

Where do the ingredients for your chocolate, smartphone and clothes come from?

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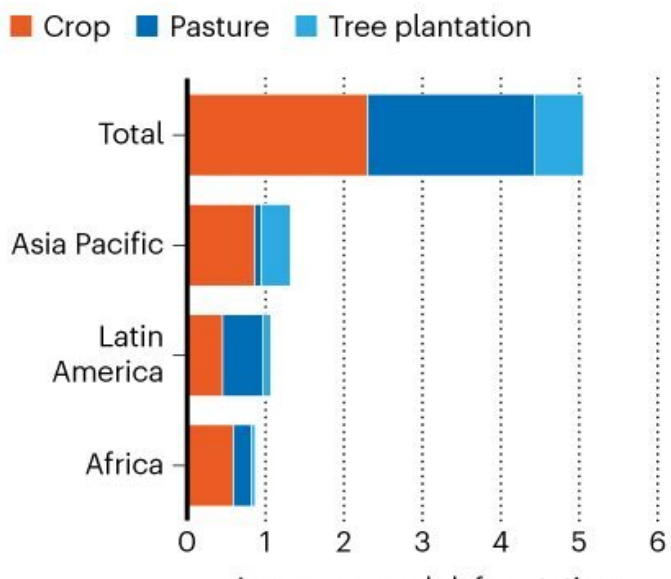
UNSUSTAINABLE SUPPLY CHAINS

From farm to factory, companies struggle to track environmental and social damages linked to their products, such as modern slavery and deforestation.

Europe and China dominate imports of some commodities



Tropical deforestation is a widespread problem in farming



Sources: Imports: Chatham House Resource Trade Database (<https://resourcetrade.earth>); Deforestation: Ref. 6; Forced labour: Ref. 3.
 Credit: *Nature* (2022). DOI: 10.1038/d41586-022-01718-8

A bar of chocolate in the U.S. might have been made in Belgium, with

cocoa from the Ivory Coast, almonds from Morocco, vanilla from Madagascar and sugar from Brazil. Were forests cut down for it? Were forced or child laborers involved in the harvest? Were toxins used or rivers polluted?

We see similar stories for other products we use daily, such as smartphones, clothes, and cosmetics. These questions cannot be answered easily. That's why companies and corporations should conduct due diligence in their supply chains and pay more attention in the future to the impact of their products on the environment and human rights.

Dr. Jorge Sellare, group leader and senior scientist at the Center for Development Research (ZEF) and member of the Transdisciplinary Research Unit Sustainable Futures at the University of Bonn, has written a commentary on this topic together with other authors in the journal *Nature*. The Department of Communications of the University asked him about it.

What can each and every one of us do to make supply chains more environmentally friendly and more respectful of human rights?

The most important thing we can do as consumers is to change our consumption patterns. First and foremost, this means reducing meat consumption and seeking alternative protein sources that can reduce pressure on forests. Second, supporting products that are certified to credible [sustainability](#) standards can help reduce the use of unsustainable and unethical practices in global commodity production—such as the use of child labor and toxic chemicals. Increasing demand for certified products can send important signals to importers about consumer preferences. Consumers, along with [civil society](#), also play an important role in putting pressure on companies to adopt more sustainable business

practices and increase the transparency of their reporting.

Which sustainability standards are credible—and how can we verify that?

That's not a straightforward answer, as there are currently hundreds of sustainability standards, which makes it hard for consumers to differentiate between them. Some of these standards, such as Fairtrade, Organic, Rainforest Alliance and RSPO have received a lot of attention from researchers. The conclusions on their impacts are not always clear cut, but at least they provide some evidence on the effects of these standards. Other standards have received significantly less attention, which makes it difficult to know the extent to which they are delivering on their promises. But as a general rule, standards developed by firms tend to have less strict criteria for certification.

In the *Nature* commentary, you and other authors formulate research needs for global supply chain policy. Where do you see the greatest need?

Due diligence schemes are not a new phenomenon. Several such measures have been introduced in the last decade, including the French Loi de Vigilance and the U.K. Modern Slavery Act. However, the academic literature on due diligence is still thin. The few existing studies generally focus on legal aspects and ignore policy-relevant issues. Due to the European Commission's new proposals on deforestation-free products and corporate due diligence in sustainability, we are now seeing renewed interest in this topic from a larger research community. In our paper, we identify six research priorities on which future studies should focus.

Could you please provide an example?

For example, we emphasize the need for new theoretical frameworks that can help us generate clear and testable hypotheses about how cross-sector and cross-country due diligence obligations affect market power in international trade. We also see the need to consider due diligence as part of a policy ecosystem. This can help us understand how due diligence implementation in importing regions can trigger policy responses in exporting countries, and how it interacts with complementary [supply chain](#) governance policies—such as certification, moratoria, and offset programs. Another important point is how these policies will affect inequality in producing countries. For example, to free their supply chains from negative environmental impacts, companies might exclude from their list of suppliers the vulnerable producers who cannot bear the costs of more sustainable practices, thus enhancing local inequalities.

What's the big goal?

Future research must not lose sight of the end goal. Due to advances in data availability, many studies have been conducted in recent years that analyzed the incidence of deforestation or forced labor in specific supply chains. While these studies are important, they offer only a limited view of sustainability in global supply chains. Along the same lines, due diligence laws are often worded to attempt to free individual supply chains from undesirable impacts. However, from a global perspective, exempting German supply chains from imported deforestation—to take just one example—by switching to new suppliers will not solve the underlying problems in producing countries.

How important is research to the desired goal of achieving more 'ethical' products?

Research on mandatory due diligence is important because this type of

policy—especially when harmonized by large economic blocs like the EU—is significantly different from voluntary commitments and pledges. For example, all major companies that source beef, palm oil, soy, and [cocoa](#) have committed to reducing or eliminating deforestation associated with the commodities they purchase. However, the effectiveness of these commitments remains very low because they are either not fully implemented or there are problems enforcing compliance with suppliers. In addition, progress is often not independently monitored, different sectors do not work together, and short-term financial goals often take precedence. However, the evidence we have on these voluntary commitments tells us little about the types of changes that will occur with more stringent mandatory measures. We therefore hope that the new studies on due diligence will provide important insights for policymakers on how best to design and implement binding due diligence requirements.

How did you and your co-authors get involved with this topic?

The idea to write this article came out of a meeting of AgEconMeet, a European network of young agricultural economists founded by my co-authors Eva-Marie Meemken and David Wüpper—both from ETH Zurich. They organized a seminar with an editor from *Nature* where he talked about publishing in high-impact journals. He was interested in learning more about some of the burning issues in agricultural economics. When we told him about the EU due diligence proposals, he encouraged us to write a commentary.

What is the scientific background of the authorship of the commentary?

My co-authors and I have been working for many years on related topics

such as global value chains, food systems, and land use change. Some of us focus on the agriculture and forestry sectors, others on mining. Given the complexity of due diligence, we felt it was important to bring the perspectives of scholars with expertise in different fields and sectors to identify key research priorities on this topic.

More information: Jorge Sellare et al, Six research priorities to support corporate due-diligence policies, *Nature* (2022). [DOI: 10.1038/d41586-022-01718-8](https://doi.org/10.1038/d41586-022-01718-8)

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