics is the second largest source of global greenhouse-gas (GHG) emissions (Baccini et al., 2017). Agricultural and mining frontiers continue to expand into tropical forests, causing deforestation and biodiversity loss (Arts et al. 2019; Curtis, et al., 2018; Pendrill et al., 2019; Sonter et al., 2017), two conditions that the have been associated with the spread of past, present and future pandemics (Afelt et al, 2018; Fearnside, 2020). A recent study estimates that about 26% of deforestation in tropical and sub-tropical countries can be attributed to international demand for commodities, particularly from countries that have experienced an increase in forest cover (Pendrill et al., 2019). On the consumption side, EU27 countries import and consume 7-10% of the global production of crops and livestock associated with deforestation, in particular palm oil (17%) and livestock (40%) (DGENV, 2020).

As the organization of production in global value chains increases the distance between the locations where final consumption takes place, the multiple drivers of habitat loss and GHG emissions and their local effects, we also see that consumers, governments and companies based in the EU are increasingly looking for solutions to the environmental and social externalities that lie 'behind' those 'risky' imported commodities. This renewed sensitivity has led governments within and outside of the place of origin of the commodities to establish new regulations, but also translational corporations to adopt private guidelines and best practices that are geographically decoupled by the place of origin of the commodity but have an impact on that (e.g. 'telecoupled') (see Lambin et al., 2014; Garett et al., 2019). Furthermore, consumers associations in EU and around the world have called to boycott products that threatens biodiversity or ask for improvements of the chains. All these actors expect their interventions will improve the environmental and social performance of agents at the origin of the value-chains (Smith et al, 2016). These trends configure transnational and complex regimes of polycentric governance in (global) resource systems that EPICC aims at mapping, systematizing, assessing and engaging from land to consumption (Oberlack et al.,2018; Ferrando, 2018).

2. STATE OF THE ART AND OBJECTIVES

The conversion of natural ecosystems for agricultural land use and minerals' extraction is one of the main drivers of global biodiversity loss. At the same time, deforestation and forest degradation in the tropics is the second largest source of global greenhouse-gas (GHG) emissions. Despite the scientific evidence about agriculture and mining as major threats to biodiversity and the global climate, the frontiers of global value chains continue to be expanded into tropical forests, causing deforestation, forest degradation and biodiversity loss.

The globalisation of the economy has been closely accompanied by the rise of global value chains (GVCs) as dominant organisational models for production is closely associated with these problems. Over time, vertically integrated and locally embedded forms of production have been replaced by highly interconnected, decentralised, and accelerated systems of production, distribution, and consumption (Bright et al. 2020; De Lombaerde and Rodriguez 2018) that intensify the access to agri-food products and minerals, while increasing the distance between the locations of extraction and consumption, and thus between the place where the socio-environmental externalities are experienced and the places where consumers can benefit of the goods. The global process of commodity chain capitalism unequally distributes the socio-ecological impacts of production and creates a distance between the territories of extraction, the territories of consumption the places where the financial benefits are obtained, but also creates a governance gap between the material impact of extraction and the rest of the value chain.

In the last years, European consumers, Member States and corporations appear to be increasingly concerned by the consequences that unsustainable value chains and the production of everyday commodities have on the planet. The deforestation of the Brazilian Amazon to increase soybean and beef production, the destruction of biodiversity caused by the expansion of palm-oil plantations in Indonesia and the subversion of the socio-environmental ecology of the Colombian Paramos represent three examples that have caught the attention of European actors and led to the formulation of governance responses at multiple levels of the chain. Among these, trade restrictions, interruption of funding, calls for certification and the implementation of local enterprises based on Climate-Smart Mining and Integrated Agri-Forestry, Nature Based Solutions and Ecosystem Services.

While early academic work on GVCs was largely grounded in policy-oriented literature from economics, political economy, business, and development studies (Gereffi and Lee 2012; Gereffi and Lee 2015; Kano et al. 2020), the evolving complexity of GVCs has led scholars from diverse disciplines to recognise that these chains are not merely shaped by shifting economic conditions. Increasingly, researchers have acknowledged the cross-scale linkages between legal, socio-ecological, and economic systems, whereby transformations in one region can produce significant effects in others.

Yet, there is a risk that academic and policymaking engagement with global value chains is not adequately supported and matched by the involvement of local actors. This may lead to a scarce coordination across the value-chain and the fragmentation of the interventions that could create further incoherence, conflicts and unexpected negative externalities – both in the countries of origin and in the EU. Rather than interventions that may contribute to the achievements of the SDGs and the fulfilment of the social and environmental goals of Agenda 2030, we have been witnessing a patchwork of solutions that is far from being the second best. EPICC provided a trans-disciplinary, multi-actor and comparative approach to the structures of multi-level governance (MLG) that

characterize six specific chains (soybeans, palm-oil, leather, tin and gold) that link three countries (Brazil, Colombia, Indonesia) with the European Union's market. By combining MLG and telecoupling perspectives, policymakers can better understand and address the complexities of global interdependencies, ensuring that decisions are informed by a comprehensive view of their far-reaching consequences.

MLG is defined as the complex transnational interactions between actors and institutions of different vertical levels (from the international level with the UNFCCC, the Convention on Biological Diversity and the WTO-GATT down to supranational institutions such as the EU, nation states, regional governments and local actors), and horizontally between actors of different sectors such as nature conservation, climate change and the agri-food and mining sectors. This concept emerged from studies of the European Union, highlighting how policymaking involves a complex interplay of actors across various territorial tiers . MLG encompasses both vertical interactions (between higher and lower levels of government) and horizontal collaborations (among entities at the same level, such as municipalities or regions). This structure facilitates more coherent and effective policy implementation, especially in areas requiring coordinated efforts across jurisdictions.

