THE SCHOOL FOR FIELD STUDIES

Agri-Environmental Policy and Socioeconomic Values

SFS 3082

Syllabus
4 credits

The School for Field Studies (SFS)
Center for Sustainable Food Systems
Greve, Chianti, Italy

This syllabus may develop or change over time based on local conditions, learning opportunities, and faculty expertise. Course content may vary from semester to semester.

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COURSE CONTENT SUBJECT TO CHANGE

Please note that this is a copy of a recent syllabus. A final syllabus will be provided to students on the first day of academic programming.

SFS programs are different from other travel or study abroad programs. Each iteration of a program is unique and often cannot be implemented exactly as planned for a variety of reasons. There are factors which, although monitored closely, are beyond our control. For example:

- Changes in access to or expiration or change in terms of permits to the highly regulated and sensitive environments in which we work;
- Changes in social/political conditions or tenuous weather situations/natural disasters may require changes to sites or plans, often with little notice;
- Some aspects of programs depend on the current faculty team as well as the goodwill and generosity of individuals, communities, and institutions which lend support.

Please be advised that these or other variables may require changes before or during the program. Part of the SFS experience is adapting to changing conditions and overcoming the obstacles that may present. In other words, this is a field program, and the field can change.

Course Overview

Across the world, industrial food systems provide plentiful and relatively cheap food, but this comes with environmental, social, and economic costs. Regarding environmental costs, agriculture is identified as one of the main drivers of climate change and biodiversity loss, including conversion of natural and semi-natural ecosystems into agricultural ones, simplification of traditional agricultural landscapes and extinction of local breeds and varieties. Moreover, agriculture is also responsible for depletion of aquifers, surface and groundwater pollution, soil erosion and water runoff. Among the social costs there are food security (e.g. availability and access to food) and safety issues for consumers, loss of cultural and territorial identity, inequities in tenure rights, unequal access to land for small farmers, and bad working conditions for farm laborers. Economic costs of large-scale industrial farming include the economic burdens of the environmental and social issues described above, and other costs, including inequity in the distribution of profits along the food supply chain, in access to credit, and in obtaining fair farm income support from the EU Common Agriculture Policy (CAP) by young and small farmers.

The unsustainability of industrial food systems is evident, and its roots are to be found in government and market failures in addressing the full value of environmental, economic, and social impacts of conventional agriculture and food supply chains, as well as in adequately considering the benefits resulting from alternative food systems. By analyzing theories and schools of thoughts of the predominant economic paradigm underlaying the governance of the primary sector and by looking at alternative theories and decision-making systems, this course will address innovative governance approaches capable of promoting transformative change for food systems.

The historical development of the EU Common Agriculture Policy will be analyzed to assess what have been the influences of the conventional and alternative theories and what has been, and is, the sustainability of respectively past and current food production systems in the EU. Intense field lectures and field research experiences will be propaedeutic to understand and study what new agriculture and rural development ideas could be the answers to the present crisis and what policy instruments could be utilized to achieve sustainable agriculture. New concepts and methods of assessing the socio-economic values of both positive and negative agricultural impacts on ecosystem services, such as pollination, carbon storage, soil erosion and water runoff control, biodiversity conservation, maintenance of aesthetic quality of the landscape and territorial cultural identity, will be studied and integrated in the development of agri-environmental policy. Students will learn, both in class and in the fields, how policy instruments and economic tools can be used in the governance of agricultural systems to enhance the delivery of economic, social, and environmental benefits.

This course will be interdisciplinary, integrating different disciplines such as economics, political economy, ecology, and the history of environmental economic thought. The interdisciplinary character will allow students to understand and analyze the complexity of agricultural food production and rural development policies. The course will integrate lectures and PowerPoint presentations, in-class discussion and readings, farm visits and field research, to provide the knowledge base for developing critical capacities in analyzing sustainability of food systems and related policies.

