

Abschlussbericht

Doktorandenprojekt der P-Campus Graduiertenschule

Governance-Optionen für geschlossene P-Kreisläufe – Die GAP-2020-
Reform

(Governance options for closed P cycles - the CAP 2020 revision)

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Inhaltsverzeichnis

| Kapitel | Seite |
|--------------------------------------|--------------|
| 1 Aims and Scope of the Project | 1 |
| 2 Materials and Method | 1 |
| 3 Results and Discussion | 2 |
| 4 Literature | 6 |
| Annex I: Presentation at Conferences | 7 |
| Annex II: Publications | 9 |

* Liste der: Forschungsaufenthalte außerhalb der betreuenden Einrichtungen, Vorträge bzw. Poster auf Konferenzen, Öffentlichkeitsarbeit und/oder Publikationen

1. Aims and Scope of the Project

The project ‘Governance options for closed P cycles - the CAP 2020 revision’ was situated in Cluster V P-Governance of the Leibniz ScienceCampus Phosphorus Research Rostock. Having started in July 2019, the project covered a little more than three years and came to an end in September 2022. The project was based on a cooperation between the P-Campus, the Faculty of Agricultural and Environmental Sciences of the University of Rostock and the Research Unit Sustainability and Climate Policy in Leipzig. It built on research findings of earlier work on policy instruments for a sustainable transition in general and sustainable P management in particular including the P-Campus Graduate Academy, InnoSoilPhos, Bioacid and two scholarships (DBU and HBS). The project aimed to assess the role of subsidies in transitioning to sustainability in general and closing P cycles in particular by investigating the subsidies of the reformed Common Agricultural Policy (CAP). To this end, analyses at the EU level and the national level (Germany) were undertaken. Accompanying the analyses on the subsidies of the CAP, other P relevant topics such as governance options to address food waste and to extend organic farming, and other subsidy relevant topics such as agricultural trade agreements were addressed as well. The findings of the project were published in several peer-reviewed articles some of which will be submitted as cumulative dissertation in early 2023.

2. Materials and Method

Researching policy instruments such as the subsidies of the CAP is ultimately about discussing policy options to change addressees’ behaviour to achieve a policy goal. To this end, the project applied legal comparisons and content analyses but primarily qualitative governance analyses. Qualitative governance analyses aim to identify effective and concrete policy instruments to achieve a policy objective such as, e.g., the goals of the Paris Agreement, the Convention on Biological Diversity and the Helsinki Convention (see for details Ekardt, 2020). A qualitative governance analysis builds on findings from behavioural

studies which can shed light onto typical governance issues such as enforcement problems and shifting and rebound effects. The qualitative governance analysis also builds on findings from natural sciences like soils sciences to e.g., understand P cycling in the environment.

For this project, legal documents were sourced from the official databases of the EU (EUR-Lex), Germany (Bundesministerium der Justiz – Gesetze im Internet) and the federal states Saxony and Mecklenburg-Western Pomerania. Studies in natural sciences were sourced from multiple publishers including Wiley, Springer, Elsevier and Nature and by using different search platforms. Further studies were found in the local library (University of Leipzig), and snowballing was frequently applied. With regard to sustainable P management, the project primarily built on findings from earlier work of the research unit (Garske, 2019; Stubenrauch, 2019) and the P-Campus.

3. Results and Discussion

Overall, the findings of this project show that agricultural subsidies should be implemented only as complementary policy instrument for e.g., the provisions of public goods and research and development because other instruments are more effective and efficient in addressing the drivers of environmental problems including open P cycles (see e.g., Douhaire, 2019; Garske, 2020; Weishaupt et al., 2020). This stands in stark contrast to the current broad application of agricultural subsidies in the EU through the CAP. Therefore, comprehensive policy change, i.e., a complete restructuring of the CAP, is needed to effectively use subsidies to close P cycles and to achieve global environmental goals.