Telecoupling explores how human activities in one part of a global system impact directly or indirectly on distant parts of the same network of relation (e.g. Friis et al., 2016). Telecoupling is highly relevant as a conceptual lens for transformative and transdisciplinary value chains analysis as it allows a common language to problematize how commodity flows impact livelihoods, biodiversity, and the climate between globally distant places. Telecoupling permits going beyond attempting to "green" long-distance supply chain beyond what is immediately visible and perceived. It identifies and targets the negative consequences of the whole chain by examining the direct and indirect linkages of the full chain, e.g. national institutions and legal mechanisms, impacts on labour or need for secondary raw materials, that directly and indirectly impact biodiversity and exacerbate climate risks (Oberlack et al., 2018). Telecoupling offers a more holistic, multi-scalar, and cross-sectoral approach towards sustainable commodity chain governance (Liu et al., 2018). It also facilitates the identification of 'legal chokeholds' that can be leveraged across the supply chain to redefine the way land rights, bargaining power, and environmental and other social values are distributed at any conjuncture in the supply chain (Ferrando, 2017).

In this context, EPICC was set up to:

a. **Realize a transnationally map** the actors of the governance regimes of three agricultural and three metal commodity chains per trading relationship between biodiversity-rich producer countries (i.e. Brazil, Indonesia, and Colombia) and selected European consumer countries (i.e. Belgium, Germany, Sweden and Norway) (RQs 1 and 3).

b. Explore:

1) how **discursive and regulatory actions** by different actors at different geographical levels have the potential to induce synergies or trade-offs at other levels of the commodity chain, and

2) how **effective or counterproductive** such changes can be in achieving biodiversity conservation, climate change mitigation and social-environmental justice.

3) how the multi-level governance regimes of the agrifood and mining sectors **reinforce or fundamentally dismantle asymmetrical political and economic relations** driving biodiversity loss, climate change and socio-environmental justice (RQ5).

c. **Provide an in-depth understanding of the regulatory background** and implications of the European Deforestation-Free Regulation on territorial actions against climate change and biodiversity loss

d. **Mainstream voices and experiences of people and communities** living in territories of production vis-à-vis the territorial expansion of the above-mentioned global value chains and the telecoupling interventions realized by private and public actors (in particular, the EUDR).

3. METHODOLOGY

We adopted an inter- and transdisciplinary approach mostly based on the combination between a **political ecology lens** and the **Transformative Paradigm** (e.g. Mertens, 2007). We thus looked at the link between value chain governance, climate change and biodiversity loss, and paid particular attention to the values and **power relations underlying processes of change across commodity chain governance.**

In EPICC, trans-disciplinarity is the creation of multiple platforms for dialogue in which intersubjective discussions of different -and possibly disputed- validity claims can take place, a space in which different actors can together deconstruct entrenched worldviews and power relations that too often shape the way research questions are determined, research methodologies are carried out, and how research results are shaped and shared (Mertens 2007; Murray Li 2007). Stakeholders were central to our methodology and we committed to ensuring the autonomy and full participation of actors in GVCs as a crucial element of the knowledge-producing process, because it guarantees legitimate, effective and equitable outcomes. This approach required that 'non-scientific' perspectives of those being directly impacted by the social and ecological consequences of traditional value chains are moved to the center stage.

Our approach had important methodological implications. It entailed a commitment to qualitative and quantitative data gathering across time and geographic scales and across a diversity of methodological disciplines proper of social sciences. It required reflection on the use of culturally appropriate research strategies to facilitate the **co-production of knowledge and action** in ways that envisioned and created sustainable social change, and which prioritized the voices and experiences of people that are often marginalized in these value chains. And that gave adequate and sufficient visibility to them. As such, EPICC built on a multi-actor and action-research approach, which implied a new look on the traditional distinction between disciplines and between researchers and the so-called 'subjects' being researched. We constructed a project that is trans-disciplinary, rooted in the centrality of stakeholders, strongly comparative and where mixed methods of engagement were deployed in the context of a common baseline and the shared objectives.

The **Transformative approach** to research that inspires EPICC required the adoption of a transdisciplinary research strategy (Mertens 2007). This means that (local) stakeholders of each value chain were included in each phase of the project: A) Collaborative problem framing and building a collaborative research team during the *establishment phase*; B) Co-creating solutions-oriented transferable knowledge during the *research phase*, and C) (re-)creating and applying the created knowledge during the *integration phase* (Lang et al. 2012).

To explore the opportunities and limits of **telecoupled governance networks that have Europe at the centre**, we compared value chains for similar commodities in different countries and world regions that end into the European market. We adopted a **common denominator** (the EU market as the end point of the value chains) and looked at differences and similarities in governance aspects and material implications of these chains.

We selected **Brazil, Colombia and Indonesia** as three countries of high relevance for synergistic biodiversity conservation and climate change mitigation. **In each country we identified two cases of front runners in impact reduction.** Through a comparative vertical and horizontal approach to the six chains and with the direct engagement of the multiple actors, we tested our hypothesis that impacts on biodiversity, climate change mitigation and social justice are directly linked with the way in which territories are linked (or not) to global value chains and how value chains are organized. The **comparative case study approach** for data collection required the alignment of the six case studies, which was realized by holding method workshops at the beginning of the project and by dialoguing around methodology throughout the whole length of the project.

Here below we provide a breakdown of the six case studies that have been identified.