Learning Objectives

Upon completion of the course students will be able to:

- Explain the theoretical foundations of the concept of sustainability in agriculture and rural development
- Examine the complexity of food production systems and of the main drivers causing unsustainability of conventional agriculture
- Describe the EU Common Agricultural Policy (CAP), explore its impacts on agriculture and rural areas, and identify the main EU governance instruments of rural development and agri-environmental policies
- Analyze how economic tools and policy instruments can bring about a transformative change in the food systems and differentiate how they may contribute to the delivery of economic, social, and environmental goods and services
- Critically assess the sustainability of food systems and propose scientifically sound policy recommendations

Assessment

The evaluation breakdown for the course is as follows:

Assessment Item	Value (%)
Participation	10
Field Exercise 1: Valuing ecosystem services	15
Food systems scenario development	20
Field Exercise 2: Designing agri-environmental measures	25
Final Exam	30
TOTAL	**100**

Participation (10%)

Everybody should be prepared for each academic session. This implies reading the materials for each session with enough detail to be able to ask relevant questions and to participate in analytical discussions about the key issues. Active participation during classes, discussions, assignments, and hikes is expected. Participation will be assessed against active listening, engagement with course material including required readings, asking, and answering questions during classes, and the frequency, consistency and originality of contributions in class discussions.

Field Exercise 1 (15%): Identifying and valuing ecosystem services at farm and agroecosystem levels

This FEX will allow students to build on what they have learned about socio-economic valuations of agroecosystem goods and services. A guided field visit will offer the opportunity to practice the identification of what are the goods and services actually or potentially to be delivered at the agroecosystem and farm levels and what could be the most suitable monetary and non-monetary valuation techniques to highlight their socio-economic values in land use decision making processes. Student's work will be assessed based on the identification of agroecosystem goods and services delivered, development of sound hypothesis on agroecosystem and farm potentiality to deliver other goods and services, identification of data requirements for valuation and feasibility of their collection, appropriateness of the valuation techniques selected and presentation of results in their written report which is due one week after the field exercise.

Food systems scenario development (20%)

In this assignment students will work in groups to develop plausible future scenarios of food systems based on material covered in lectures, readings, and field experiences. Each group will develop a narrative based on the Drivers, Pressures, Impacts, State, Responses approach (DPISR) to explain future food system scenarios such as business as usual, from fields to labs, incremental steps to sustainable agriculture, transformative change to live in harmony with nature, resulting from implementation of different policy hypothesis. Scenarios developed will be presented in class with a 15-minute presentation. Students' work will be assessed against the framing, narrative and plausibility of the scenario designed, the identification of policy factors and processes leading to the overall outcomes, and the assessment of environmental, economic, and social sustainability of resulting food systems.

Field Exercise 2 (25%): Identification of data and information requirements and experimental design for agri-environmental measures to deliver non-commodity outputs by a farm

This FEX will allow students to experience in the field the development of agri-environmental measures. A guided visit to a farm will give students the opportunity to put into practice what they have learned through class lectures, discussions, readings, and field trips. Students will work in small groups. The work of students will be assessed based on their understanding of EU CAP agri-environmental measures, observational skills and critical capacity on evaluating the farm environmental and socioeconomic context, relevant data gathering by interviewing the farmer, and experimental design in proposing the appropriate agri-environmental measures for the delivering of non-commodity environmental goods and services by the farm.

Final Exam (30%)

The final exam will be based on material covered in lectures, readings, and field experiences. It will contain five essay questions, and students can choose to answer three of them. Students' work will be assessed based on their understanding of the questions, appropriateness of the answers, knowledge of relevant information, critical analytical capacities and logic in discussion, clear and up to the point narrative. There will be an exam review session before the exam.

Grading Scheme

A	95.00 - 100.00%	B+	86.00 - 89.99%	C+	76.00 - 79.99%	D	60.00 - 69.99%
A-	90.00 - 94.99%	B	83.00 - 85.99%	C	73.00 - 75.99%	F	0.00 - 59.99%
		B-	80.00 - 82.99%	C-	70.00 - 72.99%		

General Reminders

Readings – You are expected to have read all the assigned research articles prior to each class. All readings will be available as PDFs on Student Drive. Readings might be updated or changed during the semester. Not all material will be explicitly taught during lectures, material not covered in lecture will NOT be on exams. Supplemental readings are not mandatory but are recommended to expand your knowledge. Additional readings could be assigned.

