

# **International Yearbook of Soil Law and Policy**

## **Series editor**

Harald Ginzky  
German Environment Agency  
Dessau, Germany

## **Advisory editors**

Jerry Anderson  
Ben Boer  
Maylis Desrousseaux  
Elizabeth Dooley  
Ian Hannam  
Robert Kibugi  
Till Markus  
José Morato Leite  
Jesse Richardson  
Bernard Vanheusden  
Qun Du

The *International Yearbook of Soil Law and Policy* is a book series that discusses the central questions of law and policy with regard to the protection and sustainable management of soil and land. The Yearbook series analyzes developments in international law and new approaches at the regional level as well as in a wide range of national jurisdictions. In addition, it addresses cross-disciplinary issues concerning the protection and sustainable management of soil, including tenure rights, compliance, food security, human rights, poverty eradication and migration. Each volume contains articles and studies based on specific overarching topics and combines perspectives from both lawyers and natural scientists to ensure an interdisciplinary discourse.

The *International Yearbook of Soil Law and Policy* offers a valuable resource for lawyers, legislators, scholars and policymakers dealing with soil and land issues from a regulatory perspective. Further, it provides an essential platform for the discussion of new conceptual approaches at the international, national and regional level.

More information about this series at <http://www.springer.com/series/15378>

Harald Ginzky • Irene L. Heuser • Tianbao Qin •  
Oliver C. Ruppel • Patrick Wegerdt  
Editors

# International Yearbook of Soil Law and Policy 2016

 Springer

*Editors*

Harald Ginzky  
German Environment Agency  
Dessau, Germany

Irene L. Heuser  
IUCN World Commission on  
Environmental Law  
Deputy Chair of Specialist Group on  
Sustainable Soils and Desertification  
Kleinmachnow, Germany

Tianbao Qin  
Research Institute of Environmental Law  
Wuhan University  
Wuhan, China

Oliver C. Ruppel  
Faculty of Law  
University of Stellenbosch  
Stellenbosch, South Africa

Patrick Wegerdt  
DG Environment  
European Commission  
Brussels, Belgium

International Yearbook of Soil Law and Policy

ISBN 978-3-319-42507-8

ISBN 978-3-319-42508-5 (eBook)

DOI 10.1007/978-3-319-42508-5

Library of Congress Control Number: 2017932897

© Springer International Publishing AG 2017

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Printed on acid-free paper

This Springer imprint is published by Springer Nature

The registered company is Springer International Publishing AG

The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

# Foreword

Soils have been the neglected environmental media for a long time. However, several food crises at the beginning of this century have brought a change in perspective of late. Since then, the indispensable value of soils for humans and for the conservation of the environment as a whole has been increasingly understood and gained much momentum too. Also the language around “soils” has changed: Whereas in previous times, soils were predominantly perceived as “dust and dirt”, we have more recently experienced a shift in the public perception where emphatic formulations, like the “earth’s fragile skin” or “soils for life”, started to reflect the increasingly accepted importance of soils for all life on earth and as keystone element for sustainable development.

It is no wonder that soils have been much more prominently featured in the outcome document of the Rio + 20 Conference “The Future We Want” in 2012 and ultimately in Sustainable Development Goals (SDG) in 2015. In addition, the UN General Assembly declared the year 2015 as the first “International Year of Soils” and has decided that December 5 every year shall be known as “World Soil Day”.

An effective conservation of soils particularly by sustainably managing them requires reliable data, scientific knowledge, appropriate management concepts, public engagement, sufficient financial resources, effective legal instruments and good governance.

In this regard, it has been our intention to establish a platform for discussion among legislators, lawyers and policymakers regarding regulatory concepts and approaches on the international, regional and national level. The new *International Yearbook of Soil Law and Policy* aims to bring together the global legal fraternity, academics, judges and local legal practitioners to continue the discourse on soils in the attempt to improve the legal promotion and protection of soils by inter alia enhancing existing governance solutions.

This first volume of the *International Yearbook of Soil Law and Policy* focuses on contents and implementation of the objective of a “land degradation neutral world”, which is also prominently addressed in SDG Target 15.3. The Yearbook is divided into four parts. We are particularly pleased that this first volume was

prominently blessed with words of welcome by internationally renowned academics and visionary politicians from every continent. This introductory part with specific regional perspectives is followed by one of the recent international (law) developments. This part includes an analysis of the content and structure of the SDGs with regard to soil and land, a discussion of scientific methods relevant for their implementation and reports relevant international (legal) regimes. Latest developments include the decisions made at the 12th Conference of the Parties to the United Nations Convention to Combat Desertification (UNCCD) and the United Nations Framework Convention on Climate Change (UNFCCC) COP21 Paris Agreement. The next part deals with cross-disciplinary issues relevant to the implementation of the SDG like the right to food, land tenure, migration and the “Economics of Land Degradation Initiative”. The final part reports on developments in national legislation from various domestic jurisdictions and supranational entities, including Brazil, China, the European Union, Mongolia, Namibia and the United States.