Sectors	Brazil	Colombia	Indonesia
Metal	***Gold mining:*** Tapajós river The large-scale gold mining region in the Tapajós river basin in the Amazon includes the operations of two mining firms: Cabral Gold and Serabi Gold, multiple areas with incidences of small-scale and artisanal mining, as well as protected areas, large public lands and indigenous territories. Since the 1970s, the Tapajós mining region has been the main small-scale gold mining area in Brazil. The three large-scale mining firms already operating or planning to start operations in this region claim following international guidelines and standards for best mining practices and social corporate responsibility, in particular with rural communities surrounding mines, as well as local water resources and biodiversity.	**Gold mining:** The Alliance for Responsible Mining (ARM) is a global initiative that was created in 2004 with the objective to transform artisanal and small-scale mining in order to support legitimate, responsible and profitable mining that leads to inclusive and sustainable development. Through ARM and its certification standards miners are part of a fully traceable and accountable international supply chain. ARM works in different regions of Colombia and we in order to support our transdisciplinary research approach will define jointly in which locations we will roll out our research efforts.	***Tin mining*** The Bangka-Belitung province is the main exporter of tin in the country with 90% of the total production in Indonesia. in production is managed by two companies PT Timah, a state-owned enterprise which is the world largest integrated tin miner and Koba, a smaller company partnered with PT Timah and Malaysia Smelting. Most of the tin supplied to TP Timah comes from independent subcontractors and small-scale miners who work under not necessarily proper safety conditions and proper environmental regulations. Companies such as Samsung and Apple have expressed concerns about illegal mining that has caused major social and ecological negative impacts in the islands.

Agr. product	***Cattle ranching:*** Sustainable Cattle Ranching Amazon (PECSA) In order to improve cattle productivity per hectare, finance degraded pasture renovation and avoid deforestation, different private initiatives raised in the last decade in Amazon and Cerrado biomes in Brazil. The PECSA was founded in 2015. It is a private enterprise specialized in rural management and partnership, aiming at developing and providing support for sustainable cattle raising (deforestation free) in the Amazon. It is based in Alta Floresta, Mato Grosso State. PECSA develops different types of partnership with farmers (business models) to improve cattle productivity, implement green areas required by the legislation avoiding the deforestation of new areas.	**Cattle ranching** The M*ainstreaming Sustainable Cattle Ranching* project located in the Colombian Orinoquia and Amazon frontier region. This project has been running since 2010 and seeks to improve ranching practices, including the implementation of silvo-pastoral production systems to improve biodiversity protection and connectivity, reduce land degradation, increase farm productivity and thus reduce deforestation pressures and contribute to climate change mitigation.	***Palm Oil Production*** Palm oil production in Central Kalimantan Province is characterized by rapid expansion and has been converting forest, swamp and peat lands, often in indigenous people areas. In 2011, the government introduced Indonesian Sustainable Palm Oil (ISPO) as a national certification scheme for palm oil production. Through ISPO producers are required to comply with government regulations concerning environmental management, palm oil production, responsibility to workers and communities. The ISPO is mandatory for companies and voluntary for smallholders. This scheme goes along with the international voluntary scheme of Roundtable on Sustainable Palm Oil (RSPO).

4. SCIENTIFIC RESULTS AND RECOMMENDATIONS

Over the course of four years of multidisciplinary and interdisciplinary work across four geographies, the Environmental Policy Instruments across Commodity Chains (EPICC) project has uncovered critical insights into the environmental and social impacts of expanding global value chains (GVCs) for agricultural and mineral products in tropical regions, along with the limits of private and public governance mechanisms.

Broadly speaking, EPICC made substantial contributions to understanding the governance and regulatory dynamics of global value chains associated with food and mining commodities exported from Brazil, Indonesia, and Colombia to Europe. EPICC produced empirical and conceptual contributions and delivered academic outputs, engaged in extensive actor mapping in Europe, Indonesia, Colombia and Brazil, and provided critical insights into the global implications of European regulatory frameworks like the EU Deforestation-Free Products Regulation (EUDR) for producing countries.

Considering objective 2.a., the project mapped the actors involved in the governance regimes of three agricultural and three metal commodity chains, across the supply chain. This includes the work done by UA on the EU side, where actors linked to the EU Deforestation-Free Products Regulation (EUDR) were identified and analyzed—particularly those involved in policy-making, advocacy, and regulation, as well as diplomatic missions from Brazil, Colombia, and Indonesia. This work addressed RQs 1 and 3, providing a rich basis for cross-chain, multi-level comparisons. ZALF also mapped European actors connected to the supply chain of gold importation. NTNU and UGM mapped the supply chain for tin and palm oil exported from Indonesia and Lund and UFF and USC mapped the actors of the gold extraction in Brazil. The work of all the partners resulted in a transnational mapping of key actors involved in the governance of three agricultural and three metal commodity chains per trading relationship. Although incomplete, this mapping traced state, private sector, and civil society actors along the entire chain—from territorial production in Brazil and Colombia and Indonesia, which was addressing Research Questions 1 and 3. This work also resulted in a book chapter called “Transparency in global commodity supply chains – the role of invisible actors” that will be published in the Handbook of Transparency and Accountability in Natural Resource Governance.

Considering objective 2.b., discourse and regulatory analyses were conducted to explore how actions at different governance levels produce synergies or trade-offs across supply chains. Public, private, and civil society narratives around the EU Green Deal and EUDR were critically examined, revealing tensions between sustainability goals and socio-environmental justice (RQ2 and RQ4). A key finding from the review of preparatory EUDR documents was the limited attention paid to potential adverse effects on producer territories. Through intra- and inter-chain comparisons (RQ5), the project examined how governance systems either reinforce or dismantle entrenched inequalities. Considering the two new objectives of EPICC, the project also conducted an in-depth examination of the regulatory background and implications of the European Deforestation-Free Regulation on territorial actions against climate change and biodiversity loss, led by UFF and UA, which resulted in the publication of three articles with the following titles:

> (1) Will the EU deforestation-free products regulation (EUDR) reduce tropical forest loss? Insights from three producer countries in Ecological Economics,

(2) The “Greening” of Empire: The European Green Deal as the EU first agenda in Political Geography,

(3) A globally just and inclusive transition? Questioning policy representations of the European Green Deal in Global Environmental Change and well as a EUDR policy brief published in the EPICC website.

