



# Information System Better-iS

## ZALF - Output

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### **Summary:**

Creating networks and learning from each others experiences is essential for young researchers, especially in the context of on-the ground research in developing countries. This is even more important for bioenergy research as the challenges in such a new field are numerous. Therefore, Better-iS PhD students organised a joint international PhD workshop for creating a platform to exchange knowledge and experiences in an open and non-competitive atmosphere. The workshop was titled "Bioenergy in developing countries: Concepts and case studies from ongoing research projects" and took place at Humboldt University, Berlin on the 1<sup>st</sup> and 2<sup>nd</sup> of august 2011. In total 25 researchers joined this event, including two Key note speakers (GIZ and Forum Environment and Development representatives), an external Better-iS team member from Wuppertal Institute as well as two senior researchers from ZALF.

### **Title:**

**"Bioenergy in developing countries: Concepts and case studies from ongoing research projects".**

**PhD Workshop for young researchers working on bioenergy in developing countries facilitated by Better-iS**

### **Problem and Objective:**

PhD students do often have to rely on experiences made by other researchers, be it in in terms of data collection in the field or in-depth data analysis. Especially supervisors in their role as scientific supporters did nevertheless conduct their research either in other regions, under different conditions and in nearly all cases in different organisational frameworks. Although there are field guides for

quantitative as well as qualitative data collection do these handbooks mostly lack explanations of how to overcome occurring problems in the field, especially in emerging or third world countries. Therefore, exchange with other PhD students working on similar topics or in similar regions is essential not only for establishing networks in the scientific community but also for creating points of reference for own data quality as well as data analysis. Especially bioenergy does represent an even more challenging scientific research area as the whole concept is rather new and grounded data is often enough lacking. Bioenergy research with focus on developing countries in Germany alone is splitted in a number of different projects like Better-iS ([www.better-is.com](http://www.better-is.com)), Fair Fuels (<http://www.fair-fuels.de/>) and Biofuels as social fuels (<http://www.biofuel-socialfuel.de/>), only to name a few. Although the respective researchers are mostly familiar with each other is an in-dept exchange lacking. Based on this fact did PhD students from ZALF and the University of Hannover organise a workshop to bring together young researchers to discuss their results and assumptions on eye level. An initial problem in this context was to find a suitable event location, as the budget of Better-iS did not allow a support of this event. A final and good solution was found by contacting the head of the institute of socio-economics at ZALF, who supported the organising team with contacting respective officials of Humboldt University, which granted use of the workshop venue.

### Method:

Starting point of the organising process was an email posting to various PhD students known to the organising team to evaluate the general interest in such an event. Although the feedback on this was not overwhelming did the team nevertheless decide to start the second phase and design and distribute a respective invitation (attachment A). The participating PhD student at ZALF was, as being located in the hosting city, especially responsible for the on-the-ground organisation such as locations for the workshop, selection of workshop get-together as well as lunch facilities. Structural questions such as the scientific organisation of the workshop, the selection of key note speakers as well as overall communication were split between the members of the organising team.

### Results:

Although initially designed as meeting of mainly central European participants did the workshop attract a number of international students. In total did 20 PhD students, two key note speakers and three Better-iS associated researchers participate in the event. The associated research institutes or university were as follows:

1. Albert-Ludwigs University Freiburg, Germany (<http://www.uni-freiburg.de/>)
2. Brazilian Bioethanol Science and Technology Laboratory, Brazil (<http://www.bioetanol.org.br/>)
3. German Development Institute, Germany (<http://www.die-gdi.de/>)
4. Gesellschaft für internationale Zusammenarbeit, Germany (GIZ) ([www.giz.de](http://www.giz.de))
5. Helmholtz Centre for Environmental Research UFZ, Germany ([www.ufz.de](http://www.ufz.de))



6. Humboldt-University zu Berlin, Germany (<http://www.hu-berlin.de/>)
7. Institut für Energie- und Umweltforschung Heidelberg (IFEU), Germany (<http://www.ifeu.de/>)
8. International Institute for Water and Environmental Engineering, Burkina Faso (<http://www.2ie-edu.org/>)
9. Leibniz Centre for Agricultural Landscape Research (ZALF), Germany (<http://www.zalf.de>)
10. Leibniz University Hannover, Germany (<http://www.uni-hannover.de/de/>)
11. Leuphana University Lüneburg, Germany (<http://www.leuphana.de/>)
12. Potsdam Institute for Climate Impact Research, Germany (<http://www.pik-potsdam.de/>)
13. Rheinische Friedrich-Wilhelms University Bonn, Germany (<http://www.uni-bonn.de/>) / Center for Development Research (<http://www.zef.de/>)
14. Technische Universität Berlin, Germany (<http://www.tu-berlin.de/>)
15. University College London, UK (<http://www.ucl.ac.uk/>)
16. Wuppertal Institute for Climate, Environment and Energy, Germany (<http://www.wupperinst.org/>)

All participating students supplied an abstract about their scientific work in the forefront which is, as agreed upon by all authors, labeled as internal document and not publishable. A list of participants including their contact details as well as a programm of the event and a table of content of the book of abstract can be found in the section “documentation” in the following (attachment B).