Honor Code/Plagiarism – SFS places high expectations on their students and we hold students accountable for their behaviors. SFS students are held to the honor code below. SFS has a zero-tolerance policy towards student cheating, plagiarism, data falsification, and any other form of dishonest academic and/or research practice or behavior. Using the ideas or material of others without giving due credit is cheating and will not be tolerated. Any SFS student found to have engaged in or facilitated academic and/or research dishonesty will receive no credit (0%) for that activity.

> *"SFS does not tolerate cheating or plagiarism in any form. While participating in an SFS program, students are expected to refrain from cheating, plagiarism and any other behavior which would result in a student receiving credit for work which they did not accomplish on their own. Students are expected to report any instance of cheating or plagiarism by others."*

Deadlines – Deadlines for written and oral assignments are instated to promote equity among students and to allow faculty ample time to review and return assignments before others are due. As such, deadlines are firm; extensions will only be considered under extreme circumstances. Late assignments will incur a penalty of 10% of your grade for each day you are late. After two days past the deadline, assignments will no longer be accepted. Assignments will be handed back to students after a one-week grading period. Grade corrections for any assessment item should be requested in writing at least 24 hours after assignments are returned. No corrections will be considered afterwards.

Content Statement – Every student comes to SFS with unique life experiences, which contribute to the way various information is processed. Some of the content in this course may be intellectually or emotionally challenging but has been intentionally selected to achieve certain learning goals and/or showcase the complexity of many modern issues. If you anticipate a challenge engaging with a certain topic or find that you are struggling with certain discussions, we encourage you to talk about it with faculty, friends, family, the HWM, or access available mental health resources.

Participation – Since we offer a program that is likely more intensive than you might be used to at your home institution, missing even one lecture can have a proportionally greater effect on your final grade simply because there is little room to make up for lost time. Participation in all components of the course is mandatory, it is important that you are prompt for all activities, bring the necessary equipment for field exercises and class activities, and simply get involved.

Course Content

Type: D: Discussion, **FL:** Field Lecture, **GL:** Guest Lecture, **L**: Lecture, **O**: Orientation, **FEX**: Field Exercise
*Readings in **Bold** are required.

No	*Title and outline*	*Type*	*Time (hrs)*	*Required Readings*
1	**Introduction to the course** Objectives, contents and structure, methods, participation, and expectations	O	1.0	
2	**The rise and fall of the share-cropping system in Tuscany** Foundational grounding in local natural endowment, history, culture, farming, and food to develop policy towards sustainability	FL	2.0	**Fisher et al. (2012).** Simoncini (2011).

No	Title and outline	Type	Time (hrs)	Required Readings
3	**Critical historical review of how different theories, schools of thought, and disciplines relate to the concept of sustainable agriculture. Part 1: The conventional views.** Classical economists, Neo-classical economics theory, the interventionist school, and the economic theory of development	L	2.0	**Hubacek and van den Bergh (2006).** Hodgson Geoffrey (1997). Venkatachalam L. (2007).
4	**Critical historical review of how different theories, schools of thought, and disciplines relate to the concept of sustainable agriculture. Part 2: The alternative views.** The American Conservation Movement, Aldo Leopold, the Club of Rome, Boulding's Spaceship Earth, the materials balance approach, Lovelock's Gaia Hypothesis, Neo-Malthusians, thermodynamics and the steady-state economics, Deep Ecologists, Degrowth theory	L	2.0	**Rockström et al. (2009). Asara et al. (2015).** Boulding (1966). Hodgson (1997). Leopold (1948). Steffen et al. (2015).
5	**Definition of the sustainability concept** From Rio '92 Conference on Environment and Development to the 2030 Agenda for Sustainable Development Goals	L; D	2.0	**Purvis et al. (2019).** Willet, W. et al. (2019).
6	**The ecosystem goods and services concept** Millennium Ecosystem Assessment, the Economics of Ecosystems and Biodiversity, the IPBES framework	L; D	2.0	**Kumar et al. (2013).** Diaz et al. (2015) Millennium Ecosystem Assessment (2005). TEEB (2014). Primmer et al. (2015)
7	**The economic valuation of ecosystem goods and services** A critical review of the Total Economic Value concept and monetary valuation techniques	L	2.0	**Jacobs, S. et al. (2016)**
8	**Key Concepts and approaches in sustainability analysis** Weak and strong sustainability, the precautionary principle, the Maximum Sustainable Yield and Carrying Capacity concepts, the Ecological Footprints, Ecological thresholds and tipping points.	L	2.0	**Meyfroidt et al. (2022)**
9	**The sustainability of a small artisanal fishery cooperative in the Orbetello's lagoon** Visit to the local fishers' cooperative. MSY, Public goods management, diversification of economic activities, and climate change.	FL	2.0	**Penca et al. (2021)**

