

EPICC

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

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