Listed below are the results of those articles that will most likely be submitted as cumulative dissertation:

- Heyl and Ekardt, 2022: Barriers and methodology in transitioning to sustainability: Analysing web news comments concerning animal-based diets (Journal of Cleaner Production)

As policy instruments always aim to change behaviour, this article focusses on the barriers that stand in the way to change behaviour. To this end, a content analysis of comments in response to a web news article is applied. The web news article calls for changing diets to become more sustainable, i.e., eating less animal-derived food. Results show that self-interest, concepts of normality and emotions (fear, frustration, anger) make a transition to sustainability very difficult. Values impede and enable changing behaviour. Knowledge plays a minor role. The complexity of these barriers alongside the many actors that are involved in societal change might explain why transitioning to sustainability is so challenging. Policy instruments such as agricultural subsidies have to overcome these barriers to induce societal change.

- Heyl, Ekardt, Sund and Roos, in press: Potentials and limitations of subsidies in sustainability governance: the example of agriculture (Sustainability).

This article adopts a broad perspective on (agricultural) subsidies. It aims to investigate the role of subsidies in transitioning towards sustainability. To this end, the article reviews legal definitions of subsidies and discusses subsidies' general characteristics, their advantages and disadvantages, and provides an overview of subsidies in the agricultural sector. The article analyses the normative framework of subsidies, i.e., international and EU (soft) law including the Farm to Fork Strategy and State aid provisions. Findings reveal that agricultural subsidies have to be downscaled substantially and adopted only for e.g., the provision of public goods and research and development. This is partly because subsidies, as small-scale instruments, frequently suffer from multiple governance issues such as enforcement problems and shifting effects. These issues can be avoided by other policy instruments like an emissions trading scheme adopted at a broad geographical and sectoral scope making (agricultural) subsidies a second-best option. Besides that, the article highlights that in the EU, data on agricultural subsidies and transparency have to be improved to enable reforming agricultural subsidies effectively.

- Heyl, Döring, Garske, Stubenrauch, and Ekardt, 2020: The Common Agricultural Policy beyond 2020: A critical review in light of global environmental goals (Review of European, Comparative & International Environmental Law)

The focus of this article is on the proposal for the CAP beyond 2020. The article assesses the extent to which the proposed subsidies of the CAP will contribute to the goals of the Paris Agreement and the Convention on Biological Diversity. Findings show that the bulk of the CAP subsidies, i.e., the direct payments of the first pillar, will not contribute to the legally-binding policy objectives. This is in part because the environmental protection standards, including standards related to soil and P, attached to these subsidies are ineffective and weak. At the same time, the annual voluntary eco-schemes of the first pillar and the programs and support of the second pillar can contribute to the objectives of the Paris Agreement and Convention in Biological Diversity. However, funding for these measures is limited and their effectiveness will depend on the ambitions of Member States in their national implementation.

- Heyl, Ekardt, Roos and Garske, submitted: Achieving the nutrient reduction objective of the Farm to Fork Strategy through the CAP? An assessment of CAP subsidies for digital precise fertilization and sustainable agricultural practices in Germany (Frontiers in Sustainable Food Systems)

This article analyses the national implementation of the CAP in Germany with a focus on precise fertilisation and sustainable agricultural practices. Specifically, the article assesses the extent to which the national implementation of the CAP in Germany contributes to the objective of the Farm to Fork Strategy which aims to reduce nutrient losses by at least 50 % which is expected to reduce the use of fertilisers by at least 20 % by 2030. The article furthermore assesses the extent to which these measures, i.e., precise fertilisation and sustainable agricultural practices, are generally effective in achieving the nutrient objective of the Farm to

Fork Strategy. In doing so, this article contributes to the prominent discussion on the potentials of digitalisation in agriculture. Results show that precise fertilisation applications, such as the digitalisation of agricultural practices in general, will have to be clearly aligned with environmental objectives to avoid, e.g., detrimental rebound effects. Besides that, the subsidies of the CAP to a limited extent only support sustainable agricultural practices so that overall, the contribution of the national implementation of the CAP in Germany to the objective of the Farm to Fork Strategy is limited.