No	Title and outline	Type	Time (hrs)	Required Readings
10	**The environmental impacts of intensive agriculture on biodiversity conservation in the Orbetello's lagoon in Maremma** Meeting with local WWF experts	GL	2.0	**Pretty, J. (2018).** Ascott et al. (2021)
11	**In-situ and ex-situ agro-biodiversity conservation in the Regional Park of Maremma** Visiti the regional bank of germplasm and meet with the Tuscany Region officer in charge. Introduction to breeds of Maremmana cow and horse and other work happening in the park.	GL	1.0	**Barthel et al. (2013)**
12	**The multifunctional character of agriculture** Agri-environmental goods and services, joint production of private and public goods	L	2.0	**Renting et al. (2009).** Morgan e al. (2010). OECD (2001). Pinto-Correia et al. (2019).
13	**Alternative Food Markets and local agrobiodiversity conservation** The case of the cow breed "Calvana" in Tuscany	FL	1.0	**Simoncini (2015).**
14	**Identifying and valuing ecosystem services at farm and agroecosystem levels** See FEX 1 description in the assessment section above	FEX	3.0	**Soy-Massoni et al. (2018).**
15	**The European Union's Common Agricultural Policy (CAP), Part I** **F**rom the Treaty of Rome (1957) to the crisis of the 1970s and 1980s.	L	2.0	**Jepsen et al. (2015).**
16	**The influence of conventional and alternative theories on shaping the EU CAP, Part II** CAP reforms of the 1990s, 2003, 2007 and 2013.	L	2.0	**Simoncini et al. (2019).** Pe'er et al. (2014). European Commission (2020).
17	**The last CAP 2023 Reform** Does this reform improve agri-environmental policy in EU?	L; D	2.0	**Cuadros-Casanova et al. (2023).** Guyomard et al. (2023).
18	**The EU Natura 2000 network and the High Nature Value Farming concept (Sicily Trip)** **P**olicy instruments for biodiversity conservation	FL	2.0	**Hodge et al. (2015).** European Commission (2011). IEEP (2002).
19	**The EU Common Fishery Policy (Sicily Trip)** Impacts on small scale fisheries in the Mediterranean Sea	FL; GL	2.0	**Lloret et al. (2018).**
20	**Food system scenarios development** See exercise description in the assessment section above	D	4.0	**Patterson et al. (2017).** Rega et al. (2019).
21	**Introduction to policy instruments** Regulatory and Informational instruments	L	2.0	**Blackstock, K.L., et al. (2021).** Chapron et al. (2019).

