



## Jun-Prof. Dr. Lisa Biber-Freudenberger

*Center for Development Research, University of Bonn*

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### Work and Practical Experience

***Since 07/2020 Junior-Professor and Research Group Leader at the Center for Development Research, Bonn University (Germany)***

Junior-Professor at the Center for Development Research, Research Group Leader within the project LANUSYNCON (At the Science Policy Interface: LAnd Use SYNERgies and CONflicts within the framework of the 2030 Agenda), a research project focussing on trade-offs between SDGs and the role of science policy interfaces in the context of land use decision making ([www.zef.de/lanusyncon](http://www.zef.de/lanusyncon)).

***10/2016-06/2020 Senior Researcher at the Center for Development Research, Bonn University (Germany)***

Senior Researcher at the Center for Development Research within the Project STRIVE (Sustainable TRade and InnoVation transfer in the bioEconomy) focussing on indicator-based sustainability evaluation of different bioeconomy strategies and scenario-based modelling of policy implementation including case studies in developing and emerging economies on landscape and regional scale ([strive-bioecon.de](http://strive-bioecon.de)).

***08/2015 – 10/2016 Career Break for Maternity Leave***

***04/2013 – 08/2015 Senior Researcher at the Center for Development Research, Bonn University (Germany)***

Senior Researcher at the Center for Development Research and team member of the project WASCAL (West African Science Service Center on Climate Change and Adapted Land Use) as project manager and controller ([www.wascal.org](http://www.wascal.org)).

***11/2012 – 03/2013 Scientific Assistant at the Center for Development Research, Bonn University (Germany)***

Scientific Assistant at the Center for Development Research and team member of the project WASCAL (West African Science Service Center on Climate Change and Adapted Land Use) responsible for the completion of project controlling reports and financial planning.

***01/2012 – 11/2012 Scholar of the Potsdam Graduate School (Germany)***

Stipend for the completion of dissertation

***04/2009 – 12/2011 Research Associate at the University for Sustainable Development Eberswalde (Germany)***

Dissertation in the Cooperative Graduate Programme Adaptive Nature Conservation under Climate Change at the University for Sustainable Development, the Potsdam Institute for Climate Impact Research and Potsdam University, publication and presentation of research results, GIS data generation and statistical analysis, collaboration with external partner institutions, participation in teaching activities, supervision of bachelor and master students, project management and publicity work

***09/2008 – 01/2009 Freelancer and Online Editor at Stellenboersen.de, Göttingen (Germany)***

Member of the online editorial team of Stellenboersen.de researching and editing articles for various websites in HTML and development and design of homepage layout

***10/2007 – 12/2007 Intern at the Park Management of the Korup National Park in Mundemba (Cameroon)***

Development of an ecotourism-concept for small villages located around the Korup National Park, revision of tourist guides, assisting research on feeding ecology and social structures of drills (*Mandrillus Leucophaeus*)

***09/2007 – 10/2007 Consultant for the Federal Ministry for Environment, Nature Conservation and Nuclear Safety in Bonn (Germany)***

Spokesperson for the ministry for press conferences and interviews at the campaign tour in preparation of the 9th conference of parties of the UN "Convention on Biological Diversity"

***08/2007 – 09/2007 & 01/2006 – 04/2006 Intern at the Department for international Nature Conservation of the Federal Ministry for Environment, Nature Conservation and Nuclear Safety in Bonn (Germany)***

Member of the German delegation at the 8th meeting of the German-Russian working group for nature conservation, preparation and publishing of articles and reports for research and development projects, participation in conferences e.g. as a member of the German Delegation at the 8<sup>th</sup> Conference of Parties of the Convention on Biological Diversity of the United Nations in Curitiba/Brazil

## Education and Training

### **04/2009 – 11/2013 *Doctoral Degree (Dr. rer. nat.) in Biodiversity Research***

Cooperative Graduate Program “Adaptive Nature Conservation under Climate Change” at the University for Sustainable Development Eberswalde, University of Potsdam and Potsdam Institute for Climate Impact Research/Germany,

Dissertation: “Adaptation of large-scale priority-setting and planning in nature conservation to global change”, Grade: magna cum laude, Defence 6. November 2013

