

## SYLLABUS:

### MK-080-EN-DI RESOURCE ECONOMICS AND SUSTAINABLE MANAGEMENT

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Instructor	Dr. Michael Hübler
Chair	Prof. Dr. Martin Petrick
Contact	michael.huebler@agrar.uni-giessen.de
Instruction mode	Hybrid lectures (in-class and online)
Language	English
Prerequisites	Basics in micro (and macro) economics are helpful

### Examination / Course Requirements

3 times 2 tasks (including alternative choices) to be uploaded on time in StudIP consecutively.

### Late Work Policy / Missed Exams

Basically no repetition.

### Course Description

Our modern technology- and services-based economy crucially depends on natural resources. Thus, many current policies deal with the overexploitation of natural resources. Therefore, in the first part, this course explains standard key concepts and provides a deeper understanding of the underlying economic mechanisms referring to current policy challenges. We pay special attention to sustainable economic development considering the challenges of developing and emerging countries, the destruction of our planet and the resulting challenges of future generations.

In the modern economy, the current energy crisis and the current policy debate, the energy sector plays a central role. On the one hand, it exploits renewable resources and non-renewable resources. On the other hand, it contributes to climate change by exploiting the atmosphere as a non-renewable resource (greenhouse gas dump). Therefore, in the second part, this course focuses on the energy sector and on climate policy.

## Learning Outcomes

- Understand key concepts of sustainable development and the optimal use of (non-) renewable resources regarding their relevance for future generations and the future of our planet
- Understand the energy/electricity system with fossil and renewable sources and their transformation in the context of current climate and energy policies and their challenges
- Be able to critically assess environmental and natural resource-related problems and to participate in political debates on society, economy and ecology by deriving solutions

## Course Outline

### Part I: Key concepts

*Synchronous hybrid lectures, lecture room Senckenbergstraße 03, 109 (Ze-S4) and online in StudIP/BigBlueButton*

Goal: Have an overview of key terms and concepts of sustainable resource use and sustainable development from a narrative perspective; understand formal, narrative and graphical descriptions of key concepts of the optimal and sustainable use of non-renewable and renewable resources.

Lecture 0: Introduction

Lecture 1: The origins of the sustainability problem

Lecture 2: Recognizing interdependencies and thinking long term

Lecture 3: The efficient and optimal use of natural resources

1. Non-renewable resources
2. Renewable resources

Lecture 4: Sustainable economic development

1. Competing theories of sustainable development:
2. Sustainable Development Indicators

### Part II: Energy/climate *Asynchronous lectures (videos and lecture slides in StudIP)*

Goal: Obtain applied background information with the focus on energy resources, the energy system, climate change, current climate and energy policies; understand how fossil resource markets, the electricity market, emissions pricing and taxing as well as (smart) grids and storages work and how such markets and technologies are interconnected.

Lecture 0: Introduction & energy market outlook

Lecture 1: Fossil fuels & their markets

Lecture 2: Electricity & its market

Lecture 3: Climate change & emissions pricing

1. Climate change background
2. Emissions pricing in theory

#### Lecture 4: International & national climate policy

### Literature

Hackett, Steven and Dissanayake, Sahan T. M. (2014), *Environmental and Natural Resources Economics – Theory, Policy, and the Sustainable Society*, 4<sup>th</sup> or another edition, Taylor & Francis Group, Routledge, New York, USA; focus on chapters 13 and 14.

Tietenberg, Tom and Lewis, Lynne (2018), *Environmental and Natural Resource Economics*, 11th or another edition, Taylor & Francis Group, Routledge, New York, USA, focus on chapters 5–13 and 20.

Perman, Roger, Ma, Yue, McGilvray, James and Common, Michael (2003), *Natural Resource and Environmental Economics*, 3rd or another edition, Pearson, London, UK, focus on chapters 1, 2, 4, 10, 11, 14, 15, 17 and 18.

### Time Schedule

The course can be attended fully online or in a hybrid mode, combining in-class teaching and e-learning. Lecture slides and videos can be found in StudIP. To receive a grade and to pass the course successfully, you must register in FlexNow.

To receive a grade, you must solve tasks in written form in English. Upload the solutions of the first two tasks by 15 May, the solutions of the second two tasks by 15 June and the solutions of the last two tasks by 15 July in the corresponding StudIP folder. There is no first, second or third standard “exam”. The tasks build on the contents of lecture parts I and II.