Direct outcomes of such an event are hardly measurable. One main outcome is a PhD googlemail list, important publications can be distributed with. The outcome of networking activities like this is hardly measurable but interlinkages are established. One example for this is the research connection established between DIE and ZALF. The respective PhD student decided to collect data in Tanzania as well and in this regard, the Better-iS team could supply him with valuable contact details as well as data and publications from the ground. Once the data collection will be finalised, direct comparissions and potentially joint publications will potentially be possible. Furthermore is DIE now member of the consortium of the Trans-SEC project, coordinated by ZALF.

### Lessons learnt:

*For practitioners:*



As the overall aim of the workshop was to allow an exchange between researchers especially in terms of their data collection, data analysis and general methodology, no direct recommendations for practitioners could be derived.

*For research:*

Due to the variety of research topics and research locations (e.g. Brazil, Indonesia and Africa, bioethanol, biodiesel and direct combustion of straight vegetable oils), no clear recommendations for researchers can be derived out of this event. A general understanding was nevertheless that a successful implementation of biofuels projects in emerging and third world countries is more complex than anticipated by most international investors. In this regard do Brazil and Africa need to be clearly separated in terms of implementation capacity. In Brazil, on the one hand, research facilities are extraordinary and especially sugarcane research is globally leading. Furthermore is the political will to establish especially sugarcane bioethanol as globally accepted fossil fuel replacement very distinct. The place of European agricultural research in this context does need to be carefully designed to maximise the potential for success. In Africa, on the other hand, questions of food scarcity, unclear land titles and a general high level of good governance lead often enough to research as well as investors goals which need to be corrected in accordance to local realities.

Regarding the exchange between different research projects, regular meetings between on-the-ground workers such as PhD students but also associated researchers seem to be advisable, especially as the costs for such an event (in the case of this workshop 80 € per participant) are acceptable when compared to comparable events. A first step in this direction could be to integrate strategic search for consortiums working in the same area and topic as milestone in each newly designed project.

*For policy implementation:*

As the overall aim of the workshop was to allow an exchange between researchers especially in terms of their data collection, data analysis and general methodology, no direct recommendations for policy practitioners could be derived.



## Documentation



### Call for abstracts

PhD Workshop for young researchers working on bioenergy in Developing Countries  
– facilitated by Better-iS

### Bioenergy in developing countries: Concepts and case studies from ongoing research projects

Biofuels have received enormous attention in the last decade. While favourable policies have spurred growth of energy crops in both developed and less developed countries, many questions remain unsolved. For developing countries, issues such as the impact of biofuels on the local environment and livelihoods, their potential to increase local and national energy security, to improve the trade balance but possibly put food security at risk are essential for any further development. In order to fill this gap of knowledge, numerous research projects have been initiated. Not least in Germany, which is expected to become a major importer of biofuels, a number of universities and research institutes are currently looking into these issues.

To exchange ideas, this PhD Workshop for young researchers will bring together international students from various scientific disciplines working in the field of bioenergy production in developing countries. Aim is to discuss in detail the theses of the participants in compact groups to get input from alternative viewpoints on the one hand, and to establish networks with fellow PhD students on the other. We welcome abstracts from all disciplines including agriculture, geography and economics but also politics, sociology and related research areas. In particular, we encourage theoretical and applied contributions related to South America, Africa and Asia.

Topics may include

- Environmental impacts of biofuels
  - *CO<sub>2</sub> calculation methodologies*
  - *Soil, water, air*
  - *Biodiversity*
- Economic and technical factors
  - *Yield potentials*
  - *Efficiency*
- Potential for small-scale energy production and poverty reduction
  - *Out-grower schemes*
  - *Decentralized energy production*
- Biofuels on the global market: Risks and potentials for developing countries
  - *Potential of developing countries to take part in global biofuels trade*
  - *Costs and benefits of certification*
  - *Trade policies*
- Biofuels impact on food prices and food security



As final outcome, contributed papers will be published online on the homepage of the Better-iS biofuel research project ([www.better-is.com](http://www.better-is.com)). In addition to this, Better-iS is currently in the process of initiating a "Bioenergy Special Issue" to be realised in 2012 in the context of its publication strategy, where interested candidates might have possibility to participate in. This host project aims at the analysis of biofuel value chains in rural Tanzania and is acting as umbrella for the PhD theses of the workshop organisers.

