

ICAR

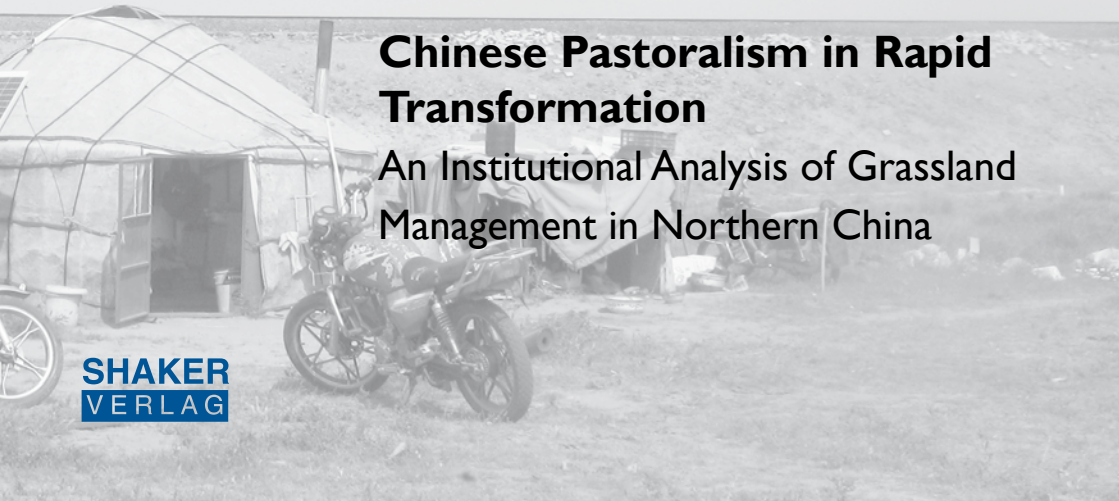
INSTITUTIONAL
CHANGE IN
AGRICULTURE AND
NATURAL RESOURCES

Lu Yu

Chinese Pastoralism in Rapid Transformation

An Institutional Analysis of Grassland
Management in Northern China

**SHAKER
VERLAG**



Chinese Pastoralism in Rapid Transformation

Institutional Change in Agriculture and Natural Resources
Institutioneller Wandel der Landwirtschaft und Ressourcennutzung

edited by/herausgegeben von
Volker Beckmann & Konrad Hagedorn

Volume/Band 71

Lu Yu

Chinese Pastoralism in Rapid Transformation

An Institutional Analysis of Grassland Management
in Northern China

Shaker Verlag
Aachen 2018

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at <http://dnb.d-nb.de>.

Zugl.: Berlin, Humboldt-Univ., Diss., 2017

Copyright Shaker Verlag 2018

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publishers.

Printed in Germany.

ISBN 978-3-8440-5681-5

ISSN 1617-4828

Shaker Verlag GmbH • P.O. BOX 101818 • D-52018 Aachen

Phone: 0049/2407/9596-0 • Telefax: 0049/2407/9596-9

Internet: www.shaker.de • e-mail: info@shaker.de

Aim and Scope of the Series

„Nothing endures but change“. Heraclitus the Ephesian (ca. 535–475 BC)

Institutions, defined as “the rules of the game”, are a key factor to the sustainable development of societies. They structure not only the multitude of human-human interactions of modern societies, but also most of the human-nature interactions. Poverty, famine, civil war, degradation of natural resources and even the collapse of ecosystems and societies often have institutional causes, likewise social and economic prosperity, sustainable use of resources and the resilience of socio-ecological systems. Agriculture, forestry and fisheries are those human activities where the interdependencies between human-human and human-nature interactions are perhaps most pronounced, and diverse institutions have been developed in history to govern them.

Social and ecological conditions are, however, ever changing, which continuously challenge the existing institutional structure at a given point in time. Those changes may be long-term, like population growth or climate change, medium-term, such as new technologies or changing price relations, or short-term, like floods or bankruptcies, but all of them pose the question whether the rules of the game need to be adapted. Failures to adapt timely and effectively may come at a high social cost. Institutional change, however, face a principal dilemma: on the one hand, institutions need to be stable to structure expectations and effectively influence human behaviors; on the other hand, they need to be adaptive to respond to the ever changing circumstance mentioned above. Understanding stability and change as well as developing adaptive institutions and effective, efficient and fair mechanisms of change are, therefore, of central importance for societies and an ongoing research challenge for social scientists.

