



# CNR

## Summer School 2018

### *Foundations and Methods of Agricultural Economics and Policy for Sustainable Mountainous Development*

At the campus of the College of Natural Resources (CNR) in Lobesa (Bhutan)

- Seminar 1 // Analysis of agricultural policy scenarios in Bhutan // 2.7 – 6.7.2018  
Seminar 2 // Principles of farm economics and resource planning // 9.7 – 13.7.2018  
Seminar 3 // Environmental economics in the context of Bhutan // 16.7 – 20.7.2018

Supported by the German Academic Exchange Service (DAAD)  
with funds of the Federal Ministry of Education and Research (BMBF)



*✎ You would like to enhance your theoretical and practical knowledge in applied economics and natural resource management?*

*✎ You are interested in learning about the principles of farm business analysis, environmental economics and agricultural policy?*

*✎ You would like to acquire analytical skills by applying methods hands-on using real world examples?*

... then register for the **CNR Summer School 2018!**

Application Deadline: 8<sup>th</sup> of June, 2018

Organized by:



**University of  
Reading**

Sponsored by:

**DAAD**  
Deutscher Akademischer Austauschdienst  
German Academic Exchange Service



Federal Ministry  
of Education  
and Research

## **What is the CNR summer school about?**

The **CNR Summer School 2018** is a three week summer school focusing on *Foundations and Methods of Agricultural Economics and Policy for Sustainable Mountainous Development*. The school is jointly organized by the College of Natural Resources (CNR), Lobesa, the Humboldt-University of Berlin, Germany, University of Hohenheim, Germany and University of Reading, UK. The summer school consists of three one-week modules and will take place on the CNR campus at Lobesa from July, 2<sup>nd</sup> to July 20<sup>th</sup> 2018.

## **Objective and content**

The objective of the summer school is to familiarize participants with state of the art theories and research methods in agricultural economics. The focus is on methods which can be applied within the participants' academic or professional work using relatively simple software tools (primarily Microsoft Excel). The summer school consists of three week-long seminars:

*Seminar 1* teaches the participants the implications of agricultural policies using policy scenarios relevant to Bhutan.

*Seminar 2* focuses on the principles of farm economics and resource planning and introduces participants to resource and investment analysis.

*Seminar 3* builds on seminar 2 and extends the scope to environmental economics, teaching participants methods to consider environmental aspects in cost-benefit analysis.

Each seminar will contain real world case studies, which relate to relevant topics of the Bhutanese agricultural sector such as sustainable land management, mechanization of land preparation, conversion to organic agriculture and mitigation of human-wildlife conflicts. An important feature of the summer school is that participants are taught methods hands-on such that they will be able to conduct own analysis during the summer school. Please note, the preliminary schedule of each seminar week is presented at the end of this flyer.



## Who is teaching at the summer school?

### ***Prof. Dr. Harald Grethe (Lecturer seminar 1)***

Prof. Harald Grethe holds the chair of International Agricultural Trade and Development at Humboldt-University Berlin. He has experience in the analysis of policies related to agriculture, development and trade in the European Union and many other countries such as Turkey, Israel, China and Ethiopia. Since 2012, Prof. Grethe is the chair of the Scientific Advisory Board on Agricultural Policy, Food and Consumer Protection at the Federal German Ministry of Food and Agriculture. He visited and travelled Bhutan on various occasions and is particularly interested in how policies can help Bhutan to promote both animal and environmental protection as well as agricultural productivity and rural incomes.



### ***Dr. Matthias Siebold (Lecturer seminar 2)***



Dr. Matthias Siebold is lecturer at the University of Reading, UK, and Programme Director for BSc Agricultural Business Management. Matthias has also great operating experience as manager of a 700 ha mixed farm in Spain. His main research interests are farm level decision making models, management objectives and optimized resource use. Matthias supervised an MSc thesis about Bhutanese smallholders' decision-making models and published together with Mr. Feuerbacher and Prof. Lippert on charcoal production in Bhutan.

### ***Prof. Dr. Christian Lippert (Lecturer seminar 3)***

Prof. Christian Lippert is a professor for Production Theory and Resource Economics at University of Hohenheim in Germany. His past research focused on the analysis of land use activities like organic farming and the assessment of regional climate impacts on German agriculture. His current research deals with the valuation of ecosystem services and environmental resources. Prof. Lippert is especially interested in how Bhutan's pioneering role for natural resource conservation can be combined with policies for sustainable rural livelihoods. He visited Bhutan in 2016 and 2017 and is currently working on the economic valuation of measures mitigating the human-wildlife conflict in Bhutan.