- Heyl, in preparation: Combatting eutrophication in the Baltic Sea – An assessment of the updated Baltic Sea Action Plan and the Common Agricultural Policy (TBD)

Excessive P input into the Baltic Sea has caused heavy eutrophication. To address this issue, neighbouring states to the Baltic Sea have adopted the Helsinki Convention and the updated Baltic Sea Action Plan. These instruments aim to achieve a good environmental status of the Baltic Sea, and the CAP is intended to support the implementation of actions. Before this background, this article aims to assess the contribution of the CAP in Germany to the objectives of the updated Baltic Sea Action Plan and the Helsinki Convention. Mecklenburg-Western Pomerania serves as example. Results show that the CAP is largely ineffective to reduce P pressure on the Baltic Sea and at times even sets contrary incentives. To effectively combat eutrophication in the Baltic Sea, strong policy instruments at the EU level are needed.

4. Literature

Douhaire, C.: Rechtsfragen der Düngung. Eine steuerungs- und rechtswissenschaftliche Analyse vor dem Hintergrund unions- und völkerrechtlicher Verpflichtungen und politischer Zielsetzungen zum Umwelt- und Ressourcenschutz. 2019. Duncker & Humblot.

Ekardt, F.: Sustainability. Transformation, Governance, Ethics, Law, Environmental Humanities: Transformation, Governance, Ethics, Law. 2020. Springer International Publishing, Switzerland.

Garske, B.: Sustainable phosphorus management in European agricultural and environmental law. Review of European, Comparative & International Environmental Law. (2020) 29, 107-117. <https://doi.org/10.1111/reel.12318>

Garske, B.: Phosphor-Governance. Rechtliche Steuerungsinstrumente der landwirtschaftlichen Phosphornutzung und ihre Bezüge zu den ökologischen Problemfeldern Böden, Gewässer, Biodiversität und Klima. 2019. Metropolis-Verlag.

Stubenrauch, J.: Phosphor-Governance in ländervergleichender Perspektive – Deutschland, Costa Rica, Nicaragua, Beiträge zur sozialwissenschaftlichen Nachhaltigkeitsforschung. 2019. Metropolis-Verlag, Marburg.

Weishaupt, A.; Ekardt, F.; Garske, B.; Stubenrauch, J.; Wieding, J.: Land Use, Livestock, Quantity Governance, and Economic Instruments—Sustainability Beyond Big Livestock Herds and Fossil Fuels. Sustainability (2020) 12, 2053–2080. <https://doi.org/10.3390/su12052053>

Annex I: Presentations at Conferences

2019

- International Phosphorus Workshop 9, July 2019, Zurich, Switzerland
Presentation: Sustainable Phosphorus Management from a Cross-National Perspective (with Jessica Stubenrauch)
- International P-Campus Symposium, November 2019, Warnemünde, Germany
Presentation: The reform of the Common Agricultural Policy (CAP)
- Meeting of the Research Unit Sustainability and Climate Policy, December 2019, Leipzig, Germany
Presentation: Die Reform der Gemeinsamen Agrarpolitik (GAP)

2021

- Colloquium Uni Rostock/ Uni Erfurt/ Research Unit Sustainability and Climate Policy, July 2021, online
Presentation: Subventionen in der Umweltpolitik (with Lennard Sund)
- 1st International Conference on Sustainable Resource Society, October 2021, online
Presentation: Sustainable phosphorus management under the future Common Agricultural Policy
- Ev. Akademie Berlin Fachtagung: Wandel zur Nachhaltigkeit nach Corona?, November 2021, online
Podium: Schluss mit der Vielfliegerei nach Corona und wäre das bevormundend?

