

# CNR SUMMER SCHOOL 2016

on

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

Where? On the CNR campus at Lobesa, Bhutan

What? Three separate seminar weeks

When? From 11<sup>th</sup> to 29<sup>th</sup> of July 2016

*Organized by*

College of Natural Resource (CNR), Lobesa

Humboldt-University of Berlin, Germany

University of Hohenheim, Germany



Funded by the German Academic Exchange Service (DAAD)

# DAAD

Deutscher Akademischer Austausch Dienst  
German Academic Exchange Service

- 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 2016!**

Registration Deadline: 30<sup>th</sup> of June, 2016

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

The **CNR Summer School 2016** is a three week summer school from 11<sup>th</sup> to 29<sup>th</sup> of July, 2016 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, Lobesa, Humboldt-University of Berlin (HU Berlin) and University of Hohenheim.

## **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 content of the summer school 2016 was prepared based on feedback from a previous workshop which took place in Phuentsholing in February, 2015. The summer school consists of three week seminars. 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 of wildlife and organic agriculture. 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.

Seminar 1 focuses on the principles of farm economics and introduces participants to resource and investment analysis. The tools learned in seminar 1 will help participants to evaluate farm investment options such as land mechanization through power-tillers or the financial profitability of planting hazelnut or orchard trees. Seminar 2 extends the scope to environmental economics, teaching participants methods to internalize externalities in cost-benefit analysis. The theories and methods learned in this seminar will help participants to understand how social benefits and non-market values can be included in the evaluation of investment programs and policies. In seminar 3 participants learn about the foundations and effects of agricultural policies based on policies relevant to Bhutan such as measures to improve livestock productivity and food self-sufficiency or the support of organic agriculture. Working in groups, participants will prepare own policy analysis and present their policy recommendations at the end of the seminar. Please note, the detailed schedule of each seminar week is presented at the end of this brochure.

## **Who is teaching at the summer school?**

Lecturers are professors and researchers from Humboldt-University of Berlin and University of Hohenheim, two of the leading universities in agricultural science in Germany.

***Dr. Steffen Entenmann (Lecturer Seminar 1)***

Dr. Entenmann studied Horticultural Sciences and Integrated Natural Resource Management. During his PhD he studied the synergies between biodiversity conservation and climate change mitigation in tropical countries. He is a scientific staff member of the Scientific Advisory Board on Agricultural Policy, Food and Consumer Protection at the Federal German Ministry for Food and Agriculture. Dr. Entenmann's interest in Bhutan is related to the implementation of forest conservation strategies.



***Prof. Dr. Christian Lippert (Lecturer Seminar 2)***



Prof. Lippert is a professor for Production Theory and Resource Economics at University of Hohenheim. 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

***Prof. Dr. Harald Grethe (Lecturer Seminar 3)***

Prof. Grethe holds the chair of International Agricultural Trade and Development at Humboldt-University of Berlin. He has ample experience in the analysis of policies related to agriculture, development and trade in the European Union as well as 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 Bhutan in 2015 and is particularly interested in how policies can promote both animal and environmental protection as well as agricultural productivity and rural incomes in Bhutan.



### ***Arndt Feuerbacher (Assistant Lecturer Seminar 1- 3)***

Mr. Feuerbacher is a PhD student at Humboldt-University of Berlin, where he conducts research on the impact of agricultural policies on rural livelihoods in Bhutan. Currently, he is working on a study assessing the trade-off between food self-sufficiency and organic agriculture in the context of Bhutan. Together with Asst. Prof. Dr. Tulsi Gurung from CNR, Mr. Feuerbacher is responsible for the coordination and organization of the summer school.



### **How to register for the 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. The minimum qualification required for the participation is either a bachelor degree earned in natural or social sciences or current enrolment within a study program (bachelor or post-graduate). In addition, good knowledge of Microsoft Office, particularly Excel, is desired. The maximum number of participants for each seminar week is 15 participants. 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.

### **Fees**

The summer school is free of charge for participants of institutions affiliated with the Royal University of Bhutan and Royal Government of Bhutan, such as employees from MoAF and students and academics from CNR or RNR-RDCs. Participants from non-government institutions have to pay a tuition fee of 12,000 NU per seminar week or 30,000 NU to participate at all three seminar weeks. Participants from non-government institutions may apply for a course fee waiver by presenting their motivation and describing the lack of funding in a separate letter attached to the application.

Please note, that in cases of no-show without a cancellation of participation before 8<sup>th</sup> of July 2016, a no-show fee of 5,000 NU has to be charged.

## **Accommodation and transportation**

Participation at the summer school does not include the coverage of accommodation and transportation cost. Participants have to organize accommodation and transportation on their own. 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 Assistant Prof. Dr. Tulsi Gurung ([gurungt2010@gmail.com](mailto:gurungt2010@gmail.com)) and Arndt Feuerbacher ([arndtfeuerbacher@gmail.com](mailto:arndtfeuerbacher@gmail.com)).