## SYLLABUS

### MK-106-EN-DI SUSTAINABLE FOOD SYSTEMS

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Instructor	Dr. Wiebke Niether
Chair	Organic farming with focus on sustainable soil use
Contact	Wiebke.niether@agrar.uni.giessen.de
Instruction mode	Lectures, student presentations and seminar (group) discussions; active participation in each session is required (missing two sessions during the course is allowed).
Teaching format	“Synchronous” (Summer semester: Wednesdays 8:00 – 12:00 am; no video lectures; other lecture material will be made available at Stud.IP)
Language	English
Prerequisites	-

#### Examination / Course Requirements

In the course of the seminar, the students will prepare a seminar topic as an oral presentation, and present and discuss it within the course. As a group work, two students will prepare a poster and present it at the end of the semester. Both presentation will account for 50% of the final grade.

#### Late Work Policy / Missed Exams

Missed presentations will be repeated (oral examination).

#### Course Description

Food Systems as a whole are the basis of our society, economy and interaction with the environment. Achieving sustainability within food systems is therefore a main objective. Food systems and their components will be discussed especially under the viewpoint of sustainability. Collaborative working and participation in discussions will be substantial part of the course.

#### Learning Outcomes

Participants will enhance their systemic thinking respectively on their personal and general food systems and analyse critically the structure of food systems and sustainability in food systems. They will get to know interaction within systemic components and evaluate them critically.

## Time Schedule

The sessions will take place in a synchronous format where the students and the lecturer are together in the digital room (BigBlueButton). All the sessions in the course of the seminar will be structured with input lectures, group work and student presentations. After an introduction to the concept of food systems in general, the focus goes to the principal components of the food chain, and later on further related components and factors influencing food systems and sustainability.

Date	Session	Topic
12.04.2023	1	<b>Introduction into the module (module program, technicalities, exams, expectations, open questions)</b>
		Food systems introduction: Components and interactions
19.04.2023	2	Introduction; Food Systems and the environment
		Global systems – the chocolate and banana stories
26.04.2023	3	Seeds, GMO, Diversity: Critical issues at the entrance of the food system
		Competition for arable land (food – feed – fibre – fuel)
		Agricultural knowledge Information systems (AKIS)
03.05.2023	4	3 Student presentations
		The value chain; logistics; concentration mechanisms
10.05.2023	5	3 Student presentations
		Consumption: health and nutrition
17.05.2023	6	3 Student presentations
		Food waste measurements; what is wasted, what changes are possible
24.05.2023	7	3 Student presentations
		Sustainability assessment
31.05.2023	8	3 Student presentations
		Gender roles in the food system and Ecofeminism
07.06.2023	9	3 Student presentations
		Transition/transformation approaches for food systems
14.06.2023	10	3 Student presentations
		Local food systems – Strategies for future?
21.06.2023	11	3 Student presentations
		The right to food
28.06.2023	12	3 Student presentations
		TBD
02.07.2023	13	Poster presentations
12.07.2023	14	Poster presentations

## SYLLABUS

# MK-107-EN-DI NATURAL RESOURCES AND ECOSYSTEM SERVICES

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Instructor	Dr. Suzanne Jacobs
Chair	Chair of Landscape, Water and Biogeochemical Cycles
Contact	Dr. Suzanne Jacobs
Instruction mode	Pre-recorded lectures and tutorials provided through ILIAS; separate online consultation hours for support
Language	English
Prerequisites	- (Basic knowledge of environmental processes and GIS recommended)

### Examination / Course Requirements

Presentation of 10–15 minutes (30% of final grade) and report of 3,000–4,000 words (70% of final grade) on a topic of choice related to the subjects addressed in the module.

### Late Work Policy / Missed Exams

Late submissions will be evaluated in the next examination period.

### Course Description

In this module, you will learn what ecosystem services are, which services are provided by specific ecosystems, how land use change and climate change play a role in ecosystem services provisioning and how ecosystem services can be measured. In parallel, you will learn how to use the software InVEST to estimate certain ecosystem services and evaluate the effect of land use change using scenarios. The module content is divided into twelve lectures, each with a corresponding tutorial, in which you will:

- Learn about the concept of supporting, regulating, provisioning and cultural ecosystem services, as well as related frameworks
- Identify multiple ecosystem services provided by different ecosystems, including the effect of climate change and human interventions on the provisioning of ecosystem services
- Be introduced to basic processing and analysis of spatial data using QGIS software
- Learn how to use and analyse spatial datasets to quantify ecosystem services using InVEST by applying the knowledge from the lectures to a case study in hands-on tutorials
- Evaluate and use results in the frame of a decision support analysis

## Syllabus all modules

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In most of the tutorials we will be using the software InVEST to estimate ecosystem services. In the first two tutorials, you will be introduced to the QGIS, which we will use to prepare input data for InVEST, and to make maps and analyse the spatial data provided as output by InVEST. The basics of GIS will be repeated during the first two tutorials, in case you do not have prior experience. You are expected to install the most recent version of the open source software QGIS and InVEST on your personal computer.