Finally, the newest objective of EPICC was to bring diverse voices and experiences of people and communities living in territories of production and affected by the territorial expansion of the above mentioned global value chains and the telecoupling interventions. For this, EPICC employed innovative methodologies like decolonial and participatory research frameworks. This resulted in the publication of (1) From pastures to plates: The thorny path to achieving deforestation-free cattle from Brazil to European consumers, (2) The political economy of deforestation in the Colombian Amazon in the Journal of Political Ecology, (3) Toward an intersectional equity approach in social–ecological transformations, (4) A Decolonial and Participatory Research Approach to Envision Equitable and Sustainable Transformations for the Amazon, (5) Gold mining in the Colombian Amazon. Empirical insights on the links between sustainability, equity, and power, (6) Reinforcing path marginalization: revealing the unaccounted labor organization at a mining frontier in Indonesia, (7) Repurposing Transnational Supply Chains Regulations for Industrial Development: Mandatory Tin Trading via Commodity Exchange in Indonesia (to be submitted), (8) Mapeamento da Mineração e Garimpo na Amazônia Legal (2012-2022): logísticas, empresas e destinos da produção and (9) Urgent transition, urgent extraction? Global decarbonization, national governance and local impacts in the Indonesian nickel industry

Overall scholarly contributions include eleven peer-reviewed publications in major journals such as Ecological Economics, Journal of Political Ecology, Global Sustainability, Futures, Sustainability Science, Political Geography, Cambridge Journal of Regions, Economy and Society, Global Environmental Change, Environmental Research Letters, three book chapters for the Handbook of Transparency and Accountability in Natural Resource Governance for Edward Elgar Publishing to be published in 2026. It has also produced two master theses at Lund University and 1 PhD thesis at ZALF.

Beyond academia, the project actively engaged in public outreach and policy communication. It contributed to both national and international media reports, including Svenska Dagbladet in Sweden and an article on OXFAM Denmark’s platform about Colombia’s Putumayo region. A blog post titled "Stakeholder Roundtable on the EUDR Implementation: Key Insights, Challenges and the Way Forward" summarized outcomes from a key multi-stakeholder workshop in December 2024. Policy briefs were tailored for diverse audiences: Brazilian stakeholders (on territorial implications of the EUDR), EU actors (on integrating ground-level insights), and Indonesian counterparts (on tin and palm oil governance). Workshops, such as with Brazil’s Ministry of Indigenous Peoples, further amplified local voices. Technical reports, scientific outreach materials, and a dedicated website ensured findings reached both academic and non-academic audiences, with clear, intelligible outputs for communities directly affected by global commodity governance.

EPICC also produced creative and educational outputs. These include the EPICC comic strip book explaining the socio-economic implications of the EUDR, a short documentary on tin mining in Indonesia’s Bangka Belitung, and another on sustainability perceptions in West Kalimantan’s palm oil sector (to be released). A mini web documentary, developed with Tapajós de Fato, illustrates the

expansion of soybean chains in the Santareno Plateaus. The project was showcased in the EPICC exhibition at the POLLEN 2024 conference in Lund University and presented at the Biennial Conference of the International Society for Ecological Economics. Workshop outputs were also compiled in a booklet from the Oro Vital painting project and made available via the project website. One booklet "Memories of the forest" was the result of a decolonial and participatory research approach with women in Putumayo who collectively envisioned sustainable transformations for the Colombian Amazon.

In terms of recommendations, we identify four main areas of engagement for academics, policy makers and other stakeholders. They concern both the approach to the study of GVCs and territories, and to the implementation of future policies and actions that could be more effective in promoting climate action and addressing biodiversity loss, that could also be more legitimate vis-à-vis local communities, and more aware of the political nature of territories and of its power dynamics.

a. Telecoupling and Governance Gaps in Global Value Chains: The EPICC project studies and puts at work the notion of telecoupling, the interconnectedness between distant regions through trade and environmental/climate policies. While agricultural and mineral supply chains overlap in production territories, governance mechanisms addressing their environmental impacts remain fragmented. Likewise, existing policies on climate change mitigation and biodiversity conservation often fail to integrate the perspectives and needs of affected territories, leading to ineffective and sometimes counterproductive measures.

b. The Unintended Consequences of Unilateral Policies: Our findings reveal that unilateral public measures, such as the EU import restriction on deforestation-embedded commodities (EUDR), can create unintended socio-economic transformations and not sufficiently address climate change and biodiversity loss. While these policies aim to reduce environmental harm, they may exacerbate local inequalities, displace small-scale producers, or shift deforestation pressures to other regions. More inclusive approaches that recognize the diversity of production territories are essential for ensuring just and effective environmental governance, along with a reconsideration of the role of GVCs and long-distance trading.

c. Land Disputes and the Territorialization of GVCs: One of the most pressing challenges identified by the EPICC project is the direct link between trade and the intensification of land disputes in tropical production zones, which fuel climate change and biodiversity loss. Our research identifies a growing pattern of "sacrifice zones" along the Equator, where the extractivist frontier is rapidly advancing. The expansion of agribusiness and mining activities has led to conflicts over land rights, often marginalizing Indigenous and local communities. Addressing these disputes requires stronger recognition of customary land tenure systems, participatory governance models that empower local actors and a redefinition of trade and investment policies.

d. Beyond Inclusive and Sustainable Global Governance for Climate and Biodiversity: The EPICC project underscores the need for transformative policies that not only increase transparency and integrate local voices into global decision-making, especially when unilateral measures or new trade agreements are concluded. However, participatory measures may not be sufficient to tackle the negative implications of the expansion of trade and GVCs. Climate and biodiversity priorities should be presupposed to trade and commercial policies.