***Assoc. Prof. Dr. Tulsi Gurung (Coordinator of the Summer School)***

Tulsi Gurung is an associate professor at the College of Natural Resources in Bhutan. Her research focuses on horticulture in Bhutan. She has been working on various research projects concerned with climate change impacts in the context of Bhutan. In collaboration with the International Center for Integrated Mountain Development (ICIMOD), Mrs. Gurung worked on value chain analysis of goat farming and vegetable cultivation. Currently, she works on an ICIMOD project concerned with the role of transdisciplinary co-production of knowledge on the sustainability of mountainous agroecosystems.



***Arndt Feuerbacher (Coordinator of the Summer School, assistant lecturer for seminar 1 and 2)***



Arndt Feuerbacher is a PhD candidate at the International Agricultural Trade and Development research group at Humboldt-University of Berlin. He conducts research on the impact of agricultural policies on rural livelihoods in Bhutan employing economy-wide model frameworks. He visited and travelled Bhutan several times over the last years. His research interest particularly focuses on rural labour markets and technological changes in the agricultural sector. Together with Prof. Tulsi Gurung from CNR, Mr. Feuerbacher is also responsible for the coordination and organization of the summer school.

***Manuel E. Narjes (Assistant lecturer seminar 3)***

Manuel Narjes is a PhD candidate at the Department of Production Theory and Resource Economics of the University of Hohenheim, where he works as a research and teaching assistant. His doctoral research is concerned with the economic value of policies to conserve wild bees and their contribution to crop pollination, and with how markets respond to changes in the provision of the latter. His attention has also been drawn to Bhutan's rich beekeeping tradition and its potential to reconcile the economic incentives of individual smallholders with the broader goal of conserving the native pollinator fauna and its habitats.



## **Registration for the 2018 CNR summer school**

The summer school was designed to meet the needs of persons either studying or working in the context of agriculture, forestry and natural resource management. However, we also welcome interested participants with different backgrounds. In such a case, please let us know about your motivation. Participants may register to attend all three seminars or only to attend the seminars of their choice. However, it is advisable to attend all seminars, as the individual seminars build on each other.

### **Application deadline**

Please register before 8<sup>th</sup> of June 2018

### **Who should register?**

The minimum qualification required for the participation is a bachelor degree earned in either natural or social sciences. In addition, good knowledge of Microsoft Office, particularly Excel, is a prerequisite. The summer school was designed to meet the needs of persons either studying or working in the context of agriculture, forestry and natural resource management. However, we also welcome applicants with different backgrounds. In such a case, please let us know about your motivation.

The maximum number of participants for each seminar week is 15 participants. Participants may apply to attend all three seminars or only to attend the seminars of their choice. However, it is advisable to attend all seminars, as the individual seminars build on each other.

### **Fees, accommodation and transportation**

Participation in the summer school is free of charge. Participants from Bhutan and interested candidates from the SAARC region (that are eligible for visa following the rule for regional visitors) can apply. The summer school *does not* cover participants' cost of accommodation and transportation, which participants have to organize on their own. However, facilities at CNR allow for low-cost provision of lodging and meals. During the summer school, lunch as well as tea, coffee and snacks will be provided at no cost.

## **How to register**

Interested participants may register for the summer school by sending the following details to the coordinators Associate Prof. Dr. Tulsi Gurung ([gurungt2010@gmail.com](mailto:gurungt2010@gmail.com)) and Arndt Feuerbacher ([feuerbacher@hu-berlin.de](mailto:feuerbacher@hu-berlin.de)).

- ✓ Name and contact details (email and cell phone)
- ✓ Your current CV stating the place of work/study program and formerly received education
- ✓ Important! Please state whether you can bring along a personal notebook with Microsoft Excel installed.
- ✓ Please state whether assistance in finding accommodation at CNR (unfortunately, no financial assistance possible) is needed.

We are looking forward to your registration and please feel free to contact us if you have any questions!

## **Contact details:**

### **Associate Prof. Dr. Tulsi Gurung**

Office No: 00975 2 376249

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Email: [gurungt2010@gmail.com](mailto:gurungt2010@gmail.com)

### **Arndt Feuerbacher**

Email: [feuerbacher@hu-berlin.de](mailto:feuerbacher@hu-berlin.de)

## Overview over preliminary program

The summer school takes place on the campus of the College of Natural Resources (CNR), Royal University of Bhutan, Lobesa and consists of three week long seminars each lasting over five days from Monday to Friday. Lectures take place from 9 AM to 5 PM. There will be two 20 minutes tea breaks and an 80 minutes lunch break, which will also allow for informal exchange between the resource persons and participants. A detailed preliminary schedule of each seminar is presented below. In addition to the lectures there is one extra-curricular evening program per seminar planned which will allow for slide shows on German agriculture, introduction to German food and culture as well as presenting interesting DAAD funding opportunities to enrol in master and PhD programs at Humboldt University of Berlin or University of Hohenheim.