It is our intention that the book series *International Yearbook of Soil Law and Policy* will be perceived as a useful tool for academics, legislators and policy-makers working in this field. To this end, also the subsequent volumes shall address emerging questions of law and politics with regard to the protection and sustainable management of soil and land—at the international, national and regional level such as urban sprawl, sustainable agriculture, effectiveness of regional agreements or land as a privately owned good.

We would like to emphasize our sincere gratitude to Springer Publishing House for publishing the new *International Yearbook of Soil Law and Policy* as part of its “legal portfolio”, making it thus globally accessible.

Dessau, Germany  
Kleinmachnow, Germany  
Wuhan, China  
Stellenbosch, South Africa  
Brussels, Belgium

Harald Ginzky  
Irene L. Heuser  
Tianbao Qin  
Oliver C. Ruppel  
Patrick Wegerdt

# Contents

## **Part I Words of Welcome from All Continents**

<b>Greeting to the Launch of the Yearbook from an African Perspective . . . .</b>	<b>3</b>
Sem T. Shikongo	
<b>Audit of Soil Governance . . . . .</b>	<b>9</b>
Aroldo Cedraz de Oliveira	
<b>Soils Need International Governance: A European Perspective for the First Volume of the International Yearbook of Soil Law and Policy . . . .</b>	<b>15</b>
Jochen Flasbarth	
<b>North American Soils and World Food . . . . .</b>	<b>21</b>
William E. Rees	
<b>Soils Governance, an Australian Perspective . . . . .</b>	<b>31</b>
Paul Martin	
<b>Striving for Land-Soil Sustainability: Some Legal Reflections . . . . .</b>	<b>37</b>
Bharat H. Desai and Balraj K. Sidhu	

## **Part II Recent Developments of Soil Regulation at International Level**

<b>International Soil Protection Law: History, Concepts and Latest Developments . . . . .</b>	<b>49</b>
Ben W. Boer, Harald Ginzky, and Irene L. Heuser	
<b>Chances and Challenges in Using the Sustainable Development Goals as a New Instrument for Global Action Against Soil Degradation . . . . .</b>	<b>73</b>
Knut Ehlers	
<b>Land Degradation Neutrality and the UNCCD: From Political Vision to Measurable Targets . . . . .</b>	<b>85</b>
Sara Minelli, Alexander Erlewein, and Victor Castillo	

<b>The Role of Soils in International Climate Change Policy . . . . .</b>	105
Charlotte Streck and Agustina Gay	
<b>The UN Convention on Biological Diversity and Soils: Status and Future Options . . . . .</b>	129
Franziska Wolff and Timo Kaphengst	
<b>The Alpine Convention’s Soil Conservation Protocol: A Model Regime? . . . . .</b>	149
Till Markus	
<b>Are Soils Taken into Consideration by the IPBES Assessment on Land Degradation and Restoration? . . . . .</b>	165
Maylis Desrousseaux, Janne S. Kotiaho, and Florent Kohler	
<b>Part III Cross-Cutting Topics</b>	
<b>Soil Degradation and Migrations in the Age of the Global Environmental Crisis: A Policy-Making Perspective . . . . .</b>	181
Grammenos Mastrojeni	
<b>FAO: Voluntary Guidelines on Responsible Governance of Tenure of Land, Forests and Fisheries—Relevance, Reception and First Experiences in Implementation . . . . .</b>	203
Michael Windfuhr	
<b>Evaluating the Role of Private Land Tenure Rights in Sustainable Land Management for Agriculture in Kenya . . . . .</b>	219
Robert Kibugi	
<b>The Human Right to Food and Sustainable Soil Management: Linking Voluntary Agricultural Sustainability Standards with Food Security . . . .</b>	237
Tina Beuchelt, Anna Mohr, and Rafaël Schneider	
<b>Economics of Land Degradation: Achievements and Next Steps . . . . .</b>	263
Hannes Etter, Tobias Gerhartsreiter, and Naomi Stewart	
<b>Part IV National and Regional Soil Legislation</b>	
<b>National Developments in Soil Protection in Mongolia . . . . .</b>	285
Ian Hannam	
<b>The Protection of Soil Under Namibian Law . . . . .</b>	309
Oliver C. Ruppel and Anielle von Finckenstein	
<b>Brazilian Federal Court of Accounts (TCU), Department of Agriculture and Environmental Audit: Soil Governance Audit . . . . .</b>	347
Vinícius Neves dos Santos, Tiago Modesto Carneiro da Costa, and Junnius Marques Arifa	



**Legislative Progress on Soil Contamination Prevention and Control in China** . . . . . 365  
Tianbao Qin and Fang Dong

**The Protection of Soil: Does the European Union Live Up to Its Own Ambitions?** . . . . . 389  
Markus Raffelsiefen and Thomas Strassburger

**United States Soil Degradation** . . . . . 411  
Jesse J. Richardson Jr. and Elizabeth Dooley