Date of the Workshop : **01. & 02.08.2011**  
Venue: **Berlin, Humboldt University**  
Conference fees: **€ 85**

300 words abstracts including title, name of the author(s), institution(s), and email addresses should be submitted by **Monday 07<sup>th</sup> of March 2011** to [phdconference@zalf.de](mailto:phdconference@zalf.de).

Selected candidates will be informed by the end of March and asked to submit an extended abstract (3-4 pages) by **Monday, 27<sup>th</sup> of June 2011**.

If any further inquires exist, please do not hesitate to contact us via [phdconference@zalf.de](mailto:phdconference@zalf.de).

We thank you very much for your participation and are looking forward to meet you in Berlin!

The organising team

Workshop organisers:

Leibniz Centre for Agricultural Landscape Research (ZALF) –  
Institute of Socio-Economics

- Harry Hoffmann ([harry.hoffmann@zalf.de](mailto:harry.hoffmann@zalf.de))



University of Hannover - Institute for Environmental Economics  
and World Trade (IUW)

- Anna Segerstedt ([segerstedt@iuw.uni-hannover.de](mailto:segerstedt@iuw.uni-hannover.de))
- Anja Fasse ([fasse@iuw.uni-hannover.de](mailto:fasse@iuw.uni-hannover.de))





## Bioenergy in developing countries: Concepts and case studies from ongoing research projects

PhD Workshop for young researchers working on bioenergy  
in Developing Countries

facilitated by Better-is

### Book of Abstracts

01. & 02.08.2011

Berlin, Humboldt University





<b>Program for Better-iS PhD Workshop</b>	<b>1</b>
Global policy and local outcomes: the case of biofuels in Guatemala (Julia Tomei)	3
Where do Bioenergy Value Chains come from?- Organizing efforts to shape the value chain (Jürgen Hauber)	7
The Canola Oil Industry and the EU Trade Integration – A Gravity Model Approach (Dirk Röttgers, Anja Faße)	11
The Biodiversity dimension for sustainable Biofuels production (CamilaOrtolan F. Oliveira)	15
Hirschman’s Linkage approach and the Brazilian Sugar Cane Complex (Kaup)	19
Brazil and the Effectiveness of its Biodiesel Policy - Transaction-Cost Theory and its Contribution to Understanding the Weaknesses in the Value Chain (Esther Laabs)	24
The European mandatory blending quote for biofuels and land use effects in Brazil (Linda Bausch)	29
Modelling the Consequences of Biodiesel Production in Remote Areas in Brazil – A System Dynamics Approach (WibkeAvenhaus)	34
Impact of biofuel production on freshwater resources and greenhouse gas emissions - LCA case studies on selected farming systems in Mexico (Anna Hennecke)	40
A comprehensive approach to Jatropha biofuel production system: toward an integrated assessment methodology (Arnaud Chapuis)	44
Carbon sequestration through Jatropha curcas plantation - First results from Burkina Faso(Sophia Baumert)	49
Comparison of Jatropha based small-scale rural bioenergy systems for lighting, cooking and mechanical power (Mirco Gaul)	55
Biofuel feedstock farming and agro-industries in Southern Africa – chances and risks for rural economies, food security and poverty reduction (Raoul Herrmann)	59
Suitability of small-scale biofuel production and consumption in rural Tanzania (Harry Hoffmann)	63
The nexus between poverty and smallholders’ investments in environmental conservation measures: A case study from Tanzania (A. Faße)	70
Who governs social sustainability of alternative aviation fuels? – Can the RSB embed the aviation fuels market? (Nepomuk Wahl)	74
Potential of Sustainable Jatropha Oil Production in Tanzania: An Economic Land Evaluation Approach (Anna Segerstedt)	77
<b>List of Participants</b>	<b>80</b>