## Learning Outcomes

After completion of the course, you will:

- Understand the concept of ecosystem services,
- Know how to estimate ecosystem services using InVEST,
- Be able to assess and evaluate natural resources with regard to multiple ecosystem services for an individual project.

## Course Outline

Session	Lecture	Tutorial
1	Introduction to ecosystem services	Introduction to QGIS
2	Mapping ecosystem services and InVEST	InVEST and making maps
3	Land use change and scenarios	Scenario development in InVEST
4	Introduction to the module assignment	Research questions and searching literature
5	Nutrient cycling, soils and erosion	InVEST nutrient delivery ratio
6	Carbon and climate change	InVEST carbon storage and sequestration
7	Water-related ecosystem services	InVEST water yield
8	Cultural ecosystem services	Making a screencast
9	Forest ecosystem services	InVEST habitat quality
10	Agriculture and food production	InVEST crop production
11	Economic valuation of ecosystem services	Participatory mapping
12	Ecosystem multifunctionality	Analysing multifunctionality

## Literature

Relevant literature for each lecture topic will be provided through ILIAS.

## Time Schedule

Every Tuesday, starting the 11<sup>th</sup> of April 2023, a new video lecture with corresponding tutorial (see course outline) will be made available through ILIAS. You are expected to go through the materials in your own time and complete the lecture and tutorial by the end of the week. There will be a one week break between session 10 and 11, when the presentations are due. The possibility to ask questions and discuss the course content live with the lecturer will be offered once a week between

9 a.m. and 11 a.m. on Tuesday morning. In addition, there is an online meeting room available at all times to work together on tutorials or the final assignment with fellow students.



## SYLLABUS

### MK-108-EN-DI RENEWABLE ENERGY TRANSITION

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Instructors	Prof. Dr. Michael Düren, FB07 Dr. Marc Strickert, FB07
Chair	M. Düren
Contact	<a href="mailto:marc.strickert@exp2.physik.uni-giessen.de">marc.strickert@exp2.physik.uni-giessen.de</a> <a href="mailto:michael.dueren@uni-giessen.de">michael.dueren@uni-giessen.de</a> Please contact us either using your official university e-mail address or via Stud.IP . Smooth communication is not ensured if you use a private e-mail.
Instruction mode	Mixed asynchronous and synchronous (offline + online) Includes assisted self-learning and group work phases.
Language	English
Prerequisites	None

#### Examination / Course Requirements

- Weekly online multiple-choice questions must be answered and are scored automatically and used as feed-back for the student's activity and understanding.
- Seminar talk in groups of ~3 students: During the semester, the students will prepare a seminar topic as a 3x5' =15' video clip that is presented and discussed during an online session.
- A short-written text will be submitted by each student about their 5' video clip according to a predefined text structure (few pages like an abstract or proceedings).
- The seminar talk and the text will account for 50% each of the final grade.

Details on the grading mechanism, hand-in details for the presentation recordings as well as exam period is presented during the first session of this course.

#### Late Work Policy / Missed Exams

Repetition by oral exam

Missed deadlines of talks or homework will be graded with zero points for the individual work. Valid excuses due to illness are regulated according to the general regulations of the studies. Extensions of deadlines may be granted upon reasonable request **well before** the deadline.

## Course Description

In this course, students will learn the very basic physical and technical skills to engage with the field of energy systems at times of global climate change. We will build upon this knowledge and cover different technologies for renewable energy generation and illustrate their advantages and disadvantages and their possibilities on a global scale. We will examine why and how additional technologies are required for a renewable energy transition beyond photovoltaics or wind, to transport, store and make use of the energy. We will address this complexity in the different energy sectors: residential, industrial, heating and mobility.

As the requirements for energy systems can differ substantially, e.g. the available resources or surrounding conditions, we will explore different energy systems and possible energy futures with the help of energy and system dynamics models, where energy trading is an essential asset.

Due to the multitude of drivers for renewable energy transitions, we will focus on the interlinkage between energy and overpopulation, climate change, the global water cycle and the CO<sub>2</sub> budget. In this context, we will discuss how a transition to renewable or even sustainable energies can help us meet global challenges on the road of sustainable development.