No	Title and outline	Type	Time (hrs)	Required Readings
22	**Introduction to policy instruments** Economic instruments	L	2.0	**Hahn (2015).** **Burton et al (2013).** Batary et al. (2015). Simoncini (2009).
23	**Identification of data and information requirements and experimental design of agri-environmental measures to deliver non-commodity outputs by a farm** See FEX 2 description in the assessment section above	FEX	4.0	**Simoncini et al. (2004)**
24	**Exam review**	L	2.0	
25	**Course wrap up discussion**	D	2.0	
	Total		**52**	
	UMN Instructional Hours*		**62.4**	

**UMN defines* an instructional hour as a 50-minute block. SFS syllabi are written in full 60-minute hours for programming purposes. Therefore 50 full hours = 60 UMN instructional hours (for four credit courses) and 25 full hours = 30 UMN instructional hours (for two credit courses).*

Reading List

*Readings in **Bold** are required

1. **Asara et al., (2015).** Socially Sustainable Degrowth as a Social-Ecological Transformation: repoliticising sustainability, Sustain Sci 10:375–384, Springer, DOI 10.1007/s11625-015-0321-9
2. Ascott, M. J., Daren C. Gooddy, D. C., Owen Fenton, O., Vero, S., Ward, R. S., Basu, N. B., Fred Worrall, F., Van Meter, K., BenW. J. Surridge, B. W.J., (2021). The need to integrate legacy nitrogen storage dynamics and time lags into policy and practice, Science of the Total Environment 781 (2021), Elsevier
3. **Barthel, S., C. L. Crumley, and U. Svedin. (2013).** Biocultural refugia: combating the erosion of diversity in landscapes of food production. Ecology and Society 18(4): 71. http://dx.doi.org/10.5751/ES-06207-180471
4. Batary, P., Dicks, L., Y., Kleijn, D. and Sutherland, W., J., (2015). The role of agri-environment schemes in conservation and environmental management, Conservation Biology, Volume 29, No. 4, 1006–1016
5. **Blackstock, K.L., Novo, P., Byg, A., Creaney, R., Juarez Bourke, A., Maxwell, J.L., Tindale, S.J., Waylen, K.A., (2021).** Policy instruments for environmental public goods: Interdependencies and hybridity, Land Use Policy, Volume 107, 2021, 104709, ISSN 0264-8377, https://doi.org/10.1016/j.landusepol.2020.104709
6. Boulding, Kenneth E., (1966). The Economics of the Coming Spaceship Earth, In H. Jarrett (ed.) 1966. Environmental Quality in a Growing Economy, pp. 3-14. Baltimore, MD: Resources for the Future/Johns Hopkins University Press.
7. Chapron, G.,Epstein, Y., López-Bao, J., V., (2019). A rights revolution for nature, Science 363 (6434), 1392-1393.
8. **Burton, R., J., F., and Schwarz, G., (2013).** Result-oriented agri-environmental schemes in Europe and their potential for promoting behavioural change, Land Use Policy 30 (2013) 628– 641

9. **Cuadros-Casanova, I., Cristiano, A., Biancolini, D., Cimatti, M., Sessa, A. A., Mendez Angarita, V. Y., Dragonetti, C., Pacifici, M., Rondinini, C., & Di Marco, M. (2023).** Opportunities and challenges for Common Agricultural Policy reform to support the European Green Deal. Conservation Biology, 37, e14052. https://doi.org/10.1111/cobi.14052

10. Díaz, S., Demissew, S., Carabias, J., Joly, C., Lonsdale, M., Ash, N., … Zlatanova, D. (2015). The IPBES Conceptual Framework — connecting nature and people. Current Opinion in Environmental Sustainability, 14, 1–16. http://doi.org/10.1016/j.cosust.2014.11.002

11. European Commission (2020). A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Brussels, 20.5.2020, COM (2020). 381 final

12. European Commission (2011). Investing in Natura 2000: for nature and people

13. **Fischer Joern, Hartel Tibor, & Kuemmerle Tobias, (2012).** Conservation policy in traditional farming landscapes, Conservation Letters 5 (2012) 167–175, doi: 10.1111/j.1755-263X.2012.00227.x

14. Guyomard, H., De´tang-Dessendre, C., Dupraz, P., Delaby, L., Huyghe, C., Peyraud, J. L., Reboud, X. Sirami, C., (2023). How the Green Architecture of the 2023–2027 Common Agricultural Policy could have been greener, Ambio 2023, 52:1327–1338, https://doi.org/10.1007/s13280-023-01861-0