Supervision: Professor Pierre Ibisch (University for Sustainable Development in Eberswalde), Professor Jasmin Joshi (University of Potsdam) and Professor Wolfgang Cramer (Potsdam Institute for Climate Impact Research)

### **04/2007 – 03/2009 *Master of Science (M.Sc.) in International Nature Conservation***

Bi-national studies in “International Nature Conservation” in cooperation of Georg-August-University Göttingen/Germany and Lincoln University (New-Zealand),

Master thesis: “Habitat Modelling of Kea *Nestor notabilis* Nesting Sites”, Grade: 1.0

Supervision: Professor Christoph Scherber and Dr Stefan Erasmi (University of Göttingen)

### **10/2003 - 08/2006 *Bachelor of Science in Biology (B.Sc.)***

Studies in Biology of Organisms with an emphasis on animal behaviour and ecology University of Osnabrück (Germany), Bachelor thesis: “Breeding Success and Chicks’ mortality of Lapwings *Vanellus vanellus* and Black-tailed godwits *Limosa limosa*”, Grade: 1.3

Supervision: Professor Heinz Düttmann and Professor Rüdiger Schröpfer (University of Osnabrück)

## Extracurricular Training and Education

Mentoring- and Training Program for Female Scientists at the University of Bonn (MeTra) January 2015- April 2016

Workshop on Scientific Writing by Prof. Dr. Robert Trigiano, June 18.-19. 2014 at Herrenhausen Castle Hannover, Germany

4th ALTER-Net Summer School "Biodiversity and Ecosystem Services" September 05.-17. 2009 in Peyresq, Alpes de Haute-Provence, France

Course “Marine Habitats” at the Hydra Institute for Marine Science March 23. - April 02. 2005, in Fetovia/Isola d’Elba, Italy

Participation in the Additional Qualification Program (VERONA) at the University of Osnabrück, October 2004 – October 2005

## Language, Software, and Programming Skills

### Language Skills

German (native)

English (fluent)

### Software and Developer Skills

Statistical and Modelling Software (e.g. Netica, Maxent, Past)

GIS Software (e.g. ArcGIS, Insensa-GIS, Q-GIS)

Integrated Developer Environments (e.g. R-Studio, Kile)

### Scripting Skills

R (including different packages e.g. dplyr, ggplot2, raster, tidyR, bnspatial, lattice, Hmisc, glm, FactoMinR, mclust, ggmap, mlogit)

Latex (including different packages e.g. graphic, hpyerref, color, subfig, soul, makeidx)

## Publications

(ORCID 0000-0001-8106-5372, Google Scholar Citation h-Index 11)

most important publications are marked with an \* and in bold

### 2020

Biber-Freudenberger, L., Ferrara, V., Gibassier, D., Glover, J., Grabs, J., Grace, M., Hörmann, S., Targetti, S. (2020). How can environmental regulators support businesses to improve the outcomes of their operations for biodiversity, with a focus on small and medium-sized enterprises in the food and beverage sector in Europe? Report prepared by an EKLIPSE Expert Working Group. UK Centre for Ecology & Hydrology, Wallingford, United Kingdom.

Biber-Freudenberger, L., Ergeneman, C., Förster, J. J., Dietz, T., & Börner, J. (2020). Bioeconomy futures: Expectation patterns of scientists and practitioners on the sustainability of bio-based transformation. Sustainable Development, DOI: 10.1002/sd.2072

Förster, J. J., Downsborough, L., Biber-Freudenberger, L., Mensuro, G. K., & Börner, J. (2020). Exploring criteria for transformative policy capacity in the context of South Africa's biodiversity economy. Policy Sciences, 1-29.

Guimapi, R. A., Mohamed, S. A., Biber-Freudenberger, L., Mwangi, W., Ekesi, S., Borgemeister, C., & Tonnang, H. E. (2020). Decision Support System for Fitting and Mapping Nonlinear Functions with Application to Insect Pest Management in the Biological Control Context. Algorithms, 13(4), 104.

Guimapi, R. A., Mohamed, S. A., Ekesi, S., Biber-Freudenberger, L., Borgemeister, C., & Tonnang, H. E. (2020). Optimizing spatial positioning of traps in the context of integrated pest management. Ecological Complexity, 41, 100808.