## Learning Outcomes

In this course you will:

- acquire basic physical and technical knowledge on energy and energy quantities
- learn about different renewable energy technologies and how they are linked to other necessary, auxiliary technologies
- learn how energy is linked to other global challenges like climate change, overpopulation or the global water cycle
- examine the differences between energy systems on local to national and international scales
- look into socio-economic and cultural aspects of energy systems and (renewable) energy transitions

## Course Outlines

This course is co-taught Michael Düren and Marc Strickert. It is split into two learning modes:

- Asynchronous self-learning phases (alone or in groups)
- Synchronous weekly learning phases (whole course, groups)

## Syllabus all modules

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For the asynchronous self-learning phases, we will provide the students with pre-recorded video lectures and feedback questions each week.

For the synchronous learning phases, all course members will meet once per week in a video conference to discuss their results, learning experience, perspectives and questions on the current topic.

The enrolment to the course and e-mail communication is done using the StudIP system of the university (<https://studip.uni-giessen.de/> ; search for course code MK-108-EN-DI). If the course is at maximum capacity, you may join the waiting list and be given a seat as it becomes available. Enrolment after the initial enrolment period is possible by directly contacting the instructors.

This course uses the ILIAS platform (<https://ilias.uni-giessen.de/>; a direct link can be found on the StudIP page of course) to provide the students with learning materials and interaction opportunities.

The synchronous weekly meetings will take place virtually in an online system (probably BigBlueBotton <https://webconf.hrz.uni-giessen.de/b/mar-zbn-dtz-kye> ) provided by the university. The lecturers recommend using a computer rather than a tablet or a mobile phone for these sessions. Technical details will be discussed in the first meeting. Further instructions and details will be provided beforehand via ILIAS, including details on how to join the online meetings.

While participating in the video sessions the students are asked to be in a quiet environment. A headset or headphones are recommended. Usage of a camera (webcam, mobile phone) is highly welcome to reduce the anonymity of online courses.

Please confirm your participation in this course by attending the first session. If you are unable to attend in the first session, please let the instructors know. Otherwise, your unconfirmed seat will be given to another student.

Any student with a documented physical or learning disability in need of accommodation should notify us at the beginning of the semester.

## Literature

- *Düren, Michael (2017): Understanding the Bigger Energy Picture. DESERTEC and Beyond.* freely available at: <https://www.springer.com/de/book/9783319579658>
- *Lectures on the YouTube channel "Michael Dueren"*

We will also use selected scientific articles and online sources which will be provided and referenced during the course.

## Time Schedule

The course will consist of weekly on- and offline sessions during the standard lecture period of the university: April 11 – July 14, 2023. The replacement exam is planned for October 2023. The time of the weekly online sessions and deadlines for specific tasks will be announced in StudIP or ILIAS.

## SYLLABUS

### MK-110-EN-DI Food Politics

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Instructors	Prof. Dr. Stefan Wahlen, Anna-Katharina Demes, M.A.
Chair	Food Sociology
Contact	<a href="mailto:Anna-Katharina.Demes@ernaehrung.uni-giessen.de">Anna-Katharina.Demes@ernaehrung.uni-giessen.de</a>
Instruction mode	Virtual / Group work
Language	English
Prerequisites	-
Work load	6 ECTS-credits (180 hours)

### Examination / Course Requirements

Report on project work (12-15 pages)

### Late Work Policy / Missed Exams

Oral exam

### Course Description

This module introduces you to food as a political issue such as hunger, food security, malnutrition, sustainability, power politics, social justice or cultural identity. Food politics is about the political nature of food from fork to farm as well as from local to global levels.

Topics might include:

- food production safety, labelling, and nutrition;
- environmental concerns ranging from organic farming and sustainable agriculture to consumption and waste disposal;
- politics of specific foods and foodways (e.g. fast food, genetically modified foods, etc.)
- ethics of animal care and vegetarianism as politics of the everyday
- politics of hunger and malnutrition
- food movements (e.g. slow food movement, food sovereignty movement) and other stakeholders.

## Learning Outcomes

The students

- understand the historical development of public debates in the arena of food and politics and thereby develop the ability to question norms, practices and opinions and to take one's own position in the sustainability discourse (competence in critical thinking)
- differentiate between political and moral meaning concerning nutrition in order to reflect one's own role in local communities and global society (self-perception skills)
- analyse problems and developments around consumption, production and regulation of food systems in order to recognize and understand relationships (competence in systemic thinking)
- formulate an argument about a specific food-related problem in order to understand and reflect on the norms and values on which one's own actions are based. There is a special focus on sustainability-related values, principles and goals, to be able to negotiate them in the context of conflicts of interest and necessary compromises, of uncertain knowledge and contradictions (normative competence)
- critically reflect approaches of various stakeholder who have set themselves the goal of influencing the food system and apply different problem-solving approaches to complex sustainability problems (integrated problem-solving skills)