### Seminar 1 – Monday 2<sup>nd</sup> to Friday 6<sup>th</sup> of July, 2018

#### Analysis of agricultural policy scenarios in Bhutan: Theory and practical application

Lecturer: Prof. Dr. Harald Grethe, University of Hohenheim, Germany

Assistant: Arndt Feuerbacher, University of Hohenheim, Germany

Time	Monday 2.07.2018	Tuesday 3.07.2018	Wednesday 4.07.2018	Thursday 5.07.2018	Friday 6.07.2018
9.00 – 10.20 AM	<b>D1.1 – Grethe</b> <ul style="list-style-type: none"> <li>Welcome to participants</li> <li>Presentation of seminar content</li> <li>Underlying principles of economics and economic decision making</li> </ul>	<b>D2.1 – Grethe</b> <ul style="list-style-type: none"> <li>Governance and institutions</li> <li>Instruments of agricultural and food policy</li> </ul>	<b>D3.1 – Grethe</b> <ul style="list-style-type: none"> <li>Introduction to policy research methods: partial equilibrium models</li> </ul>	<b>D4.1 – Grethe</b> <ul style="list-style-type: none"> <li>Introduction to the application of general equilibrium models</li> </ul>	<b>D5.1 – All</b> <ul style="list-style-type: none"> <li>Presentation and discussion (Group 1 and 2)</li> </ul>
20 Min	Tea break				
10.40 AM – 12.00 PM	<b>D1.2 – Grethe</b> <ul style="list-style-type: none"> <li>Economic policy and its objectives</li> <li>Correction of market failures</li> </ul>	<b>D2.2 – Grethe</b> <ul style="list-style-type: none"> <li>Instruments of agricultural and food policy</li> </ul>	<b>D3.2 – Grethe</b> <ul style="list-style-type: none"> <li>Deliberation of a partial equilibrium model for Bhutan</li> </ul>	<b>D4.2 – Grethe</b> <ul style="list-style-type: none"> <li>Presentation of a simple CGE model for Bhutan</li> </ul>	<b>D5.2 – All</b> <ul style="list-style-type: none"> <li>Presentation and discussion (Group 3 and 4)</li> </ul>
80 min	Lunch break				
1.20 – 3.00 PM	<b>D1.3 – Grethe</b> <ul style="list-style-type: none"> <li>Distribution and regulatory policies</li> <li>Elasticity of demand and supply</li> </ul>	<b>D2.3 – Grethe</b> <ul style="list-style-type: none"> <li>Welfare implications of policy induced changes in market rents</li> </ul>	<b>D3.3 – Feuerbacher</b> <ul style="list-style-type: none"> <li><b>Ex. II:</b> Partial equilibrium model for the rice market in Bhutan</li> </ul>	<b>D4.3 – Group work</b> <ul style="list-style-type: none"> <li>Preparation of group presentations on selected topics of agricultural and food policy questions</li> </ul>	<b>D5.3 – All</b> <ul style="list-style-type: none"> <li>Evaluation of seminar week and summer school</li> <li>Closing ceremony</li> </ul>
20 min	Tea break				
3.20 – 5 PM	<b>D1.4 – Grethe / Feuerbacher</b> <ul style="list-style-type: none"> <li><b>Ex. I:</b> Exercises</li> <li>Discussion of group assignments</li> </ul>	<b>D2.4 – Feuerbacher</b> <ul style="list-style-type: none"> <li>Case Study: Agricultural – and Food Policy in India and Bhutan</li> </ul>	<b>D3.4 – Feuerbacher</b> <ul style="list-style-type: none"> <li><b>Ex. III:</b> Exercises of rice self-sufficiency and 100% organic agriculture scenarios</li> </ul>	<b>D4.4– Group work</b> <ul style="list-style-type: none"> <li>Continued</li> </ul>	
7.00 PM			<b>German evening:</b> Studying in Germany – DAAD programs and experience of DAAD alumnis		



**Seminar 2 - Monday 9<sup>th</sup> to Friday 13<sup>th</sup> of July, 2018**  
**Principles of farm economics and resource planning**

