

Master theses in the field of economics and governance of agricultural and food systems at the IATD group at Humboldt-Universität zu Berlin in exchange with Agora Agriculture

Information for students; version 14/02/2025

Agora Agriculture supports a limited number of master students to write their theses on topics, which are scientifically interesting and relevant for Agora Agriculture's work. Thesis topics are proposed and supervised jointly by Agora Agriculture team members (listed below), Prof. Harald Grethe and potentially other supervisors from HU of Berlin/other universities. Theses may be written in English or German. Students may also propose a topic they are interested in related to the work of Agora Agriculture, and we can elaborate together on whether this topic would be suitable. Students who write their thesis with us will get to know Agora Agriculture, benefit from the exchange and structure of the group format and have the opportunity to write a thesis relevant to the science communication work of Agora Agriculture. Group meetings and communication between master's students, Harald Grethe and Agora colleagues are coordinated and organized by Cora Petrick and Ivonne Kampermann, who work on arable farming and land use questions at Agora Agriculture.

Students who are interested to work on one of the proposed topics or want to propose another topic are welcome to send an e-mail with their Transcript of Records, CV, a few sentences on their motivation/background and the proposed thesis topic to theses.iatd@hu-berlin.de **before 15.03.2025**.

1. Addressing carbon leakage as a result of EU agricultural GHG pricing

Domestic pricing of GHG-emissions from agriculture in the EU would increase production cost and result in potentially lower competitiveness of EU products on international markets. This is especially relevant for products with high GHG-emissions per product unit such as beef and dairy products. In order to compensate for these effects, different instruments to address imports and exports respectively are discussed, including a Carbon Border Adjustment Mechanism (CBAM). This thesis aims to explore the opportunities and challenges of the implementation of these instruments for agricultural products. Research questions include: What are the cost effects per agricultural product unit in case of GHG pricing of agricultural production? What are the likely competitive effects of such cost effects regarding EU imports as well as exports? What are the countries of origin of EU imports and the countries of destination of EU exports of agricultural products with a high GHG footprint? What are options to quantify the amounts charged per product unit imported (national averages, other)? The thesis will review available literature and analyse agricultural production cost as well as trade data and potentially estimate the effects of carbon pricing on trade balances under different border measures.

Contact person, team within Agora Agriculture: Wilhelm Klümper

2. Options for incentivizing GHG-reducing management practices in EU agriculture

In the long run, ambitious EU GHG pricing in agricultural production will potentially incentivize the adoption of GHG-reducing management practices as well as the composition of EU agricultural production. Such GHG pricing, however, is not yet in place. Political pressure for GHG-emissions reductions is increasing, however, as several EU member states face challenges to meet their targets laid down in the Effort Sharing Regulation. The research question of this thesis is: What policy options are available to incentivize GHG-reducing management practices in agriculture in the short-run, without comprehensive GHG-pricing being in place? The thesis will review available literature and documents and rely on expert interviews with scientists, administrators and other stakeholders in selected EU member states such as Denmark, Ireland, the Netherlands, and Germany.

Contact person, team within Agora Agriculture: Wilhelm Klümper, nn team livestock

3. Welche Implikationen hätten Ernährungsgewohnheiten entsprechend der Planetary Health Diet für den deutschen Acker- bzw. Gemüsebau?

Abstract: Ein wesentlicher Hebel für eine nachhaltigere Ernährung in Deutschland und der EU ist, den Anteil tierischer Produkte zu senken und den Anteil pflanzlicher Lebensmittel zu erhöhen. Orientiert man sich an den Empfehlungen der EAT-Lancet Kommission, welche die Planetary Health Diet vorschlägt, sollten zukünftig unter anderem Gemüse und Nüsse in deutlich größerem Umfang konsumiert werden. Im Status Quo werden in Deutschland und Europa nur in geringem Umfang Nüsse angebaut und konsumiert. Auch Gemüse wird aktuell und relativ zur Planetary Health Diet in einem zu geringen Umfang konsumiert. Zudem erfolgt der Anbau von Gemüse zu großen Anteilen in Regionen Europas, in denen die Auswirkungen des Klimawandels den Gemüseanbau zunehmend schwieriger machen. Davon ausgehend, dass zukünftig ein höherer Anteil des inländisch konsumierten Gemüses bzw. der hier konsumierten Nüsse auch im Inland produziert werden könnten, interessieren wir uns dafür, wie unterschiedliche Akteure am Markt ein entsprechendes Nachfrageszenario und mögliche angebotsseitige Auswirkungen einschätzen. Wir suchen daher nach 1-2 Masterstudent:innen, die sich, ausgehend von einem vorgegebenem Ernährungsszenario, mit den Implikationen eines vermehrten Konsums von Gemüse bzw. Nüssen für die deutsche Landwirtschaft beschäftigen und vorstellbare Entwicklungspfade erarbeiten, wie das veränderte Konsumverhalten die Produktion der entsprechenden Kulturen in Deutschland beeinflussen könnte. Hinsichtlich des methodischen Vorgehens wären problemzentrierte Interviews mit Anbauverbänden, praktizierenden Landwirt:innen und dem Handel gut vorstellbar.