## Course Outline

1. **Prologue:** Theories and Concepts - weeks 1-3
2. **Simulating food politics** (30% of final grade) - weeks 4-7
3. **Analysing food politics** (70 % of final grade) - weeks 8-12
4. **Epilogue:** Discussing the documentaries - weeks 13-14

## Literature

Marion Nestle (2013) *Food Politics. How the Food Industry Influences Nutrition and Health.*

Available at: <https://hds.hebis.de/ubgi/Record/HEB385325002>

Luke Amadi, Fidellis Allen (2020) *Global Food Politics and Approaches to Sustainable Consumption.*

Available at: <https://hds.hebis.de/ubgi/Record/HEB460356216>

Michael Carolan (2011) *Embodied Food Politics.*

Available at: <https://hds.hebis.de/ubgi/Record/HEB379655098>

## Time Schedule

### Prologue: Theories and Concepts - weeks 1-3

11.04.2023 week 1

#### **Get to know the module.**

##### ***Asynchronous meeting.***

Assignment: Get acquainted with the structure of the module. Watch the welcome video and explore the course on ILIAS. [https://ilias.uni-giessen.de/goto.php?target=crs\\_342562&client\\_id=JLUG](https://ilias.uni-giessen.de/goto.php?target=crs_342562&client_id=JLUG).

If you are not familiar with food systems thinking, please make yourself known to the approach by reading some articles:

- FAO (2018). Sustainable food systems-concept and framework.
- Ingram, J. A food systems approach to researching food security and its interactions with global environmental change. *Food Sec.* **3**, 417–431 (2011). <https://doi.org/10.1007/s12571-011-0149>
- IPES (2015). New Science of Sustainable Food Systems. Overcoming Barriers to Food Systems Reform

18.04.2023 week 2

#### **Underlying ideas: what is food politics?**

##### ***Synchronous meeting Big Blue Button.***

You will be introduced to the course, get to know the other students and get acquainted with principal ideas and concepts relating to food politics.

##### **Reading and discussion assignment on ILIAS:**

For an assignment, you have to read one of the three readings and then, preferably work in a team of three students. Deadline: **24.04.2023 9 am**

25.04.2023 week 3

#### **Principle concept: power**

##### ***Synchronous meeting Big Blue Button.***

During the third week we start digging a bit deeper in the conceptual toolkit. We will read and discuss on the notion of power, which is central to food politics. We will compare different approaches and you will be able to distinguish various concepts that are important for the further development of this course.

**Reading and discussion assignment on ILIAS:** Distinguish various approaches to power. The paper by Flor Avelino distinguishes various approaches to power with regard to sustainable transition. Get acquainted with the different perspectives by reading the paper. Discuss questions with fellow students or consult the referenced literature (or beyond) on the respective conceptualization. After this, get acquainted with the EU farm to fork strategy. Choose one of the goals of the European farm to fork strategy and reflect upon this strategic goal by analysing it through one of Avelino's power lenses. **Deadline: 1.5.2023 9 am.**

## Simulating food politics (30% of final grade) - weeks 4-7

In a simulation, stakeholder groups elaborate and discuss an exemplary case on sustainable food: sustainable palm oil. Assignments in groups of five students

- 1) Background research (verifying assumptions)
- 2) Developing a strategy

Simulation – end of May (incl. reporting)

### 02.05.2023 week 4 **Introducing the case: sustainable palm oil:**

#### ***Synchronous meeting Big Blue Button (via ILIAS).***

You will be acquainted with palm oil and get an overview over the stakeholders (e.g. roles) that are involved. For the simulation of a multi-stakeholder negotiation, you will work in teams of four students. You will take up one of the roles below in which you will act as representatives of organisations below. Choose a team for the simulation. Registration for teams **starts May 3th at noon** on ILIAS until **5.5.2023 9 am**.

**Assignment:** Get acquainted with your organisation / institution and provide an overview over the background of the organisation that you are representing.

**Deadline:** Hand in the overview of your background till 8.5.2023, 9 am.

### 09.05.2023 week 5 **Background research:**

***Asynchronous meeting.*** You will work in your group and you can get feedback on your background research. Book one of the feedback sessions for today on ILIAS.

**Assignment:** Develop the strategy for your organization.

**Deadline:** Hand in your strategy (2 pages) till **18.05.2023**

### 19.05.2023 week 6 **Strategy Development:**

***Asynchronous meeting.*** You will work in your Group and you can get feedback on your strategy. Book one of the feedback sessions for today on ILIAS.