Lecturer: Dr. Matthias Siebold, University of Reading, UK  
Assistant: Arndt Feuerbacher, Humboldt University Berlin, Germany

Time	Monday 9.07.2018	Tuesday 10.07.2018	Wednesday 11.07.2018	Thursday 12.07.2018	Friday 13.07.2018
9.00 – 10.20 AM	<b>D1.1 – Siebold</b> <ul style="list-style-type: none"> <li>Welcome to participants</li> <li>Presentation of seminar content</li> <li>Introduction to farm management</li> </ul>	<b>D2.1 – Siebold</b> <ul style="list-style-type: none"> <li>Enterprise budgets</li> <li>Crop</li> <li>Livestock</li> </ul>	<b>D3.1 – Siebold/ Feuerbacher</b> <ul style="list-style-type: none"> <li>Investment Analysis</li> </ul>	<b>D4.1 Field trip to Phobjika valley, Wangdue</b> <i>Details follow</i> <ul style="list-style-type: none"> <li>Assignment of group work</li> </ul>	<b>D5.1 – Siebold/ Feuerbacher</b> <b>Group work</b> <ul style="list-style-type: none"> <li>Resource analysis potato farmers</li> <li>Enterprise budget potato farmers</li> <li>Investment analysis potato farmers</li> <li>SWOT/PESTLE analysis potato farmers</li> </ul>
20 Min	Tea break				
10.40 AM – 12.00 PM	<b>D1.2 – Siebold</b> <ul style="list-style-type: none"> <li>Farm resource analysis</li> <li>Land</li> <li>Capital</li> </ul>	<b>D2.2 – Siebold/ Feuerbacher</b> <ul style="list-style-type: none"> <li>Ex. II: Budgeting &amp; Gross Margin Analysis</li> </ul>	<b>D3.2 – Feuerbacher/ Siebold</b> <ul style="list-style-type: none"> <li>Loan Repayment Plans</li> </ul>	<b>Field trip (Cont'd)</b> Visit of potato farmers and collection of farm data	<b>D5.1 – Siebold/ Feuerbacher</b> <ul style="list-style-type: none"> <li>Group work cont.</li> </ul>
80 min	Lunch break				
1.20 – 3.00 PM	<b>D1.3 – Siebold</b> <ul style="list-style-type: none"> <li>Farm resource analysis</li> <li>Machinery</li> <li>Labour</li> </ul>	<b>D2.3 – Siebold</b> <ul style="list-style-type: none"> <li>Partial budget &amp; break-even analysis</li> </ul>	<b>D3.3 – Siebold</b> <ul style="list-style-type: none"> <li>Basic tools for whole farm planning</li> <li>Balance sheet and profit &amp; loss analysis</li> </ul>	<b>Field trip (Cont'd)</b> Visit of potato farmers and collection of farm data	<b>D5.2 – Siebold/ Feuerbacher</b> <ul style="list-style-type: none"> <li>Presentations of group work and discussions</li> </ul>
20 min	Tea break				
3.20 – 5 PM	<b>D1.4 – Siebold</b> <ul style="list-style-type: none"> <li>SWOT analysis</li> <li>PESTLE analysis</li> </ul>	<b>D2.4 – Siebold</b> <ul style="list-style-type: none"> <li>Cash flow analysis</li> </ul>	<b>D3.4 – Siebold</b> <ul style="list-style-type: none"> <li>Brief review of production economics</li> <li>Production function</li> <li>Cost functions</li> <li>Factor-product decision</li> <li>Factor-factor decision</li> <li>Product-product decision</li> </ul>	<b>D4.2 Return to CNR campus</b> Brief wrap-up of field trip insights and collected farm data	<b>D5.3 Valuation of Seminar Week</b>
7.00 PM		<b>German evening:</b> Insights into German culture and way of farming			

## Seminar 3 – Monday 16<sup>th</sup> to Friday 20<sup>th</sup> of July, 2018

### Environmental economics in the context of Bhutan: *Cost-Benefit analysis of selected land use activities in mountainous agriculture*