**\*Nascimento, N., West, T. A., Biber-Freudenberger, L., Sousa-Neto, E. R. D., Ometto, J., & Börner, J. (2020). A Bayesian network approach to modelling land-use decisions under environmental policy incentives in the Brazilian Amazon. *Journal of Land Use Science*, 1-15.**

### 2019

Duguma, M.S., Feyssa, D. H., Biber-Freudenberger, L. (2019) Agricultural Biodiversity and Ecosystem Services of Major Farming Systems: A Case Study in Yayo Coffee Forest Biosphere Reserve, Southwestern Ethiopia. *Agriculture* 9(3), 48.

Kamau, J.W., Biber-Freudenberger, L., Lamers, J.P.A, Stellmacher, T., Borgemeister C. (2019) Soil fertility and biodiversity on organic and conventional smallholder farms in Kenya. *Applied Soil Ecology*, 134, 85-97.

### 2018

Biber-Freudenberger, L., Denich, M., Whitney, C. (2018) More inter- and trans-disciplinary research needed in agroecology. *Rural* 21 02/18 31:33.

**\*Biber-Freudenberger, L., Kumar Basukala, A., Bruckner M., Börner, J. (2018) Sustainability Performance of National Bio-Economies. *Sustainability* 2018:10, 2705; doi:10.3390/su10082705.**

Hoff, H., Johnson, F. X., Allen, B., Biber-Freudenberger, L. and Förster, J. J. (2018). Sustainable Bio-Resource Pathways towards a Fossil-Free World: The European Bioeconomy in a Global Development Context. Policy paper produced for the IEEP Think2030 conference. Institute for European Environmental Policy (IEEP), Brussels

Kamau, J. W., Stellmacher, T., Biber-Freudenberger, L., Borgemeister, C. (2018) Organic and conventional agriculture in Kenya: A typology of smallholder farms in Kajiado and Murang'a counties. *Journal of Rural Studies*, 57:171-185.

Melaku, M., Hundera, K., Biber-Freudenberger, L. (2018) Planting Fruits and Vegetables in Homegarden as a Way to Improve Livelihoods and Conserve Plant Biodiversity. *Agriculture* 8(12):190.

### 2017

Rodríguez Osuna, V., Navarro Sánchez, G., Sommer, J. H., Biber-Freudenberger, L. (Eds.) (2017) Towards the integration of biodiversity in Environmental Impact Assessments of Bolivia. Center for Development Research (ZEF)-Universidad Católica Boliviana (UCB). Editorial Inia, Cochabamba, Bolivia. 98 p.

Tonnang, H.E.Z., Hervé, B.D.B., Biber-Freudenberger, L., Salifu, D., Subramanian, S., Ngowi, V.B. et al. (2017) Advances in crop insect modelling methods—Towards a whole system approach. *Ecological Modelling*, 354: 88-103.

**\*Wüstemann H., Bonn, A., Albert, C., Bertram, C., Biber-Freudenberger, L., et al. (2017) Synergies and trade-offs between nature conservation and climate policy: Insights from the “Natural Capital Germany – TEEB DE” study. *Ecosystem Services*, 24: 187-199.**

### 2016

**\*Ibisch, P. L., Hoffmann, M.T., Kreft, S., Péer, G., Kati, V., Biber-Freudenberger, L., et al. (2016) A global map of roadless areas and their conservation status. *Science*, 354(6318):10.1126/science.aaf7166.**

Biber-Freudenberger, L., Ziemacki, J., Tonnang, H. E. Z., Borgemeister, C. (2016) Future Risks of Pest Species under Changing Climatic Conditions. PLOS ONE 11(4): e0153237.

### 2015

Ring, I., Wüstemann, H., Biber-Freudenberger, L., Bonn, A., Droste, N., Hansjürgens, B.. (2015) Naturkapital und Klimapolitik: Einleitung. In: Volkmar Hartje, Henry Wüstemann und Aletta Bonn (eds.): Naturkapital Deutschland – TEEB DE: Naturkapital und Klimapolitik – Synergien und Konflikte. Technische Universität Berlin, Helmholtz-Zentrum für Umweltforschung – UFZ. Berlin, Leipzig. 12-19.