### 23.05.2023 week 7 **Simulation:**

***Synchronous meeting Big Blue Button.*** This session is **mandatory** to attend in order to pass the course.

**Assignment:** After the negotiation, the groups will reconvene and from their point of view, write up a short (up to 3 pages) summary of the negotiation. (30% final mark). **Deadline 30.05.2023 9 am.**

## Analysing food politics (70 % of final grade) - weeks 8-12

- Analyse and critically reflect upon a freely chosen topic in teams of 3 students
- Results presented in a short documentary film (30%) and a related script (40%)
- Each week you can get feedback / ask questions on Tuesday, just book a time slot via the ILIAS booking tool. Ideally you provide reading material / questions beforehand, in order to guarantee an efficient meeting

- 30.05.2023 week 8**    **Team formation:**  
*Synchronous meeting Big Blue Button.*  
Choose a team for the simulation. Registration for teams **starts May 31th at noon** on ILIAS until **02.06.2023 9 am.**
- 06.06.2023 week 9**    **Specifying the topic:**  
*Asynchronous meeting.* You will work in your Group.  
Get acquainted with your topic area. At the end of the week (12.06) Hand in a short description (1/2 page) of your topic.
- 13.06.2023 week 10**    **Formulate a theoretical lens:**  
*Asynchronous meeting.* You will work in your Group. But you can get feedback on your topic. Book one of the feedback sessions for today on ILIAS.  
**Assignment:** Formulate a theoretical lens and make use of the literature, starting points can be e.g. Marion Nestle: Food Politics, Luke Amadi: Global Food Politics and Approaches to Sustainable Consumption or Michael Carolan: Embodied Food Politics. Also do consider other literature!  
**Deadline:** Hand in a short description (1/2 page) of your theoretical lens until 19.06. 9 am.
- 20.06.2023 week 11**    **Empirical research: feedback week 10**  
*Asynchronous meeting.* You will work in your group and you can get feedback on your theoretical lens. Book one of the feedback sessions for today on ILIAS.  
**Assignment:** This week you should do empirical research, like interviews / focus group discussion, analysis of naturally occurring text (media, online forums, policy papers, etc), analysis of visual data (photo, video, etc.) or a case study.  
**Deadline:** Hand in a summary of your empirical research (2 pages) **until 26.06. 9 am.**
- 27.06.2023 week 12**    **Filming / clipping documentary and Finalizing:**



**Asynchronous meeting.** You will work in your Group. But you can get feedback on your summary of your empirical research. Book one of the feedback sessions for today on ILIAS.

**Assignment:** Developing a visual representation of your analysis, like a film / documentary, narrated presentation or other means of visual representation. Deliverables (will be marked – 70 % of final mark).

**Deadline:** Please hand in your video (mp3 file of visual representation) and script (based on the analysis of a selected topic, research formulation (research question + theoretical lens + empirical analysis) of 5-10 pages (incl. references)) **until 03.07.2023, 9 am.**

## Epilogue: Discussing the documentaries - weeks 13-14

**04.07. & 11.07.2023**    **Live screening of documentaries and Public discussion (hybrid)**  
**week 13 & 14**            ***Synchronous meeting***

**SYLLABUS:****MP-178-EN-DI Empirical Research Methods for Natural Resource Analysis**

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Instructor	Prof. Dr. Rainer Waldhardt, Dr. André Große-Stoltenberg
Chair	Prof. Dr. Till Kleinebecker
Contact	Till.Kleinebecker@umwelt.uni-giessen.de
Instruction mode	online
Language	English
Prerequisites	Basic knowledge of empirical research methods and statistics is recommended

**Examination / Course Requirements**

Oral presentation (30 % of the overall grade); written assignment (70 % of the overall grade)

Participation in:

Lectures (10 contact hours; 20 hours preparation and follow-up work)

Seminars (10 contact hours; 20 hours preparation and follow-up work)

Exercises (40 contact hours; 80 hours preparation and follow-up work)

**Late Work Policy / Missed Exams**

Daily course participation is mandatory

Form of module retake examination: written examination

**Course Description**

- Small group tutorials working on exemplary data from empirical research on natural resources
- Developing own sampling strategies for field research
- Own data collection
- Multivariate analysis and classification of data
- Preparation of a research report

## Learning Outcomes

- Knowledge of best practices in empirical research designs
- Knowledge in the analysis and interpretation of multivariate statistics (ordination methods)
- Knowledge in the classification of data (e.g. cluster analysis, machine learning)
- Knowledge in processing of (geo)data in GIS and R environments to analyse own data
- Ability to write a scientific research report