Contact person, team within Agora Agriculture: Stephanie Wunder, Nachhaltige Ernährung

4. How could EU funding instruments support future-oriented rural agri-food business models?

Abstract: Different data sources suggest that there is a gap in economic opportunities between rural and urban areas in Europe. While rural areas are critical for the transition to a climate neutral EU, this transition does not always provide an attractive economic perspective for rural economies including agri-food businesses.

It is therefore important to support the creation of economic opportunities in rural areas associated with a net-zero economy. Such opportunities include the development of sustainable rural economic clusters and new value chains, for example in the bioeconomy and for fruit and vegetables.

The EU has different funding mechanisms, including Cohesion fund and Regional development funds.

- ➔ What space exists to use existing EU funds (outside the Common Agricultural Policy) more effectively for the purpose of building future-oriented rural agri-food business models?
- ➔ What other financing mechanisms can be considered, such as through the European Investment Bank for investments into sustainable agri-food rural economic priorities?
- ➔ Depending on the interest of the student, a specific topic can be chosen in order to reflect on the questions in a more narrowed down perspective.

Contact person, team within Agora Agriculture: Nikolai Pushkarev, EU policy for food and land use sectors

5. Comparison of biodiversity indicators and indices for measuring structural landscape diversity.

Abstract: In the EU, farming has a major influence on the development of biodiversity. Reconciling biodiversity conservation with agricultural production is a challenge. Therefore, agri-environmental funds for biodiversity must be focused on the most land-efficient measures. Research findings indicate that biodiversity is particularly high in structurally diverse agricultural landscapes. The aim of the thesis is to compare indicators and indices for mapping structural landscape diversity along questions such as: What data is required and how complex is data collection? How comprehensible are the indicator values? For which target species and habitats are the indicators particularly meaningful, and for which are they not? How sensitively are changes recognised? The indicators and indices are to be tested in practice for selected landscapes and regions. This can either take the form of carrying out on-site analyses for a small number of high-contrast landscapes or by carrying out GIS analyses for larger spatial units. The thesis thus contributes to the development of a practicable and politically effective biodiversity index.

Contact person, team within Agora Agriculture: Nils Ole Plambeck, Arable farming

6. **Operationalisation of the term "agricultural landscape" for an optimised implementation of a landscape level reference in agri-environmental measures.**

Abstract: Many agri-environmental measures are more effective when implemented at landscape level and coordinated across farm boundaries. Those measures include habitat networking, water protection and the rewetting of drained peatlands. An important prerequisite for the effectiveness of landscape scale agri-environmental planning is the delineation of functional spatial units. Although the reference to the agricultural landscape level is common in the scientific literature, there are surprisingly few initiatives to operationalize the concept. There is an urgent need to provide spatial units for inter-farm agri-environmental planning that are both scientifically valid and politically manageable. The aim of this thesis is to develop a concept for the operationalisation of such functional spatial units. This could be done on the basis of a literature review and expert interviews but may also be done by evaluating related operationalisation approaches. Possible levels of focus are the EU, Germany or the federal states in Germany, depending on the interest of the student.

Contact person, team within Agora Agriculture: Nils Ole Plambeck, Arable farming

7. **Mapping the demands or arguments that agricultural stakeholders link to notions of justice, fairness and related concepts and terms.**

Abstract: Agriculture will have to undergo significant changes to contribute to sustainability goals and to adapt to changing environmental conditions such as climate change. Agricultural policy needs to address these changes while taking into account different societal and sectoral objectives, such as reducing emissions, improving water quality and providing healthy food. All this requires changes in farming practices, affects the economic performance of farms and has many other structural impacts. Notions of justice, fairness and other related concepts are often used by agricultural stakeholders in policy debates about the future of agriculture. However, there is no structured overview of how stakeholders use these concepts in their public communication. What do stakeholders consider to be fair or just? For which arguments do they refer to notions of fairness or justice? The aim of this thesis is to answer these questions and to structure the debate. This could be done through qualitative content analysis of textual data or interviews.

Contact person, team within Agora Agriculture: Cora Petrick, Arable farming

8. What climate potential lies in the Nature Restoration Law (NRL)

The EU Nature Restoration Law entered into force in 2024. The key objectives of the Regulation relate to ecosystems in need of restoration: (1) by 2030, restoration measures are to be implemented on at least 20 per cent of the land area and at least 20 per cent of the marine area of the EU and (2) by 2050, all ecosystems in need of restoration are to be covered by measures. Germany, like all EU member states, must submit a national restoration plan to the EU Commission by mid-2026 setting out how it intends to achieve these targets.

The NRL is primarily aimed at ecosystem restoration, with some of the measures being expected to have an impact on climate targets. Although the NRL mentions that intact forests, wetlands, floodplains and peatlands serve as natural climate protectors, the NRL is not directly mentioned as a lever for achieving the climate targets. In order to understand the climate potential of the NRL better, this thesis will analyse which measures contribute to the reduction and sequestration of greenhouse gases. Measures can include peatland rewetting or the planting of woody structures in the agricultural landscape. As part of this thesis, the NRL's areas of action will be scanned, analysed and the potential climate impact calculated. In addition, the costs of these measures can be calculated and compared with the potential. This can be calculated and compared for one or more regions/agricultural landscapes in Germany. For example, a region/landscape dominated by arable farming and a region/landscape dominated by permanent grassland could be selected and their potentials and costs compared.

Contact person, team within Agora Agriculture: Ivonne Kampermann and Wilhelm Klümper, Land use in the bioeconomy