With regards to the specific relevance of the project for the Federal Belgian government, it is worth mentioning that specific policy recommendations have been advanced with regards to the European Deforestation Free Products Regulation (EUDR) and published here. The EUDR is based on the use of unilateral governance mechanisms to diminish the environmental footprint of EU consumption, and thus is closely linked with the goal of promoting climate action and reducing biodiversity loss across global value chains. The Belgian Federal Government, as part of the Council of the European Union, has the possibility of steering the implementation of the Regulation and the process of revision that will take place after its entry into force on January 1, 2026. The main key policy recommendations contained in the policy brief, are:

1. Rethink the Temporal Benchmark and the Legality Requirement as they may not be Ambitious Enough, if not Counter-Productive

According to the EUDR, products obtained illegally or tied to deforestation and forest degradation before December 30, 2020, are banned in the EU market. The 2020 benchmark and satellite imagery are suggested for verification of the deforestation, while a set of regulatory references are indicated when it comes to the legality of production. The legislative choice poses three main issues:

1. The benchmark may be less strict than national environmental laws, potentially weakening conservation efforts undergoing in the country of origin of the commodity
2. Prioritizing the 2020 benchmark may hinder local attempts to monitor and sanction pre-benchmark deforestation, by focusing the attention on the post threshold activities only.
3. The legality requirement in the due diligence statement may translate into a simplified depiction of applicable laws, but may also intensify complex land disputes and community concerns by focusing on the legal datum and not on the reality on the ground or the challenges that have been raised against land titles.

2. *Recognize that Ecosystems are Part of Broader Social-ecological Systems that is Shaped by Commodity Chains*

Communities and indigenous groups emphasize that industrialized agricultural production threatens territorial autonomy and the right to self-determination beyond deforestationa and forest degradation. Practices like monoculture, pesticide-intensive farming, and large-scale industrialization cause environmental pollution, health issues, and biodiversity loss. Restricting deforestation-linked imports falls short of fulfilling the EU's environmental and human rights commitments, therefore it must be aligned with international commitments and infused by the principles of common but differentiated responsibility, international law and payment for loss and damages.

3. Adopt a Broad Understanding of Forest Degradation

The Regulation defines 'forest degradation' as unsustainable harvesting causing reduced biological or economic productivity in ecosystems, potentially overlooking cultural values and intergenerational knowledge transfer impacted by such operations. This narrow focus may conflict with the Regulation's intent by allowing commodities from agro-diverse land to be transformed into monoculture. Article 30(4) emphasizes engaging with production countries for a transition to sustainable agriculture, recognizing the diversity in agricultural practices. The EU must consider the impact of its consumption

patterns on promoting environmentally and socially unsustainable production on existing agri-food lands during the Regulation's implementation and revision. Additionally, future revisions should address mining, a major deforestation source, ensuring its inclusion in the Regulation to prevent socio-environmental degradation.

4. Territorial and land rights should not be Subordinated to Environmental and Biodiversity Concerns

The battle against deforestation and social-ecological harm fundamentally involves recognizing collective territories and land titles held by indigenous groups, traditional communities, small-scale farmers, and landless families. These communities, with their historical engagement and co-construction of ecological dynamics, play a vital role in preserving and regenerating diversity. Article 2 of the EUDR mandates guaranteeing land use rights, human rights, labor rights, and Free Prior and Informed Consent for all regulated products, and makes reference to them with regards to the legality check of the due diligence process. However, the way in which legality is dealt with in the Regulation highlights three critical shortcomings that should be addressed:

1. Marginal Consideration: Human rights, land rights and indigenous rights might receive inadequate attention without effective channels for third-party watchdogs and victims to access justice and be heard.
2. Risk Assessment Complexity: The risk assessment, a pivotal aspect of Regulation implementation, is not built in order to ensure openness, transparency, and participatory processes. The current focus on trade risks' assessment realized by traders and operators is structured around the perspectives of the EU regulator and of the private actors, potentially sidelining local stakeholders and their visions.
3. Mitigation vs. Prevention: The Regulation's emphasis on risk mitigation rather than preventing and redressing human rights violations raises concerns. The risk assessment may be read in a way that the EUDR accepts that products are placed on the EU market in case of unavoidable negative impacts, possibly undermining the necessity of respecting human rights.

5. Expand the Scope to Global Logistic and Financial Flows as Key to Growing Patterns of Extraction

Global trade in deforestation-embedded agricultural commodities is inherently dependent on and facilitated by the presence of an elaborated system of logistic, flows of investments and financial capital, and by the continuous liberalization of international trade by means of lower tariffs and trade barriers. Roads, railways, ports, silos and other material infrastructures increasingly populate territories of extraction and link them with the EU and other markets of destination. However, both the materiality of transportation and the financial drivers are excluded from the EUDR. Future revisions of the Regulation should expand its scope to EU financial actors and to the environmental and human rights impacts of logistic.

