

Albrecht Daniel Thaer Institute for
Agricultural and Horticultural Sciences
Agricultural and Food Policy Group
Hannoversche Straße 27
Haus 12

Futures of Agriculture and Food

FM-29 and FM-29 (ÜF)

Course-code:	FM 29
Credit points:	6
Coordinator:	Prof. Dr. Peter H. Feindt Dr. Christiane Barnickel
Secretariat:	Maria Indyk Hannoversche Straße 27, Haus 12, Raum 67; Tel. 46320 Email: maria.indyk@agrar.hu-berlin.de
Semester:	Summer semester
Place and time:	Tuesday, 14-16, digital via Moodle (HN 27, SR 2.21) Wednesday, 10-12, digital via Moodle (HN27, SR 2.21)
Submission date for group report:	30 th September 2022

Intended participants:

This course invites students of the MSc programme Agricultural Economics, the MSc programme Integrated Natural Resource Management and other Master level programs to reflect on the perception and construction of societal futures, with a special focus on food and agriculture. Students who are interested in this course are presumed to have a bachelor's degree in a social science discipline with sufficient knowledge of the agriculture and food domain and of public policy. If in doubt, please contact the module coordinator to check whether you can follow this course.

Contents and activities:

This course invites students to engage actively in in-depth discussions about the perception and construction of future developments in the agriculture and food domain. Students also reflect on the role of science in the development and justification of societal visions for the future. The course provides students with academic concepts for the critical analysis of perceptions of the future, visions and pathways at an advanced level, and with opportunities for the guided application of these concepts to agriculture and food issues. The course consists of lectures, guided student work and seminar discussions. The lectures introduce the relevant concepts and provide signposts through the literature. Students will work in groups and apply the concepts to develop and assess alternative visions of agriculture and food of the future. They present and discuss their results in seminar sessions. This allows students to develop a profound understanding of key concepts of public policy analysis and their application to the field. Students are expected to study the assigned literature before each meeting, actively participate in group and classroom discussions, and participate in the final exam.

Learning objectives:

After successful completion of the module, students will be able to

- explain the role of science in the development and justification of societal visions for the future of agriculture and food systems;
- describe and analyse alternative visions of the future development of agriculture and food systems and critically assess their purposes and effects;
- explain and apply methods for the critical exploration of alternative futures;
- develop critical arguments about likely and desirable futures of agriculture and food systems.

The literature (or, for copy right reasons, links to the relevant sources) will be made available on Moodle. Students are expected to read the assigned literature before each meeting.

Examination:

The final grade will be based on a group report. The report will be based on the group presentations.

Groups are asked to explain the individual contributions to the report in line with general guidelines for author attribution in scientific publications.

To pass the course, students need to regularly attend the sessions and score at least 4 (sufficient) for their contribution to the group report.

Course schedule:

No.	Date	Lecturer	Subject
			Introduction, mapping and scoping
1	26/4	PF, CB	Introduction: Overview over the course, learning goals Introduction to self-guided study on food futures
2	27/4	PF	Why thinking about futures I? The resilience perspective
3	03/5	CB	Why thinking about futures II? The social cohesion and inclusiveness perspective
4	04/5	CB	Food futures: Presentation and discussion of self-guided study
5	10/5	PF	Exploring alternative futures: Meat alternatives and the RICH methodology
			Bottom-up construction of futures
6	11/5	PF	Food futures presentations (cont.) Bottom-up construction of futures: Future Workshop, concept
7	17/5	PF	Future Workshop, part 1
8	18/5	PF	Future Workshop, part 2
9	24/5	PF	Future Workshop, part 3
			Construction of alternative futures: pathways and scenarios
10	25/5	PF	Lecture: "Plausible and desirable futures in the Anthropocene" Introduction to group project and guidance for preparatory work
11	31/5	CB	Lecture: The role of innovations in sustainability transitions
12	01/6	CB	Lecture: Pathways in transition studies and management
13	07/6	PF	Group project: Theme finding and group formation
14	08/6	CB	Lecture: Transition pathways in food and agriculture
15	14/6	CB	Guided group work
16	15/6	CB	Lecture: Scenario development – the example of the IFST project (with Valentin Fiala)
17	21/6	CB	Guided group work
18	22/6	PF	Lecture: Scenarios: Shared socio-economic pathways
19	28/6	CB	Guided group work
20	29/6	PF	Lecture: Scenarios for European Farming Systems
21	05/7	CB	Guided group work
			Reflection
22	06/7	PF	Seminar: Artistic and design visions of food futures Guided group work
23	12/7	PF	Excursion to Cultured Meat Lab or Guest Lecture: Engaging audiences in thinking about futures – The Theatre of the Anthropocene (tbc)
24	13/7	CB	Reflexivity and ethics in debating food and agriculture futures Reflection: Can there be a science of the future? Guided group work
25	19/7	PF, CB	Student presentations of group work
26	20/7	PF, CB	Student presentations of group work Wrap-up