Vohland, K., Doyle, U., Albert, C., Bertram, C., Biber-Freudenberger, L., Bonn, A. et al. (2015) Ökosystemleistungen, Biodiversität und Klimawandel: Grundlagen. In: Volkmar Hartje, Henry Wüstemann, Aletta Bonn (eds.): Naturkapital Deutschland – TEEB DE: Naturkapital und Klimapolitik – Synergien und Konflikte. Technische Universität Berlin, Helmholtz-Zentrum für Umweltforschung – UFZ. Berlin, Leipzig. 66-99.

### 2014

Dolgener, N., Freudenberger, L., Schluck, M., Schneeweiss, N., Ibisch, P.L., Tiedemann, R. (2014) Environmental niche factor analysis (ENFA) relates environmental parameters to abundance and genetic diversity in an endangered amphibian, the fire-bellied toad (*Bombina orientalis*). Conservation Genetics, 15(1): 11-21 (the first two authors share first co-authorship).

Dolgener, N., Freudenberger, L., Schneeweiss, N., Ibisch P.L., Tiedemann, R. (2014) Projecting current and potential future distribution of the Fire-bellied toad *Bombina orientalis* under climate change in north-eastern Germany. Regional Environmental Change, 14(3): 1063-1072 (the first two authors share first co-authorship).

Freudenberger, L; Ibisch, P. L. (2014) Priorisierungsansatz zur Erhaltung der Biodiversität nach den Prinzipien der ökosystembasierten Anpassung. In: Feit, U.; Korn, H. (eds.): Treffpunkt Biologische Vielfalt XIII. Bundesamt für Naturschutz. 173-180.

Freudenberger, L; Sommer, J.H. (2014). Biodiversity: Climate Change. Encyclopedia of Natural Resources: Land. Taylor and Francis, New York. 51-58.

### 2013

Freudenberger, L. P. R., Hobson, S., Rupic, G., Pe'er, M., Schluck, J., Sauermann, S., Kreft, N., Selva and P. L., Ibisch (2013) Spatial Road Disturbance Index (SPROADI) for conservation planning: a novel landscape index, demonstrated for the State of Brandenburg, Germany. Landscape Ecology, 28:1353-1369.

**\*Freudenberger, L., P. R., Hobson, M., Schluck, S., Kreft, K., Vohland, H., et al. (2013) Nature conservation: priority-setting needs a global change. Biodiversity and Conservation, 22: 1255-1281.**

Freudenberger, L.; Ibisch, P. L. (2013) What to conserve? Where and how much? Ecosystem-based adaptation of nature conservation to global change. In: Arno Fischer, Marcel Oesterreich, Tobias Scheidat (eds.): NWK 14: 14. Nachwuchswissenschaftlerkonferenz Tagungsband Brandenburg an der Havel 18. April 2013. Fachhochschule Brandenburg. 133-138.

## 2012

Freudenberger, L., Schluck, M., Ibisch, P.L. (2012) Ökosystemen im Klimawandel– neuartige Prioritätensetzung auf der Grundlage aktueller Ökosystemforschung. In: Ibisch P.L., S. Kreft and V. Luthardt (eds.): Regionale Anpassung des Naturschutzes an den Klimawandel: Strategien und methodische Ansätze zur Erhaltung der Biodiversität und Ökosystemdienstleistungen in Brandenburg. Hochschule für nachhaltige Entwicklung Eberswalde . 144-155.

Freudenberger, L., Hobson, P.R., Schluck, M., Ibisch, P.L. (2012) A global map of the functionality of terrestrial ecosystems. *Ecological Complexity*, 12: 13-22.

Sauermann J., L. Freudenberger, J.-P. Mund, P. L. Ibisch (2012) Naturschutzpriorisierung von Waldflächen am Beispiel des Landkreises Barnim, Brandenburg. In: Ibisch P. L., S. Kreft and V. Luthardt (eds.): Regionale Anpassung des Naturschutzes an den Klimawandel: Strategien und methodische Ansätze zur Erhaltung der Biodiversität und Ökosystemdienstleistungen in Brandenburg. Hochschule für nachhaltige Entwicklung Eberswalde. 156-167.

## 2010

Freudenberger L., Schluck, M. Hobson P.R., Sommer J. H., Cramer, W., et al. (2010) A view on global patterns and interlinkages of biodiversity and human development. In: Ibisch, P.L., A. Vega E. and T.M. Herrmann (eds.): Technical Series No. 54: Interdependence of biodiversity and development under global change. Convention on Biological Diversity. 37-56.