## Course Outlines

Lectures: Remote sensing and LULC analysis; machine learning; scientific writing; classification and ordination of vegetation data; interpretation of vegetation diversity; drivers of vegetation diversity; analysing of soil seed banks

Seminar and exercises: Software demo, software installation and first steps in QGIS; code demo; first steps in R; using R for geodata analysis; making maps in QGIS; using PCORD in data analysis

## Literature

Will be provided during the course

## Time Schedule

Block course: 21.8.-1.9.2023; 10 days (Monday to Friday)

21.8. - 31.8.2023; 8:00 - 10:00 am CEST: Lectures and seminars; 2:00 - 6:00 pm CEST: Exercises

1.9.2023; 9:00 - 11:00 am: Oral presentation and course evaluation

Submission of report: by 13.10.2023 the latest



## SYLLABUS: MP-181-EN Gender and Development

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Instructor	Mrs Nozilakhon Mukhamedova
Chair	+
Contact	<a href="mailto:nozila.mukhamedova@agrar.uni-giessen.de">nozila.mukhamedova@agrar.uni-giessen.de</a>
Instruction mode	online
Language	English
Prerequisites	Basic understanding of gender terms, basic understanding of gender terms.

### Examination / Course Requirements

#### Prerequisites

Students should have a basic understanding of gender terms. I recommend students to get acquainted with the gender glossary before the class (<https://trainingcentre.unwomen.org/mod/glossary/view.php?id=36>). The class will be conducted fully in English language and therefore students should be able to read and understand English language texts, follow English teaching and write and present in English. Reflective, critical review as well as applying gender lenses and perspectives will be essential in all course activities and tasks.

#### Requirements

Students participate in the class in the following ways:

- Watch asynchronous videos and attend course sessions.
  - The videos will be made available on the ILIAS platform 1-2 days prior to the online sessions. Students are expected to watch the lectures on each topic, make notes and write down questions. I also recommend that students read all the articles provided for all group presentations to be able to better reflect and discuss during the online sessions.
  - Students should attend all the classes and come prepared and ready to discuss the articles. Contribute to the discussion via oral statements during sessions.
- Join a reading/presenting group of 3 students each and, as a group, prepare one oral presentation (ca. 20 minutes) of one of the ten journal articles relevant to each course topic, following the presentation guidelines below.
- Select one journal article from the list of topics and additional articles, individually write up a reflection essay, following the guidelines below. Essays must be submitted via the ILIAS platform.

## Late Work Policy / Missed Exams

In case of non-submission or late submission of graded activities/tasks, the students, apart from submitting missing contributions, would have to write an additional essay on the topic provided by the lecturer.

## Course Description

The Gender and Development course aims at acquainting students with key topics, concepts and instruments related to gender and development studies. Accordingly, the course focuses on gender inequalities in roles, decision-making and empowerment in rural societies. Special emphasis will be given to gender gaps in agricultural development including labour relations and feminization of agriculture, access to production inputs and outputs.

The course covers ten topics that combine conceptual, theoretical as well as empirical applications such as case studies, which allow analysing socio-economic trends in various regions and disciplines related to agricultural development.

## Learning Outcomes

- To understand theoretical concepts and methods of gender sensitive research.
- To engage in critical reflections and analysis of agricultural development through gender (lenses) perspective.
- To read, interpret and critically assess research articles.
- To communicate academic research outcomes clearly and concisely through writing and oral presentation.

## Course Outlines

The course has three main parts further divided into ten key topics. First part, covers the linkages between gender, agriculture and development; the second, the gaps in the production processes and the final part introduces gender related academic research and development projects.

Following topics are covered during the course:

- 1 Introduction to gender and development
- 2 Gender roles, changing relationships
- 3 Decision making and empowerment
- 4 Gender and natural resource management
- 5 Gender, assets and inputs
- 6 Gender and agricultural labour
- 7 Time allocation and the economic role of women in agriculture
- 8 Nutrition and Gender

## Literature

Benería, Lourdes; Berik, Günseli; Floro, Maria (2015): Gender, development, and globalization. Economics as if all people mattered / Lourdes Benería, Günseli Berik, and Maria S. Floro. Second edition. New York, NY: Routledge.

Carole Counihan, Steven L. Kaplan (2005): Food and Gender: Identity and Power. Taylor & Francis e-Library.

Ellis, Frank (1993): Peasant Economics. Farm households and agrarian development. Second edition. Cambridge: Cambridge University Press. Chapter 9

Fan S., Yosef S. and Pandya-Lorch R. (2019): Agriculture for Improved Nutrition: Seizing the Momentum 58 (eds). CAB International. Chapter 6: Women in Agriculture and Implications for Nutrition.