- ✓ 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 have a personal notebook with Microsoft Excel installed
- ✓ Please state whether assistance in financing the summer school fee (for non RUB/MoAF applicants) or 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:**

#### **Asst. Prof. Dr. Tulsi Gurung**

Office No: 00975 2 376249

Cell: 00975 17 360 100

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

#### **Arndt Feuerbacher**

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

## Program overview

The summer school takes place on the campus of the College of Natural Resources (CNR) in Lobesa and consists of three weekly seminars each lasting over five days from Monday to Friday. Lectures take place from 9 AM to 5.30 PM. There will be two 30 minutes tea breaks and a 90 minutes lunch break, which will also allow for informal exchange between the resource persons and participants. A detailed 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 and Swiss 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, 11th to Friday, 15th of July, 2016: Principles of farm economics and optimization of farm resource planning

Lecturer: Dr. Steffen Entenmann, University of Hohenheim

Assistant: Arndt Feuerbacher, Humboldt-University of Berlin

Time	Monday 11.07.2016	Tuesday 12.07.2016	Wednesday 13.07.2016	Thursday 14.07.2016	Friday 15.07.2016
9.00 – 10.30 AM	<ul style="list-style-type: none"> <li>Welcome to participants</li> <li>Presentation of seminar content</li> </ul>	<ul style="list-style-type: none"> <li>Farm planning and budgeting; enterprise analysis and calculation of gross margins</li> </ul>	<ul style="list-style-type: none"> <li>Cash-flow budget of farm investment options (e.g. land mechanization, planting of hazelnut and orchard trees)</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to farm resource planning: Production functions</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of different production technologies (e.g. land pre</li> </ul>
Tea break					
11.00 AM – 12.30 PM	<ul style="list-style-type: none"> <li>Introduction into farm management</li> <li>Farm resource analysis</li> </ul>	<ul style="list-style-type: none"> <li>Characteristics of plant cultivation and animal husbandry farm systems</li> </ul>	<ul style="list-style-type: none"> <li>Foundations of investment analysis: Evaluation of farm investment options</li> </ul>	<ul style="list-style-type: none"> <li>Basics of linear programming</li> <li>Presentation of a simple farm system model</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB VI:</b> Implementation of resource usages</li> <li>Model validation</li> <li>Interpretation and discussion of results</li> </ul>
Lunch break					
2.00 – 3.30 PM	<ul style="list-style-type: none"> <li><b>PC-LAB I:</b> Practical applications</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB II:</b> Calculation of farm net-income using real world examples</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB IV:</b> Exercises of cash-flow and investment analysis</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB V:</b> Programming of a simple farm system model</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation of seminar</li> </ul>
Tea break					
4.00 – 5.30 PM	<ul style="list-style-type: none"> <li><b>PC-LAB I:</b> Practical applications</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB III:</b> Analysis of farm systems using case studies from Bhutan</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB IV:</b> Exercises of cash flow and investment analysis</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB V:</b> Continuation</li> </ul>	
7.00 – 9.00 PM			<ul style="list-style-type: none"> <li>Evening event: Agriculture in Germany and Switzerland</li> </ul>		

## Seminar 2 - Monday, 18th to Friday, 22nd of July, 2016:

### Cost-benefit analysis (CBA) of selected land use activities in mountainous agriculture in the context of environmental and resource economics.

Lecturers: Prof. Dr. Christian Lippert, University of Hohenheim  
Dr. Steffen Entenmann, University of Hohenheim