Ibisch P.L., Schmidt L., Freudenberger L., Schluck M. (2010) Wachstum schafft Armut - Entwicklung durch Schrumpfung?. Forum Umwelt und Entwicklung Rundbrief II/2010 - Wohlstand durch Wachstum - Wohlstand ohne Wachstum - Wohlstand statt Wachstum?

## Selected Oral Presentations & Organized Events

### 2019

Biber-Freudenberger L. (2019) The chances and risks of Bioeconomic Growth for Biodiversity Conservation. Presentation during a symposium on “Bioeconomy – Curse or Blessing for Biodiversity Conservation” during the International Congress on Conservation Biology (ICCB) 21-25. July in Kuala Lumpur, Malaysia.

Biber-Freudenberger et al. (2019) Public UNFCCC Side Event "Ensuring Climate Action in Forests is Stable and Resilient". Organisation and Moderation of Podium Diskussion. 19th of June in Bonn, Germany.

### 2018

Biber-Freudenberger, L. et al. (2018) Summer School on Green and Social Enviropreneurship for Biodiversity Conservation and Local Development. Organisation, Moderation and Oral Presentation at the Summer School November 4.-11. 2018 in Kwa Zulu Natal and St Lucia in South Africa.

Biber-Freudenberger, L. et al. (2018) Sustainability performance of national bio-economies. Oral Presentation at the 5th European Congress of Conservation Biology (ECCB) June 12.-15. 2018, Jyväskylä, Finland.

Biber-Freudenberger, L. et al. (2018) Pest Distribution Modelling under Climate Change. Oral Presentation at the International Workshop on Integrated Pest Management May 22.-24. 2018 in Buea, Cameroon.

### 2017

Biber-Freudenberger, L. et al. (2017) It's getting hot in here: Biodiversity and Ecosystems in Climate Change. Organization and Moderation of Side Event Series during the 23rd United Nations Conference COP23 November 6.-17. 2017 in Bonn, Germany.

Biber-Freudenberger, L. et al. (2017) Chances and risks of bio-economy for sustainable human development: Towards an evidence-based dialogue. Oral Presentation at the JSPS-AvH Alumni Joint Conference Science and Science Management for Sustainable Development at the National Research Centre (NRC), October 24.-26. 2017 Cairo, Egypt.

Biber-Freudenberger, L. et al. (2017) The Global Bioeconomy Landscape: What Determines National Strategic Choices? Oral Presentation at the Tropentag September 20.-22. 2017 in Bonn, Germany.

Biber-Freudenberger, L. et al. (2017) Biodiversity under Stress: Global Climate Change & Human Development. Oral Presentation and Panel Discussion during the Cairo Climate Talks: Biodiversity in a Changing Climate May 2. 2017 in Cairo, Egypt.

### Before 2015

Biber-Freudenberger, L. et al. (2015) Biodiversity and Human Development. Session at the 27th International Congress on Conservation Biology (ICCB) 2.-6. August 2015 in Montpellier, France.

Freudenberger, L. et al. (2013) Priorisierungsansatz zur Erhaltung der Biodiversität nach den Prinzipien der ökosystembasierten Anpassung. Interdisziplinäre Expertentagung im Rahmen des Übereinkommens über die biologische Vielfalt 18.- 22. August 2013 am Bundesamt für Naturschutz Internationale Naturschutzakademie Insel Vilm.

Freudenberger, L. et al. (2011) Nature conservation: Priority-setting needs a global change. Contribution to the Conference "Forest Biodiversity in a Changing Climate – Understanding Conservation Strategies and Policies, September 22.-23. 2011 Freiburg, Germany.

Freudenberger, L. et al. (2011) Priority setting for nature conservation under global climate change. Contribution to the 41st GfÖ Annual Conference, September 5.-9. 2011, Oldenburg, Germany.

Freudenberger L. et al. (2010) A view on global patterns and interlinkages of biodiversity and human development. Understanding and applying the Ecosystem Approach for sustainable development and poverty reduction under global change. Oral Presentation at a Side Event at the 10th Conference of Parties (COP10) of the UN Convention on Biological Diversity (CBD), 18-29 October 2010, Nagoya, Japan.