15. **Hahn, T., McDermott, C., Ituarte-Lima, C., Schultz, M., Green, T., & Tuvendal, M. (2015).** Purposes and degrees of commodification: Economic instruments for biodiversity and ecosystem services need not rely on markets or monetary valuation. Ecosystem Services, 16, 74-82. http://dx.doi.org/10.1016/j.ecoser.2015.10.012

16. **Hodge et al., (2015).** The alignment of agricultural and nature conservation policies in the European Union, Conservation Biology, Volume 29, No. 4, 996–1005, DOI: 10.1111/cobi.12531

17. Hodgson Geoffrey (1997). Economics, Environmental policy and the Transcendence of Utilitarianism, in Foster, J. (1997). Valuing nature? Ethics, economics and the environment. London: Routledge, pp. 48-63.

18. **Hubacek Klaus and van den Bergh, Jeroen C.J.M. (2006).** Changing concepts of land in economic theory: From single to multi-disciplinary approaches, Ecological Economics 56 (2006) 5– 27.

19. IEEP (2002). Background Report for European Conference on 'Promoting the Socio-Economic Benefits of Natura 2000', Brussels, 28–29 November 2002, Report by Patrick ten Brink, Claire Monkhouse, and Saskia Richartz, Institute for European Environmental Policy (IEEP).

20. **Jepsen, M. R. et al. (2015).** Transitions in European land-management regimes between 1800 and 2010. Land Use Policy.

21. **Jacobs, S., et al., (2016).** A new valuation school: Integrating diverse values of nature in resource and land use decisions, Ecosystem Services 22 (2016) 213–220

22. **Kumar P., Brondizio E., Gatzweiler F., Gowdy J., de Groot D., Pascual U., Reyers B. and Sukhdev P., (2013).** The economics of ecosystem services: from local analysis to national policies, Current Opinion in Environmental Sustainability (2013), Volume 5, Issue 1, March 2013, Pages 78-86 http://dx.doi.org/10.1016/j.cosust.2013.02.001

23. Leopold, Aldo (1948). The Land Ethic, from A Sand County Almanac, first pub in 1949 by Oxford University Press (at http://home2.btconnect.com/tipiglen/landethic.html

24. **Lloret et al. (2018).** Small-scale coastal fisheries in European Seas are not what they were: Ecological, social and economic changes. Marine Policy, Volume 98, December 2018, Pages 176-186

25. **Meyfroidt et al., (2022).** Ten facts about land systems for sustainability, PNAS 2022 Vol. 119 No. 7 e2109217118, https://doi.org/10.1073/pnas.2109217118

26. Millennium Ecosystem Assessment (2005). Ecosystems and Human Well-being: Synthesis. Island Press, Washington DC. pp. 1-24.

27. Morgan, S. L., Marsden, T., Miele, M., & Morley, A. (2010). Agricultural multifunctionality and farmers' entrepreneurial skills: A study of Tuscan and Welsh farmers. Journal of Rural Studies, 26, 2, 116-129.

28. OECD (2001). Multifunctionality – towards an analytical framework, OECD, Paris, pp. 9-26.

29. **Patterson, J., Schulz, K., Vervoort, J., van der Hel, S., Widerberg, O.., Adler, C., Hurlbert, M., Anderton, K., Sethi, M., Barau, A., (2017).** Exploring the governance and politics of transformations towards sustainability, Environmental Innovation and Societal Transitions 24 (2017), Elsevier

30. Pe'er, G., Dicks L.V., Visconti, P., Arlettaz, R., Báldi, A., Benton, T. G., … Scott, A. V. (2014). EU agricultural reform fails on biodiversity. Science, 344(6188), 22–46. http://doi.org/10.1126/science.1252254

31. **Penca, J., Said, A., Cavallé, M., Pita, C., Libralato, S., (2021).** Sustainable small-scale fisheries markets in the Mediterranean: weaknesses and opportunities. Maritime Studies, Springer.

