

Adaptation to mitigation:

Policy coherence in the Nordic countries in response to their land footprint in the forested tropics

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This sub-project explores the links between land use change in tropical forested areas and the Nordic countries' main policies on mitigating and adapting to climate change. The analysis focuses on Nordic consumption of farming commodities and includes the development of the **SEI-PCS** model (**S**patially **E**xplicit **I**nformation on **P**roduction to **C**onsumption **S**ystems). SEI-PCS is the first tool that can trace global consumption to the socio-environmental impacts of production at sub-national scales (e.g. municipalities in Brazil). Not only does this improve footprinting and supply chain analyses, it also informs analyses of the trade-offs involved with increasing trade as a strategy for climate adaptation, the coherence of Nordic climate policy across sectors, as well as the unintended consequences of Nordic climate policy in South America.

THE SEI-PCS MODEL

The SEI-PCS model is a data-intensive tool that reveals how the socio-environmental impacts embedded in trade – from producers of traded commodities to final consumers – are spatially allocated. The method uses detailed production data at sub-national scales (e.g. municipalities or provinces), information on domestic trade flows, a cost-distance optimization analysis, and an analysis of international trade flows using bilateral trade matrices. It can capture complex re-exports between countries and, when integrated with a Global multiregional input-output analysis (MRIO), even product transformations along the supply chain.

RESULTS AND VALIDATION, THE CASE OF SOY

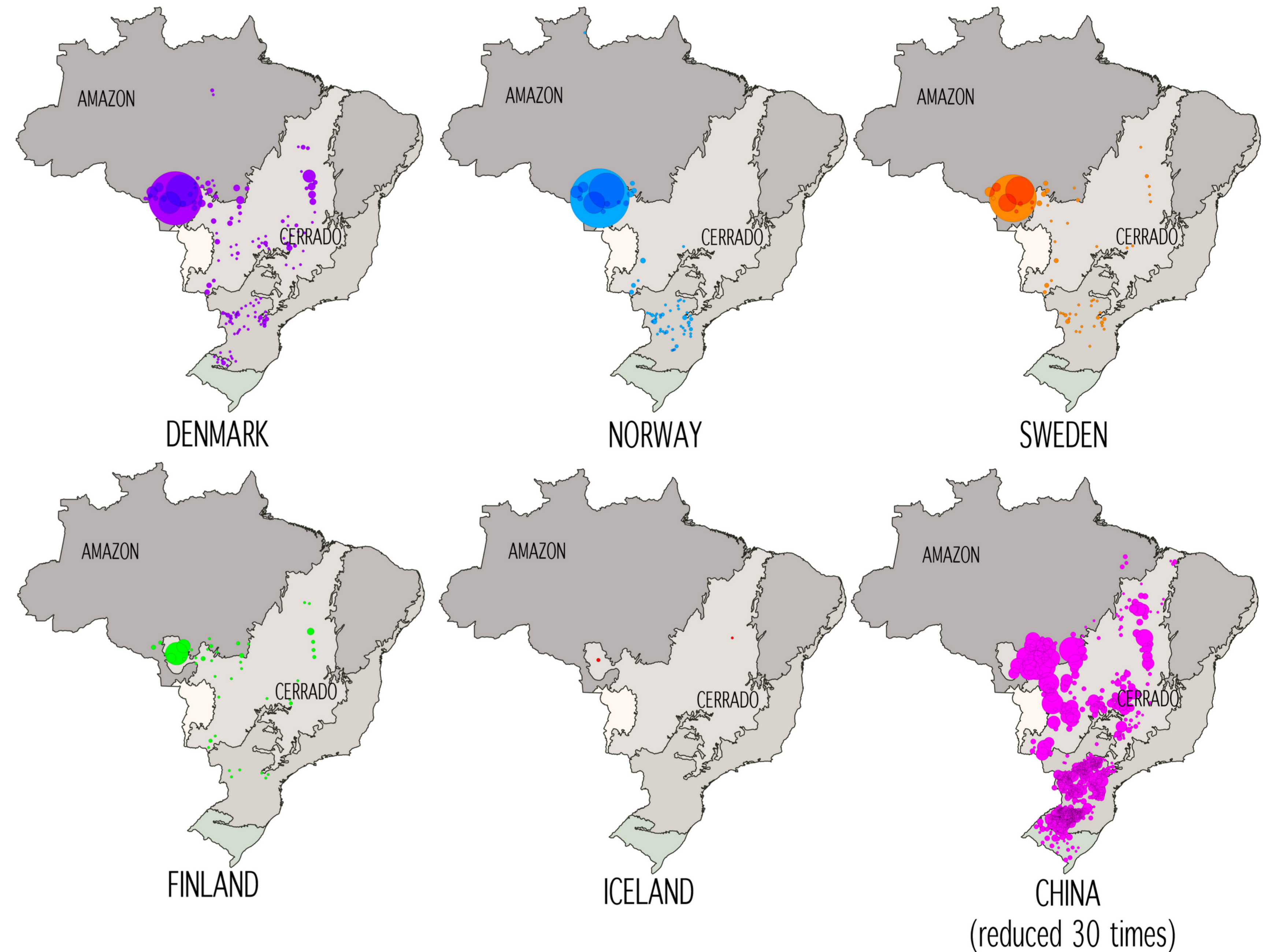
- The model is currently developed for any farming commodity produced in Brazil and Argentina (other countries and commodities in the pipeline).