6. Link Implementation of the EUDR with Territorial Realities, Ongoing Spaces of Resistance and Regional Food Systems

Our research has highlighted that the implementation of the EUDR should be based on the recognition of the diverse socio-economic landscapes that characterize the territories of production, the different

commodity chains, and the interactions between producers, intermediaries and public authorities. Acknowledging the unique histories, legal frameworks, economic conditions, and actors involved is essential. In particular, the EU and Member States must recognize that territorial and local organizations have developed resistance against deforestation, exemplified by community protocols for prevention and monitoring. While Article 28 acknowledges the need for cooperation, prioritizing people's voices, especially those of people who do not participate in global commodity chain and may be affected by them, is crucial. In addition, future partnerships and cooperation should extend beyond supporting small-scale farmers in global commodity chains, and contribute to the realization of the aspirations and alternative futures envisioned by people who do not see themselves and their territories as part of global trade. In line with the SDGs and the international obligations assumed by the EU, fostering territorial markets and local production for food and nutrition security should not be subordinated to global commodity chains, but prioritized.

5. DISSEMINATION AND VALORISATION

Despite the challenges posed by the global COVID pandemic in the beginning of the project, all partners succeeded in carrying out important and novel research that has been shared to a wider global audience of researchers, policy makers and the wider public.The EPICC consortium actively disseminated its findings to the scientific community through a rich mix of academic publications, conference presentations, and thematic workshops. Project members presented research results at major international conferences such as the International Society for Ecological Economics (Santa Marta, 2023), the POLLEN Conference (Lund, 2024), and Tropentag (Berlin, 2023), organizing dedicated panels and exhibitions to highlight EPICC's methodological and conceptual contributions. The project also engaged with academic audiences through university seminars at institutions like Lund University and the University of Antwerp, and contributed to a special issue in Ecological Economics focused on deforestation-free trade, led by Prof Muradian (5).

Several peer-reviewed articles were submitted to leading journals (see below), covering themes such as governance of global value chains, socio-environmental justice, and participatory research methods (see below). Several articles are still being developed, and the dissemination of the project`s results will last several years after its end, by means of coming publications and further development of networks that were initiated during the execution period. Additionally, EPICC maintained collaborations with other BiodivERsA-funded projects and consistently acknowledged the program's support in its scientific outputs.

Since most project partners are members of different scientific societies and associations, the project was also able to reach a wide range of interdisciplinary fora, such as the International Society for Ecological Economics (2, 3, 5), and the FOCALI research network in Sweden (6). In addition, most project partners are actively engaged in teaching at the graduate level and have used activities and results of the project in teaching programs. This is evidenced by the number of Master theses that were carried out in close collaboration with the EPICC project consortium, which has resulted even in peer-reviewed scientific publication from master students (for instance, Vaccarezza Sevilla et al., 2025). The project has thus induced multiplying effects through graduate education.

The following presentations were given by the members of the consortium:

Paula Andrea Sánchez García presented the research plan and data collection to analyze the gold value chain in Colombia at the "The Right Livelihood Award College." Center for Development Research (ZEF). September, 2022

Barbara Schröter and Torsten Krause (ZALF and LUND) presented the EPICC project at the Lund University Centre for Sustainability Studies research seminars – February 3, 2022

Barbara Schröter and Torsten Krause (ZALF and LUND) presented the EPICC and preliminary fieldwork results from Colombia to the Environmental Policy Group research seminar at the Department of Political Science at Lund University – May 6, 2022.

Diana Vela Almeyda delivered a speech on EU Green Deal as Europe first. Keynote for the International Conference The EU Green Deal and ASEAN: Controversies, Ambiguities and Opportunities. National Research and Innovation Agency (BRIN). Bogor, Indonesia. December 3-4, 2024

Paper presentation: “The extractive frontier as a repackaged form of neo-colonialism”. Transfaculty Symposium: ‘Nobody’s Land’ on (extraterrestrial) environmental ethics and colonialism. Utrecht, Netherlands: March 23th, 2023.

Paper presentation: “Making Methods and Sense Together – an installation”. 17th Biennial Conference of the International Society for Ecological Economics. Santa Marta, Colombia: October 26th-28th, 2023.

Paper presentation: “Reinforcing path marginalization: uncovering the invisible labor organization at a mining frontier in Indonesia”. 17th Biennial Conference of the International Society for Ecological Economics. Santa Marta, Colombia: October 26th-28th, 2023.

Paper presentation: “El Pacto Verde Europeo a la luz de la teoría de la dependencia”. Memoria y Futuro del Dependentismo: balance a 50 años del golpe militar Conference. Santiago, Chile: August 2–4, 2023.

Paper presentation: “La “ecologización” del imperio: El Pacto Verde Europeo como agenda impuesta para el Sur Global”. IV Congreso Latinoamericano de Ecología Política. Quito, Ecuador: October 19-21, 2022.

“The European Green Deal as political foreclosure of alternative world ecologies”. The 9th Nordic Geographers Meeting. Joensuu, Finland: June 19-22, 2022.

Paper presentation: “Greening cognitive empire: The European Green Deal as political foreclosure of alternative world ecologies”. 40th International Congress of the Latin American Studies Association. Online Conference: May 05-08, 2022.

Paper presentation: “Greening cognitive empire: The European Green Deal as political foreclosure of alternative world ecologies”. Caring Communities for Radical Change. 8th International Degrowth Conference. University of Rotterdam, The Hague. August 24 – 28, 2021.