32. Pinto-Correia, T., Muñoz-Rojas, J., Hvarregaard Thorsøe, M. and Bjørnshave Noe, E., (2019). Governance Discourses Reflecting Tensions in a Multifunctional Land Use System in Decay; Tradition Versus Modernity in the Portuguese Montado, Sustainability 2019, 11, 3363

33. **Pretty, J., (2018).** Intensification for redesigned and sustainable agricultural systems, Science 362, eaav0294

34. Primmer, E., et al., Governance of Ecosystem Services: A framework for empirical analysis. Ecosystem Services (2015). http://dx.doi.org/10.1016/j.ecoser.2015.05.002i

35. **Purvis Ben, Miao Yong, Robinson Darren, (2019).** Three pillars of sustainability: in search of conceptual origins, Sustainability Science (2019) 14:681–695, https://doi.org/10.1007/s11625-018-0627-5

36. Raworth Kate, (2012). A safe and just space for humanity: can we live within the doughnut? Oxfam discussion papers

37. Rega, C., Helming, J., Paracchini, M., L., (2019). Environmentalism and localism in agricultural and land-use policies can maintain food production while supporting biodiversity. Findings from simulations of contrasting scenarios in the EU, Land Use Policy 87.

38. **Renting, H., Rossing, W.A.H., Groot, J.C.J., Van der Ploeg, J.D., Laurent, C., Perraud, D., Stobbelaar, D.J., Van Ittersum, M.K. (2009**). Exploring multifunctional agriculture. A review of conceptual approaches and prospects for an integrative transitional framework. Journal of Environmental Management, Elsevier.

39. **Rockström Johan et al., (2009).** A safe operating space for humanity, Nature, Vol 461|24 September 2009, 472-475.

40. **Simoncini R. (2004).** How to develop local agri-environmental measure: introductory guidelines for local planners and administrators, IUCN, Cambridge, UK.

41. Simoncini, R. (2009). Developing an integrated approach to enhance the delivering of environmental goods and services by agro-ecosystems. Regional Environmental Change, 9, 3, 153-167.

42. Simoncini, R. (2011). Governance objectives and instruments, ecosystem management and biodiversity conservation: the Chianti case study. Regional Environmental Change (2011), 11, 1, 29-44.

43. **Simoncini, R. (2015).** Introducing territorial and historical contexts and critical thresholds in the analysis of conservation of agro-biodiversity by alternative food networks, in Tuscany, Italy. Land Use Policy, 42, 355-366.

44. **Simoncini, R., Ring, I., Sandstrom, C., Albert, C., Kasymov, U., Arlettazf, R. (2019).** Constraints and opportunities for mainstreaming biodiversity and ecosystem services in the EU's Common Agricultural Policy: Insights from the IPBES assessment for Europe and Central Asia. Land Use Policy 88 (2019) 104099, Elsevier.

45. **Soy-Massoni E., Monllor N., Nuss S., Markuszewska I., and Tanskanen M., (2018).** Landscape Eaters: supporting rural development and ecosystem services delivery by eating, Agriculture & Food, Volume 6.

46. Steffen, W., Grinevald, J., Crutzen, P., & McNeill, J. (2011). The Anthropocene: conceptual and historical perspectives. Philosophical Transactions. Series A, Mathematical, Physical, and Engineering Sciences, 369, 1938, 842-67, doi:10.1098/rsta.2010.0327

47. Steffen W., Richardson K., Rockström J., Cornell S.E., Fetzer I. Bennett E.M., Biggs R., Carpenter S.R., de Vries W., de Wit C. A., Folke C., Gerten D., Heinke J., Mace G. M., Persson L.M., Ramanathan V., Reyers B., Sörlin S., (2015). Planetary boundaries: Guiding human development on a changing planet, Science, 347 (6223), 1259855. DOI: 10.1126/science.1259855

48. The Economics of Ecosystems and Biodiversity (TEEB) for Agriculture & Food (February 2014). Concept Note, 27 February 2014.

49. Venkatachalam L. (2007). Environmental economics and ecological economics: Where they can converge? Ecological Economics N° 61 (2007) pp.550-558

50. Willet, W. et al. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems, The Lancet Commissions Report, Published Online January 16, 2019 http://dx.doi.org/10.1016/S0140-6736(18)31788-4