- In 2011 the Nordic countries consumed 651,000 tons of soy for animal feed and biofuels, using the equivalent of 258,000 ha of land. A disproportionately large amount was sourced from the Brazilian Legal Amazon (Fig. 1), an area with high socio-environmental values. Because Brazilian soy is mostly produced in areas cleared decades ago, the environmental footprint per consumed unit in the Nordic countries is significantly larger than that of, e.g., China.

- Using SEI-PCS, we found that Nordic countries sourced most of their soy from Sapezal in Mato Grosso state. Independent reports on supply chains of Nordic importers validate the model. Sapezal hosts one of the few non-GM certified soy farms in Brazil, owned by Amaggi, a group with a past of environmental offences (Fig. 2).

- Nordic preference for certified soy from the Amazon and Northern Cerrado raises the question of whether this is rewarding farmers who deforested illegally prior to the 2007 soy moratorium, and now receive an environmental premium based on their skills and acquired capital to access mature markets such as the Nordic.

Fig. 1. Soy consumption from Brazilian municipalities in the Nordic countries and China. Minimum radius of circles=200 Tn (6000 Tn in China)



NORDIC POLICY COHERENCE AND THE ROLE OF TRADE AS A CLIMATE ADAPTATION STRATEGY

This research focuses on the lack of coherence between adaptation and mitigation goals across sectors, with two key assumptions:

- 1- Climate adaptation policies cannot be detrimental to mitigation efforts.
- 2- Increasing trade is a key strategy for climate adaptation in the small but open Nordic economies, especially under regional/global extreme weather events.

Current research focuses on the policy coherence of Nordic agricultural and biofuel policies vs. Nordic and global mitigation efforts in South America (e.g. REDD), as well as in the consideration of climate adaptation beyond local scales, assuming that countries need to better account for the consequences on global mitigation efforts of their own climate adaptation strategies.

Fig. 2. Soy consumption from the territories of the Enawene Nawe, a tribe suffering genocide driven by soy farming interests. Nordic countries have a disproportionate responsibility considering their overall relative small consumption of Brazilian soy.

'Soya is killing us' says Amazon tribe 6 March 2006

As Brazil's President Lula makes a state visit to the UK this week, one of the Amazon's most unusual tribes is losing its land to plantations of soya that may be bound for the UK.

The Enawene Nawe Indians' land in Mato Grosso state is being rapidly cleared for soya plantations and cattle ranching. Mato Grosso state governor and soya baron Blairo Maggi, one of the world's largest soya producers, is planning to build hydroelectric dams on their land to provide energy to the soya industry. Maggi is lobbying the federal government not to recognise Indian land in his state.

Three quarters of the UK's soya beans came from Brazil in 2004. There is no system to distinguish exported soya grown in the Amazon from that grown elsewhere in the country.

The remote Enawene Nawe Indians were contacted in 1974 and number only 420 people. They are one of the very few tribes in the world who eat no red meat. Instead, they catch fish in intricate dams built across rivers, and collect honey from the forest.

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tribe: Enawene Nawe