Paula Andrea Sánchez García participated in the LANDSCAPE CONFERENCE 2024. “Agroecosystems in Transformation: Visions, Technologies, and Actors.” Berlin, Germany, September, 2024. She presented the research “A Decolonial and Participatory Research Approach to Envision Equitable Transformations Toward Sustainability in the Amazon”

Paula Andrea Sánchez García Paula Andrea Sánchez García participated in the POLLEN CONFERENCE 2024. “Towards just & plural futures.” Lund, Sweden. June, 2024. She presented the research presented the research “Gold mining in the Colombian Amazon. Empirical insights on the links between sustainability, equity, and power”

Conference participation of Barbara Schröter (ZALF) at the ADLAF conference ‘Environmental Justice’ from 22 to 24 June 2023 in Berlin with a presentation on the topic ‘Striving for sustainability? An analysis of gold mining, cattle ranching and socio-ecological conflicts in Putumayo, Colombia’. BiodivERsA has been acknowledged.

Conference participation of Barbara Schröter (ZALF) at the Tropentag 2023: Competing pathways for equitable food systems transformation: trade-offs and synergies, from 20 to 22 September 2023 in Berlin, with a session organisation on ‘Sustainable land use, food systems, and commodity chains in

regions of climate vulnerability, deforestation, and conflict' and a poster presentation on 'Aiming for sustainability? An analysis of global commodity chains of gold mining and cattle ranching in Colombia'.

Workshop participation of Lasse Loft (ZALF) and Torsten Krause (ULUND) to represent the EPICC project at the workshop 'Human Rights and Environmental Due Diligence: Towards Sustainable and Just Global Supply Chains?', in Berlin on 28 and 29 September 2023.

Conference participation of Lasse Loft, Paula Sánchez and Barbara Schröter (all ZALF) at the conference of the International Society for Ecological Economics (ISEE) - 'Economies for life: Alliances for practicing eco-logical economics in a world in transition', in Santa Marta, Colombia from 23 to 28 October 2023. October 2023 with a panel organisation ('Transformation in telecoupled global commodity chains: Linking systems of consumption with territories of extraction'), a format free Event ('Making Methods and Sense Together - an installation') and a lecture ('Transparency in global commodity supply chains the role of invisible actors and black boxes').

Luiz Jardim Wanderley and Roldan Muradian participation at 17th Biennial conference of the international society for ecological economics. With the panel 'Systemic Risk in the Brazilian Gold Value Chain'. 23-28th October, Santa Marta, Colombia 2023.

Conference participation of Paula Sánchez, Barbara Schröter and Lasse Loft (all ZALF) at the Political Ecology Network Conference, 10-12 June 2024, Lima (Peru), Dodoma (Tanzania), Lund (Sweden) with replication of the event exhibition 'Making Methods and Sense Together - an installation'.

Muradian, R. 2022. How will the deforestation-free trade proposal of the EU interact with public regulations in exporting countries? Implications for the governance of commodity frontiers. IV Congreso Latinoamericano de Ecología Política. 18-22 October 2022. Quito, Ecuador.

Muradian, R. 2022. The blurring and moving frontier between legality and illegality in the gold value chain from the Brazilian Amazon. Conference of the Society for the Advancement of Socio-Economics (SASE). University of Amsterdam. Amsterdam, The Netherlands. 9-11 July 2022.

R. Muradian edited the special issue "Deforestation-free trade: Global governance challenges and socio-environmental implications in producing countries" in the journal Ecological Economics. The special issue (directly linked to the main subject of the project) has 8 main contributions and 1 editorial article (still to be published). It can be found here: https://www.sciencedirect.com/special-issue/10T1WZ3B31J

Reid, Y. & Ferrando T., "Unravelling the EU Deforestation-Free Products Regulation: A Multidimensional Socio-Legal Analysis", Food Law Academics Network (FLAN) Conference, May 2024, University of Bari.

Carolina Grottera, Barbara Schröter and Roldan Muradian (5, 6) attended a workshop as part of the publication process in the Special Issue in Ecological Economics entitled « Deforestation-free trade: Global governance challenges and socio-environmental implications in producing countries » - June 22, 2022.

We also paid attention to dissemination to **non-academic audience**:

- We realized an interactive website: www.epiccproject.org in three languages.
- Tomaso Ferrando (UA), participated in a meeting with Eamon Gilmor, EU Special Representative of Human Rights, in the context of a visit by indigenous communities and traditional people living in the areas that are at the centre of the EPICC project – May 3, 2022
- Tomaso Ferrando (UA), participated in a close NGO roundtable on the EU law deforestation (organized by FERN, Brussels) – May 11, 2022
- Torsten Krause and Barbara Schröter with support of the LUCSUS communication team published two news items on the LUCSUS website: “Global value chains for meat, gold, tin and palm oil in the spotlight for new research project”, published 3rd of June 2021; https://www.lucsus.lu.se/article/global-value-chains-meat-gold-tin-and-palm-oil-spotlight-new-research-project
- Blog post: Achieving more sustainable value chains are crucial for preventing deforestation and biodiversity loss, published 22 of April 2022; https://www.lucsus.lu.se/article/achieving-more-sustainable-value-chains-are-crucial-preventing-deforestation-and-biodiversity-loss
- We developed a project flyer in Spanish language to explain the aims and objectives to local stakeholders in Colombia.
- University of Antwerp (Tomaso Ferrando & Ysaline Reid): Production of a **short comic strip book** (around 15 pages) on the EUDR, in particular focusing on the different socio-economic and environmental shifts resulting from the EU Regulation. The aim of the comic book is to offer a deeper understanding of how the EUDR came about in the EU, to provide an understanding of the making of the international food system and to explore both the direct shifts that such a transnational law can create, as well as the broader, systemic issues tied to it.
- A blog article written as a follow up to the multi-stakeholder workshop organised in December 2024, aimed to inform various stakeholders of the outcome of the roundtable and key points from discussions. Title: "Stakeholder Roundtable on the EUDR Implementation: Key Insights, Challenges and the Way Forward". Available at: https://blog.uantwerpen.be/iob/stakeholder-roundtable-on-the-eudr-implementation-key-insights-challenges-and-the-way-forward/