2022

- International P-Campus Symposium, January 2022, online
Presentation: The Common Agricultural Policy and Phosphorus
- Colloquium Uni Rostock/ Uni Erfurt/ Research Unit Sustainability and Climate Policy, January 2022, online
Presentation: Aktuelle Entwicklungen bei der GAP

- Meeting of the Research Unit Sustainability and Climate Policy, June 2022, online
Presentation: Die Ziele der Farm-to-Fork Strategie in der nationalen Umsetzung der GAP. Besseres Nährstoffmanagement durch Präzisionsdüngung und nachhaltige Landwirtschaft? (with Paula Roos)
- 4th European Sustainable Phosphorus Conference, June 2022, Vienna, Austria
Presentation: Sustainable Phosphorus Management under the future Common Agricultural Policy(?)

Annex II: Publications

Heyl, K.; Döring, T.; Garske, B.; Stubenrauch, J.; Ekardt, F.: The Common Agricultural Policy beyond 2020: A critical review in light of global environmental goals. *Review of European, Comparative & International Law* (2020) 30, 95-106. <https://doi.org/10.1111/reel.12351>

Garske, B.; Heyl, K.; Ekardt, F.; Weber, L. M.; Gradzka, W.: Lebensmittelverluste als Governance- und Rechtsproblem. *Natur und Recht* (2021) 43, 168-179. <https://doi.org/10.1007/s10357-021-3814-6>

Garske, B.; Heyl, K.; Ekardt, F.; Weber, L.M.; Gradzka, W.: Challenges of Food Waste Governance: An Assessment of European Legislation on Food Waste and Recommendations for Improvement by Economic Instruments. *Land* (2020) 9, 231. <https://doi.org/10.3390/land9070231>

Heyl, K.; Ekardt, F.; Roos, P.; Stubenrauch, J.; Garske, B.: Free Trade, Environment, Agriculture, and Plurilateral Treaties: The Ambivalent Example of Mercosur, CETA, and the EU–Vietnam Free Trade Agreement. *Sustainability* (2021) 13, 3153. <https://doi.org/10.3390/su13063153>

Stubenrauch, J.; Ekardt, F.; Heyl, K.; Garske, B.; Schott, V. L.; Ober, S.: How to legally overcome the distinction between organic and conventional farming - Governance approaches for sustainable farming on 100% of the land. *Sustainable Production and Consumption* (2021) 28, 716-725. <https://doi.org/10.1016/j.spc.2021.06.006>

Heyl, K.; Ekardt, F.: Barriers and methodology in transitioning to sustainability: Analysing web news comments concerning animal-based diets. *Journal of Cleaner Production* (2022) 330, 129857. <https://doi.org/10.1016/j.jclepro.2021.129857>

Heyl, K.; Ekardt, F.; Sund, L.; Roos, P.: Potentials and limitations of subsidies in sustainability governance: the example of agriculture, in: Sustainability (in press)

Ekardt, F., Heyl, K.: The German constitutional verdict is a landmark in climate litigation. Nature Climate Change (2022). <https://doi.org/10.1038/s41558-022-01419-0>

Ekardt, F.; Bärenwaldt, M.; Heyl, K.: The Paris Target, Human Rights, and IPCC Weaknesses: Legal Arguments in favour of Smaller Budgets. Environments (2022) 9(9), 112. <https://doi.org/10.3390/environments9090112>

Heyl, K.; Ekardt, F.; Roos, P., Garske, B: Digitalisierte Präzisionsdüngung und EU-Agrarsubventionen im deutschen Recht: Ökologisch effektive Umsetzung von Farm-to-Fork-Strategie und Umweltvölkerrecht? Natur und Recht (2022).

Heyl, K.; Ekardt, F.; Roos, P., Garkse, B: Achieving the nutrient reduction objective of the Farm to Fork Strategy through the CAP? An assessment of CAP subsidies for digital precise fertilization and sustainable agricultural practices in Germany. Frontiers in Sustainable Food Systems (submitted)