Assistant: Arndt Feuerbacher, Humboldt-University of Berlin

Time	Monday 18.07.2016	Tuesday 19.07.2016	Wednesday 20.07.2016	Thursday 21.07.2016	Friday 22.07.2016
9.00 – 10.30 AM	<ul style="list-style-type: none"> <li>Introduction to seminar content</li> <li>Introduction to market forces and market efficiency</li> </ul>	<ul style="list-style-type: none"> <li>The Economics of Ecosystems and Biodiversity (TEEB): valuable features of species, biotopes and landscapes</li> <li>Total economic value</li> </ul>	<ul style="list-style-type: none"> <li>Cost-benefit analysis (CBA) in the context of environmental economics</li> <li>Basic concepts and recapitulation of investment appraisal</li> </ul>	<ul style="list-style-type: none"> <li>Brainstorming of possible measures to protect crops from wildlife damage in Bhutan</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB IV:</b> CBAs for sustainable land use practices from a private sector perspective CBA considering externalities expected by project stakeholders</li> </ul>
Tea break					
11.00 AM – 12.30 PM	<ul style="list-style-type: none"> <li>Theory of optimal allocation of resources</li> <li>Concepts of sustainability</li> </ul>	<ul style="list-style-type: none"> <li>Methods of valuating natural and environmental resources</li> <li>Discussion of a benefit transfer for Bhutan</li> </ul>	<ul style="list-style-type: none"> <li>Ethically problematic aspects of CBA</li> <li>Criteria for setting discount rates</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB II:</b> Examples: CBAs for measures to protect crops from wildlife damage</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-Lab IV (cont.):</b> CBAs considering externalities expected by project stakeholders Sensitivity analyses considering intergenerational effects</li> </ul>
Lunch break					
2.00 – 3.30 PM	<ul style="list-style-type: none"> <li>Causes of market failure</li> <li>Market failure in case of environmental resources</li> </ul>	<ul style="list-style-type: none"> <li>Agro-environmental policy instruments to internalize land use externalities:</li> <li>Coase Theorem</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB I:</b> Example: CBA for Short Rotation Coppice in Germany</li> </ul>	<ul style="list-style-type: none"> <li>Degrading versus sustainable land use practices</li> <li><b>PC-Lab III:</b> Example: CBA for soil conserving tillage in Germany</li> </ul>	<ul style="list-style-type: none"> <li>Interpretation and discussion of results</li> <li>Formulation of policy recommendations</li> </ul>
Tea break					
4.00 – 5.30 PM	<ul style="list-style-type: none"> <li>Game Theory: Prisoner and social dilemma with examples</li> </ul>	<ul style="list-style-type: none"> <li>Taxes and subsidies</li> <li>Regulatory approaches</li> </ul>	<ul style="list-style-type: none"> <li>Sensitivity analysis</li> <li>Interpretation and discussion of results</li> </ul>	<ul style="list-style-type: none"> <li>Definition of sustainable land use practices in Bhutan</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation of seminar</li> </ul>
7.00 – 9.00 PM			<ul style="list-style-type: none"> <li>Evening event: German culture and food</li> </ul>		

**Seminar 3 - Monday, 25th to Friday, 29th of July, 2016:**  
**Theory and practical application of agricultural policy scenarios in Bhutan.**

Lecturer: Prof. Dr. Harald Grethe, Humboldt-University of Berlin  
 Prof. Dr. Christian Lippert, University of Hohenheim

Assistant: Arndt Feuerbacher, Humboldt-University of Berlin

Time	Monday 25.07.2016	Tuesday 26.07.2016	Wednesday 27.07.2016	Thursday 28.07.2016	Friday 29.07.2016
9.00 – 10.30 AM	<ul style="list-style-type: none"> <li>Principles of economics and economic decision making</li> </ul>	<ul style="list-style-type: none"> <li>Governance and institutions</li> <li>Instruments of agricultural and food policy</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to policy and market analysis methods: partial equilibrium models</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to the application of general equilibrium models</li> </ul>	<ul style="list-style-type: none"> <li>Presentation and discussion (Group 1 and 2)</li> </ul>
Tea break					
11.00 AM – 12.30 PM	<ul style="list-style-type: none"> <li>Economic policy and its objectives</li> <li>Correction of market failures</li> <li>Distribution and regulatory policies</li> </ul>	<ul style="list-style-type: none"> <li>Instruments of agricultural and food policy</li> </ul>	<ul style="list-style-type: none"> <li>Deliberation of a partial equilibrium model for Bhutan</li> </ul>	<ul style="list-style-type: none"> <li>Presentation of the 2012 social accounting matrix for Bhutan</li> </ul>	<ul style="list-style-type: none"> <li>Presentation and discussion (Group 3 and 4)</li> </ul>
Lunch break					
2.00 – 3.30 PM	<ul style="list-style-type: none"> <li>Elasticity of demand and supply</li> </ul>	<ul style="list-style-type: none"> <li>Welfare implications of policies</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB I:</b> Partial equilibrium model for the rice market in Bhutan</li> </ul>	<ul style="list-style-type: none"> <li><b>Group assignment:</b> Preparation of group presentations on selected topics of agricultural and food policy questions</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation of seminar</li> <li>Evaluation of summer school</li> </ul>
Tea break					
4.00 – 5.30 PM	<ul style="list-style-type: none"> <li>Exercises</li> <li>Discussion of group assignments</li> </ul>	<ul style="list-style-type: none"> <li><b>Case Study:</b> Organic agriculture and food self-sufficiency in Bhutan</li> </ul>	<ul style="list-style-type: none"> <li><b>PC-LAB II:</b> Exercises on rice self-sufficiency and 100% organic agriculture scenarios</li> </ul>	<ul style="list-style-type: none"> <li><b>Group assignment:</b> Continued</li> </ul>	<ul style="list-style-type: none"> <li><b>Closing dinner</b></li> </ul>
7.00 – 9.00 PM			<ul style="list-style-type: none"> <li>Evening event: Studying in Germany – DAAD programs and experience of DAAD alumni</li> </ul>		

**Contact details:**

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