6. PUBLICATIONS

Publication type	**Author, A.A.**	**Publication Year [YYYY]**	**Article title**	**Periodical Title or Journal *(scientificPaper)* Book Title *(book)***	***Volume***
Articles in international peer-reviewed journals	Matías Vaccarezza Sevilla Gino Pedreira Lucchese Torsten Krause Gisele Garcia Alarcon	2025	From pastures to plates: The thorny path to achieving deforestation-free cattle from Brazil to European consumers	Ecological Economics	230
Articles in international peer-reviewed journals	Sánchez García, P. A. & Wong, G. Y.	2024	The political economy of deforestation in the Colombian Amazon	Journal of Political Ecology	31
Articles in international peer-reviewed journals	Sánchez-García P.A., Jónás K., Pellowe K.E., Ekström H., Scheuermann M., Loft L.	2025	Toward an intersectional equity approach in social–ecological transformations.	Global Sustainability	8
Articles in international peer-reviewed journals	Sanchez García, P.A.and Schröter, B., Krause, T. Merrie, A.S., Pereira, L.,Nielsen, J. Ø. and Loft, L.		A Decolonial and Participatory Research Approach to Envision Equitable and Sustainable Transformations for the Amazon	Futures	
Articles in international peer-reviewed journals	Sánchez-García, P.A., Schröter, B., Krause, T., Boonstra, W., Nielsen. J., Loft, L. G.		Gold mining in the Colombian Amazon. Empirical insights on the links between sustainability, equity, and power	Sustainability Science	
Other publications (please specify in column M)	Sánchez-García, P.A.	2024	Memories of the Forest		
Other publications	Sánchez-García, P.A.	2024	Memorias de la Selva		

(please specify in column M)					
Articles in international peer-reviewed journals	Muradian, R; Cahyafitri, R; Ferrando, T.; Grottera, C.; Jardim-Wanderley, L.; Krause; Kurniawan, N.I., Loft, Lasse; Nurshafira, T.; Prabawati-Suwito, D.; Prasongko, D.; Sanchez-Garcia, P. A.; Schröter, B; Vela-Almeida, D.	2025	Will the EU deforestation-free products regulation (EUDR) reduce tropical forest loss? Insights from three producer countries	Ecological Economics	227
Contributions to books (chapters, etc.)	Schröter, B.; Krause, T., Sanchez García, P.; Vela-Almeida, D.; Garcia Alarcon, G., Nurshafira, T.; Vecchione Gonzálves, M.; Jardim Wanderley, L.; Loft, L.; Schmitt-Filho, A.; Cahyafitri, R.; Prasongko, D.	2026	Transparency in global commodity supply chains – the role of invisible actors		
Articles in international peer-reviewed journals	Vela-Almeida, D., Kolinjivadi, V., Ferrando, T., Roy, B., Herrera, H., Gonçalves, M. V., & Van Hecken, G	2023	The “Greening” of Empire: The European Green Deal as the EU first agenda	Political Geography	89
Articles in international peer-reviewed journals	Vela-Almeida, D., & Karlsen, A	2023	Reinforcing path marginalization: revealing the unaccounted labor organization at a mining frontier in Indonesia	Cambridge Journal of Regions, Economy and Society	

Articles in international peer-reviewed journals	da Silva Hyldmo, H., Angen Rye, S., & Vela-Almeida, D	2024	A globally just and inclusive transition? Questioning policy representations of the European Green Deal	Global Environmental Change	89
Articles in international peer-reviewed journals	Kurniawan, N.I., Cahyafitri, R., Nurshafira, T., Prasongko, D., & Vela-Almeida, D	in preparation	Repurposing Transnational Supply Chains Regulations for Industrial Development: Mandatory Tin Trading via Commodity Exchange in Indonesia		
Other publications (please specify in column M)	Catalina Scheer	2022	"Gold is gold": Understanding the role of European actors along the supply chain of Colombian gold	Master thesis - Lund University	
Other publications (please specify in column M)	Matías Vaccarezza Sevilla Gino Pedreira Lucchese	2023	From pastures to plates: The thorny path to achieving deforestation-free cattle from Brazil to European consumers	Master thesis - Lund University	
Contributions to books (chapters, etc.)	BRINGEL, F. ; MORAES, H. ; WANDERLEY, L. J. M. .	2024	Mapeamento da Mineração e Garimpo na Amazônia Legal (2012-2022): logísticas, empresas e destinos da produção.	Terra arrasada: desmonte ambiental e violação de direitos no Brasil. 1ed.Montes Claros: Unimontes	
Other publications (please specify in column M)	Natalia, Milagres	2023			

Articles in international peer-reviewed journals	Hyldmo, H. D. S., Wardhani, I. S., Kurniawan, N. I., Cahayati, D. D., Rye, S. A., & Vela-Almeida, D	2025	Urgent transition, urgent extraction? Global decarbonization, national governance and local impacts in the Indonesian nickel industry	Environmental Research Letters	
Other publications (please specify in column M)	Castro, Enrique, Sánchez-García, Paula Andrea, Schröter, Barbara	2023	Retos y oportunidades de la pequeña minería de oro en la Amazonía colombiana – entrevista con Enrique Castro	Grassrootes JPE	

In addition, at Lund University Centre for Sustainability Studies (LUCSUS) a master thesis was finished by Catalina Scheer on the topic "*Gold Is Gold" - Understanding the Role of European Actors Along the Supply Chain of Colombian Gold,* supervised by Torsten Krause – May, 10, 2022