Readings

The literature (or, for copy right reasons, links to the relevant sources) will be made available on Moodle. Students are expected to read the assigned literature before each meeting.

Session 2 The resilience perspective

- Meuwissen et al. (2019)
- Ge et al. (2016)
- Further information: Resilience Alliance: <http://www.resalliance.org/3871.php>

Session 3 The social cohesion and inclusiveness perspective

- Ruben et al. (2019)
- Just Transitions Initiative (2020, S. 3–11)
- Fan and Swinnen (2020)

Session 5 Exploring alternative futures: Meat alternatives

- van der Weele et al. (2019)
- Further reading on in-vitro meat: Chapters 38, 39 and 40 in Olsson, Araújo, & Viera (2016)
- Further reading on human animal relations futures: Chapter 16 in Brown, Seddon, & Appleby (2017)

Sessions 6-9 Futures workshop

- Jungk & Müllert (1996)

Session 10 Plausible and desirable futures in the Anthropocene

- Bai et al. (2016)

Session 11 The role of innovations in sustainability transitions

- El Bilali (2018)
- Herrero et al. (2021)

Session 12 Pathways in transition studies and management

- Geels & Schot (2007)
- Geels (2020)

Session 14 Transition pathways in food and agriculture

- Yakovleva & Flynn (2009)
- Runhaar et al. (2020)

Session 16 Scenario development – the example of the IFST project

- tbd

Session 18 Scenarios: Shared socio-economic pathways

- Riahi et al. (2017)

Session 20 Scenarios for European Farming Systems

- Mathijs et al. (2018)

Session 22 & 23 Artistic and design visions / engaging audiences

- Chapters 45 and 46 in Olsson, Araújo, & Viera (2016)

Session 24

- Aykut, Demortain, & Benbouzid (2019)
- Elliott (2013)

Bibliography

- Aykut, S., Demortain, D., and Benbouzid, B. (2019). 'The Politics of Anticipatory Expertise: Plurality and Contestation of Futures Knowledge in Governance — Introduction to the Special Issue'. *Science & Technology Studies* 32(4): 2-12. doi: <https://doi.org/10.23987/sts.87369>.
- Bai, X., et al. (2016). 'Plausible and desirable futures in the Anthropocene: A new research agenda'. *Global Environmental Change* 39: 351-362. doi: <http://dx.doi.org/10.1016/j.gloenvcha.2015.09.017>.