	Name	(Preliminary) Title of project	University/Institute	Contact
1	Avenhaus, Wibke	Modeling the Consequences of Biodiesel Production in Remote Areas in Brazil – A System Thinking Approach	Potsdam Institute for Climate Impact Research, Germany	avenhaus@pik-potsdam.de
2	Baumert, Sophia	Carbon sequestration through <i>Jatropha curcas</i> plantation. First results from Burkina Faso	University of Bonn, Germany; Center for Development Research (ZEF), Germany	sbaumert@uni-bonn.de
3	Bausch, Linda	The European mandatory blending quote for biofuels and land use effects in Brazil	German Biomass Research Center, Germany	linda.bausch@ufz.de
4	Bienge, Katrin	Better-iS consortium & palm oil Indonesia	Wuppertal Institute, Germany	katrin.bienge@wupperinst.org
5	Chapuis, Arnaud	A comprehensive approach to <i>Jatropha</i> biofuel production system: toward an integrated assessment methodology	International Institute for Water and Environmental Engineering, Burkina Faso	arnaud.chapuis@zie-edu.org
6	Fasse, Anja	The nexus between poverty and smallholders' investments in environmental conservation measures: A case study from Tanzania	University of Hannover, Institute for Environmental Economics and World Trade, Germany	fasse@iuw.uni-hannover.de
7	Gaul, Mirco	Comparison of <i>Jatropha</i> based small-scale rural bioenergy systems for lighting, cooking and mechanical power	Technische Universität Berlin, Institute for Energy Engineering and Centre for Technology and Society, Germany	gaul@ztg.tu-berlin.de
8	Hauber, Jürgen	Where do Bioenergy Value Chains come from? – Organizing efforts to shape the value chain	University of Freiburg, Germany; Centre for Renewable Energies, Germany	Juergen.hauber@zee.uni-freiburg.de
9	Hennecke, Anna	Impact of biofuel production on freshwater resources and greenhouse gas emissions – LCA case studies on selected farming systems in Mexico	Institute for Energy and Environmental Research Heidelberg (IFEU), Germany; Center for Development Research (ZEF), Germany	anna.hennecke@ifeu.de
10	Herrmann, Raoul	Biofuel feedstock farming and agro-industries in Southern Africa – chances and risks for rural economies, food security and poverty reduction	German Development Institute (DIE), Germany	Raoul.Herrmann@die-gdi.de
11	Hoffmann, Harry	Suitability of small-scale biofuel production and consumption in rural Tanzania	Leibniz Centre for Agricultural Landscape Research (ZALF), Germany	harry.hoffmann@zalf.de
12	Kaup, Felix	Hirschman's linkage approach – Development economics and the Brazilian sugar cane complex	Potsdam Institute for Climate Impact Research, Germany	kaup@pik-potsdam.de
13	Laabs, Esther	Brazil and the Effectiveness of its Biodiesel Policy – Transaction-Cost Theory and its Contribution to Understanding the Weaknesses in the Value Chain	Potsdam Institute for Climate Impact Research, Germany	esther.laabs@staff.hu-berlin.de
14	Maier, Jürgen	RSB Steering board	German NGO Forum on Environment and Development, Germany	chef@forumue.de
15	Moser, Christine	Biofuel certification	Leuphana Universität Lüneburg, Germany	cmoser@inkubator.leuphana.de
16	Oliveira, Camila	The Biodiversity dimension for sustainable Biofuels production	Brazilian Bioethanol Science and Technology Laboratory, Brazil	camila.oliveira@bioetanol.org.br
17	Reinhardt, Julia	Biocharcoal & climate change	Potsdam Institute for Climate Impact Research, Germany	juliarei@pik-potsdam.de
18	Röttgers, Dirk	The Canola Oil Industry and EU Trade Integration: A Gravity Model Approach	University of Hannover, Institute for Environmental Economics and World Trade, Germany	roettgers@iuw.uni-hannover.de
19	Schmitz, Jutta	GIZ - Programme adviser „Sustainable Management of Resources in Agriculture“	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Germany	jutta.schmitz@giz.de
20	Segerstedt, Anna	Potential of Sustainable <i>Jatropha</i> Oil Production in Tanzania: an Economic Land Evaluation Approach	University of Hannover, Institute for Environmental Economics and World Trade, Germany	segerstedt@iuw.uni-hannover.de
21	Sieber, Stefan	Better-iS coordinator	Leibniz Centre for Agricultural Landscape Research (ZALF), Germany	stefan.sieber@zalf.de
22	Tomei, Julia	Global policy and local outcomes: the case of biofuels in Guatemala	University College London (UCL), Energy Institute, UK	j.tomei@ucl.ac.uk
23	Uckert, Götz	Better-iS Africa coordinator	Leibniz Centre for Agricultural Landscape Research (ZALF), Germany	uckert@zalf.de
24	Wahl, Nepomuk	Who governs social sustainability of alternative aviation fuels? – Can the RSB embed the aviation fuels market?	Leuphana Universität Lüneburg, Germany	nepomuk.wahl@inkubator.leuphana.de



Leibniz-Zentrum für Agrarlandschaftsforschung (ZALF) e.V.



Wuppertal Institute for Climate, Environment and Energy



Leibniz Universität Hannover



On behalf of Federal Ministry for Economic Cooperation and Development



Participating institutions: International Food and Policy Research Institute (IFPRI), Institute for Environmental Economics and World Trade IUW, World Agroforestry Centre ICRAF, Wuppertal Institute for Climate, Environment and Energy, Leibniz-Centre for Agricultural Landscape Research (ZALF e.V.), Association for Strengthening Agricultural Research in Eastern and Central Africa. Associated partners: SOKOINE University of Agriculture, Ministry of agriculture, food security and cooperatives Tanzania