Lecturers: Prof. Dr. Christian Lippert, University of Hohenheim, Germany

Assistant: Manuel Narjes, University of Hohenheim, Germany

Time	Monday 16.07.2018	Tuesday 17.07.2018	Wednesday 18.07.2018	Thursday 19.07.2018	Friday 20.07.2018
9.00 – 10.20 AM	<b>D1.1 – Lippert</b> <ul style="list-style-type: none"> <li>• Introduction to seminar content</li> <li>• Theory of optimal resource allocation</li> <li>• Market efficiency in the context of resource use</li> </ul>	<b>D2.1 – Lippert</b> <ul style="list-style-type: none"> <li>• The Economics of Ecosystems and Biodiversity (TEEB)</li> <li>• Total economic value of an environmental resource</li> <li>• Ecosystem services of rural landscapes</li> </ul>	<b>D3.1 – Lippert/Narjes</b> <ul style="list-style-type: none"> <li>• <b>Ex. III</b> Valuating insects' pollination services</li> <li>• Short recapitulation of investment appraisal</li> </ul>	<b>D4.1 – Lippert</b> <ul style="list-style-type: none"> <li>• Ethically problematic aspects of CBA (implications of discounting / externalities)</li> <li>• <b>Ex. IV (PC-LAB) (cont.):</b> CBA for a plantation revisited</li> </ul>	<b>D5.1 – Narjes/Lippert</b> <ul style="list-style-type: none"> <li>• <b>Ex. V (cont.):</b> Presentation of statistical models and discussion of the results of the choice experiment</li> </ul>
20 Min	Tea break				
10.40 AM – 12.00 PM	<b>D1.2 – Lippert</b> <ul style="list-style-type: none"> <li>• Market failure in case of environmental resources</li> <li>• Environmental externalities of conventional and organic farming</li> </ul>	<b>D2.2 – Lippert/Narjes</b> <ul style="list-style-type: none"> <li>• Methods for valuating natural and environmental resources / ecosystem services</li> <li>• Benefit transfer</li> </ul>	<b>D3.2 – Narjes/Lippert</b> <ul style="list-style-type: none"> <li>• Cost-benefit analysis (CBA) in the context of sustainable land use</li> <li>• <b>Ex. IV (PC-LAB):</b> CBA for orchards / plantations</li> </ul>	<b>D4.2 – Narjes/Lippert</b> <ul style="list-style-type: none"> <li>• <b>Ex. IV (PC-LAB) (cont.):</b> CBA</li> <li>• Analysis of a farmer's decision on whether to convert to organic production or not</li> </ul>	<b>D5.2 – Lippert</b> <ul style="list-style-type: none"> <li>• Agro-environmental policies to internalize land use externalities</li> <li>• Examples for agro-environmental policies</li> </ul>
80 min	Lunch break				
1.20 – 3.00 PM	<b>D1.3 – Narjes/Lippert</b> <ul style="list-style-type: none"> <li>• Public goods and common pool resources</li> <li>• Prisoner dilemma and social dilemma</li> </ul>	<b>D2.3 – Narjes/Lippert</b> <ul style="list-style-type: none"> <li>• <b>Ex. II (PC-LAB):</b> Valuation of cultural ecosystem services relying upon indirectly revealed preferences</li> </ul>	<b>D3.3 – Lippert/Narjes</b> <b>Projected field trip to visit Cardamom farmers in Tsirang</b>	<b>D4.3 – Narjes/Lippert</b> <ul style="list-style-type: none"> <li>• <b>Ex. V:</b> Discrete choice experiment to assess workshop attendees' preferences for ecosystem services</li> </ul>	<b>D5.3 – Lippert/Narjes</b> <ul style="list-style-type: none"> <li>• Examples for agro-environmental policies (cont.)</li> <li>• <b>Ex. VII:</b> Discussion of appropriate agro-environmental policies for Bhutan</li> </ul>
20 min	Tea break				
3.20 – 5 PM	<b>D1.4 – Narjes/Lippert</b> <ul style="list-style-type: none"> <li>• <b>Ex. I:</b> Game theory exercises for analyzing social dilemma</li> </ul>	<b>D2.4 – Lippert/Narjes</b> <ul style="list-style-type: none"> <li>• <b>Ex. II (cont.):</b> Discussion and criticism of the example</li> </ul>	<b>D3.4 – Lippert/Narjes</b> <b>Field trip to visit Cardamom farmers in Tsirang (cont.)</b>	<b>D4.4 – Lippert</b> <ul style="list-style-type: none"> <li>• <b>Ex. VI:</b> Design of a benefit transfer to assess the value of ecosystem services in the Punakha valley</li> </ul>	<b>D5.4 – Narjes/Lippert</b> <ul style="list-style-type: none"> <li>• Seminar evaluation</li> </ul>
7.00 PM		<b>German evening:</b> Perspectives on agriculture and rural life in Germany (lunch and beverages will be served)			

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