- Brown, J., Seddon, Y., and Appleby, M. (eds.), (2017). *Animals and us. 50 years and more of applied ethology*, Wageningen, The Netherlands: Wageningen Academic Publishers.
- El Bilali, H. (2018): Relation between innovation and sustainability in the agro-food system. In: *Italian Journal of Food Science* 30, S. 200–225.
- Elliott, Kevin C. (2013): Selective Ignorance and Agricultural Research. In: *Science, Technology, & Human Values* 38 (3), S. 328–350. DOI: 10.1177/0162243912442399.
- Fan, Shenggen; Swinnen, Johan (2020): Reshaping Food Systems. The Imperative of Inclusion. In: IFPRI (Hg.): 2020 Global Food Policy Report: Building Inclusive Food Systems. Washington: International Food Policy Research Institute, S. 6–12.
- Ge, L., Anten, N.P.R., van Dijkshoorn, I., Feindt, P.H., Kramer, K., Leemans, R., Meuwissen, M.P.M., Spoolder, H., and Sukkel, W. (2016). 'Why we need resilience thinking to meet societal challenges in bio-based production systems'. *Current Opinion in Environmental Sustainability* 23(December 2016): 17–27. doi: <https://doi.org/10.1016/j.cosust.2016.11.009>.
- Geels, Frank W. (2020): Micro-foundations of the multi-level perspective on socio-technical transitions: Developing a multi-dimensional model of agency through crossovers between social constructivism, evolutionary economics and neo-institutional theory. In: *Technological Forecasting and Social Change* 152, S. 119894. DOI: 10.1016/j.techfore.2019.119894.
- Geels, F.W. and Schot, J. (2007). 'Typology of sociotechnical transition pathways'. *Research Policy* 36: 399–417.
- Herrero, Mario; Thornton, Philip K.; Mason-D'Croz, Daniel; Palmer, Jeda; Bodirsky, Benjamin L.; Pradhan, Prajal et al. (2021): Articulating the effect of food systems innovation on the Sustainable Development Goals. In: *The Lancet Planetary Health* 5 (1), e50–e62. DOI: 10.1016/S2542-5196(20)30277-1.
- Jungk, R. and Müllert, N.R. (1996). *Future Workshops: How to Create Desirable Futures*: Institute for Social Inventions.
- Just Transition Initiative (2020): Just transition concepts and relevance for climate action. A preliminary framework: Center for Strategic and International Studies (CSIS) and Climate Investment Funds (CIF).
- Mathijs, E., Deckers, J., Kopainsky, B., Nitzko, S., and Spiller, A. (2018). *Scenarios for EU farming. Deliverable D1.2 of the SURE-Farm project*, available at http://surefarmproject.eu/wordpress/wp-content/uploads/2018/02/SURE-Farm_Deliverable-1.2-Scenarios-for-EU-farming.pdf, last accessed 18/06/2018.
- Meuwissen, M., et al. (2019). 'A framework to assess the resilience of farming systems'. *Agricultural Systems* 176.
- Olsson, I.A.S., Araújo, S.M., and Viera, F.M. (eds.), (2016). *Food Futures: Ethics, Science and Culture*, Wageningen, The Netherlands: Wageningen Academic Publishers.
- Riahi, K., et al. (2017). 'The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview'. *Global Environmental Change* 42: 153–168. doi: <https://doi.org/10.1016/j.gloenvcha.2016.05.009>.
- Ruben, Ruerd; Verhagen, Jan; Plaisier, Christine (2019): The Challenge of Food Systems Research: What Difference Does It Make? In: *Sustainability* 11 (1), S. 171. DOI: 10.3390/su11010171.
- Runhaar, Hens; Fünfschilling, Lea; van den Pol-Van Dasselaar, Agnes; Moors, Ellen H.M.; Temmink, Rani; Hekkert, Marko (2020): Endogenous regime change: Lessons from transition pathways in Dutch dairy farming. In: *Environmental Innovation and Societal Transitions* 36, S. 137–150. DOI: 10.1016/j.eist.2020.06.001.
- van der Weele, C., Feindt, P., Jan van der Goot, A., van Mierlo, B., and van Boekel, M. (2019). 'Meat alternatives; an integrative comparison'. *Trends in Food Science & Technology*. doi: <https://doi.org/10.1016/j.tifs.2019.04.018>.
- Yakovleva, N. and Flynn, A. (2009). 'Organic production: the adoption of a niche strategy by the mainstream food system'. *International Journal of Innovation and Sustainable Development* 4(1): 43–60.

Scenarios:

- The Netherlands 2021
<https://magazines.wur.nl/climate-solutions-en/the-netherlands-in-2120/>
- Scenarios for sustainable farming in Denmark (winner of the “European Commission's CAP Communication Award” 2014)
<https://veluxfoundations.dk/en/scenarios-sustainable-farming-denmark>
- Zielbilder für eine planetenverträgliche, zukunftsfähige Schweiz (2016) https://www.bafu.admin.ch/dam/bafu/de/dokumente/wirtschaft-konsum/externe-studien-berichte/Zielbilder%20f%C3%BCr%20eine%20planetenvertr%C3%A4gliche,%20zukunftsf%C3%A4hige%20Schweiz.pdf.download.pdf/Zielbilder_planetenvertraegliche_Schweiz.pdf
- Farmers of the future (European Commission, October 2020)
<https://op.europa.eu/en/publication-detail/-/publication/7521961a-4018-11eb-b27b-01aa75ed71a1/language-en>