Francine D. Blau and Anne E. Winkler (2013): The Economics of women, men and work 8th. New York, Oxford University Press.

IFPRI (1997): Intrahousehold resource allocation in Developing Countries: Models, methods, and Policies. <https://www.ifpri.org/publication/intrahousehold-resource-allocation-developing-countries>

IFPRI (2014): Households Decisions Gender and Development. <https://www.ifpri.org/publication/household-decisions-gender-and-development-synthesis-recent-research>

Nalini, Visvanathan; Lynn, Duggan; Nan, Wiegersma; Laurie, Nisonoff (eds.) (2011): The women, gender and development reader. New York. Zed Books.

Norton, George W.; Alwang, Jeffrey R.; Masters, William Alan (2015): Economics of agricultural development. World food systems and resource use. 3. ed., 1. publ. London u.a.: Routledge (Textbooks in environmental and agricultural economics), Chapter 10, <https://hds.hebis.de/ubgi/Record/HEB348730187>

Quisumbing, Agnes R.; Meinzen-Dick, Ruth; Raney, Terri L.; Croppenstedt, André; Behrman, Julia A.; Peterman (Eds.) (2014): Gender in Agriculture: Closing the Knowledge Gap. Dordrecht, Springer Netherlands.

Todaro, Michael P.; Smith, Stephen C. (2020): Economic development. Thirteenth edition. Harlow England: Pearson, Chapter 9.4 <https://hds.hebis.de/ubgi/Record/HEB463362195>

World Bank (2012): World Development Report 2012: Gender Equality and Development. World Bank. <https://openknowledge.worldbank.org/handle/10986/4391> License: CC BY 3.0 IGO.

World Bank (2009): Gender in Agriculture Sourcebook Agriculture and Rural Development. ISBN 978-0-8213-7588-4.

## Time Schedule

The course will take place over two weeks (half days) and online.

The course dates will be announced as soon as possible

**SYLLABUS:****MP-210-EN-DI Land Governance for Sustainable Land Use in Africa**

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Instructor	Dr. Irina Solovieva
Chair	Prof. Dr. Martin Petrick
Contact	<a href="mailto:martin.petrick@agrar.uni-giessen.de">martin.petrick@agrar.uni-giessen.de</a> <a href="mailto:Irina.solovyeva@agrar.uni-giessen.de">Irina.solovyeva@agrar.uni-giessen.de</a>
Instruction mode	E-lectures and seminars (digital/hybrid)
Language	English
Prerequisites	No prerequisites

**Examination / Course Requirements**

- Form(s) of assessment: Written exam and project work
- Components of final grade: Written or oral (online) exam (50%) and project work (50%) consisting of written report (5-8 pages) and presentation (10-15 minutes)

**Late Work Policy / Missed Exams**

Form of module retake examination: Written exam

**Course Description**

The module Land Governance for Sustainable Land Use in Africa focuses on appropriate and balanced decisions on land use. The students will get an idea of the most important discourses within three areas – land access, land management and land administration – and learn to analyse the related questions interdisciplinary. The module is organized through E-lectures connected to the tutorials that are based on case studies. This structure allows to analyse the lecture content from the practical perspective through active discussions and interactive group work.

**Learning Outcomes**

The students



## Syllabus all modules

- are able to identify and explain key issues with respect to land governance for sustainable land use in the context of African countries
- are able to apply knowledge to multidisciplinary and practical problems on issues of access to land
- are able to apply knowledge to multidisciplinary and practical problems on issues of land management
- are able to identify and address challenges of land governance in the African context.

### Course Outlines

- Access to land in Africa (land rights, land markets, land reform, social and human implications of the land reform)
- Land management (impacts of land use, sustainable land management, land use policy)
- Land administration
- Challenges of land governance, case studies

### Time Schedule

Date	Topic	Referents	Type of event	Place
02.05.2023 12:00 – 13:30	Introductory meeting. - Introduction of the module and its structure - Organizational issues	Irina Solovieva,	Introductory meeting	Digital
30.05.2023 12:00 – 13:30	Discussion of the semester project	Irina Solovieva,	Seminar	Digital
<b>11.09.2023</b> <b>10:00-14:00</b>	<b>Block-Seminar</b>	Irina Solovieva,	Seminar	Digital/ hybrid
<b>12.09.2023</b> <b>10:00-14:00</b>	<b>Block-Seminar</b>	Irina Solovieva,	Seminar	Digital/ hybrid
<b>13.09.2023</b> <b>10:00-14:00</b>	<b>Block-Seminar</b>	Irina Solovieva,	Seminar	Digital/ hybrid