If we want to improve the effectiveness, efficiency and adaptability of institutions, it stands to reason that we have to develop a good understanding of the causes, effects, processes and mechanism of stability and change. This is the aim of the series “Institutional Change in Agriculture and Natural Resources,” which attempts to answer the questions “How do processes and mechanism of institutional change actually work? What and who are the main determinants and actors driving, governing and influencing these processes? What are the economic, political, social and ecological consequences? How can adaptive institutions be designed and developed, and what governance structures are required to make them effective?” These are the questions at the heart of the series. The works published in this series seek to provide answers to these questions in different economic, social, political and historical contexts.

Volker Beckmann and Konrad Hagedorn

Ernst-Moritz-Arndt-Universität Greifswald und Humboldt-Universität zu Berlin

Acknowledgements

I would like to express great thanks to my supervisor Konrad Hagedorn for his guidance and support throughout my PhD work and his very helpful and insightful comments on this dissertation. His patience, knowledge and trust have guided me to complete this study. I also appreciate the valuable encouragement and continuous inspiration that I have received from Katharine N. Farrell during last few years. This dissertation would never have come into being were it not for the constructive commentary that I received from her on various drafts of this dissertation and the papers that comprise it. I heartily thank Daniel Bromley for his early stage reflections on my research, and his valuable comments on earlier drafts of my papers. It was another great luck for me to have the support from Li Wenjun, who has provided valuable feedback to the entire manuscript. Importantly and personally, I cannot but express my gratitude to Ilona M. Otto and Tan Rong for all the generous support they have given to me over the years. In addition, I would like to thank my colleagues at the Division of Resource Economics at the Humboldt University of Berlin – Lars Berger, Eva Anggraini, Yuliana Griewald, Ulan Kasymov, Pham Thanh Lan, Wibke Crewett, Melina Proestou, Majdi Gouja, Vikram Patil, Ourania Papasozomenou and so many others that I cannot name them all here – for their helpful remarks, advice, support, and companionship during my time there. Special acknowledgement go to three women – Judis Renate, Sigrid Heilmann, and Ines Jeworski – for their generous and kind help during my studies.

I would also like to acknowledge a scholarship from the China Scholarship Council, which made possible my research at Humboldt University. My explorative field trip was funded by the Ningxia Center for Environment and Poverty Alleviation, and I am grateful to project leader Li Fengyang for giving me such an opportunity to be part of its project while also providing me with the full freedom to conduct fieldwork based on my own research interests, which later constituted the basis of my study. The primary fieldwork was funded by a GIZ project called "Insurance instruments for adaptation to climate change". I also extend great gratitude to project director Jan Kerer for his valuable support and suggestions. These grants made possible the field research on which this dissertation is based. Financial support for the publication of this work from Frauenförderung am Albrecht Daniel Thaer-Institut is gratefully acknowledged.

I especially want to express thanks to the participating villagers in Inner Mongolia and the Ningxia Autonomous Region for feeding and housing me during my fieldwork visits and being patient with my numerous questions. They have provided precious and valuable information and advice for the study, without which I could never imagine it being completed in its present form. Thanks as well to Zuo Ting, Qi Gubo, and Tang Lixia of the China Agricultural

University for facilitating my field placement. I am also grateful to students from the China Agricultural University for their assistance during fieldwork as well as to all members of the Ningxia Center for Environment and Poverty Alleviation for promoting and supporting my research.

Parts of this dissertation have been published as independent journal articles. The author sincerely appreciates the insightful reviews and critical comments received from journal editors and anonymous reviewers. These comments have led to significant improvements to the different versions of the manuscripts.

Finally, and most importantly, I give many thanks to my parents for their continually solid support and full trust in my choices, providing room for my explorations and bolstering my confidence in pursuing my academic dreams. I would like to express great admiration for my husband, Xiaoxi, who accompanied me and encouraged me, especially when I became depressed during the last and the most difficult period of completing the study, advised me on my fieldwork and writing, and supported me in countless other ways. Xingshen and Xingyan, my lovely sons, I want to thank you for joining the family and opening a whole new world to me, a wonderful world that is full of love, happiness and adventure – an amazing world that will encourage me to face all future challenges.

Berlin, 2017

Lu Yu

Summary

This dissertation presents an institutional analysis of pastoral resource management undergoing rapid transformation, due to dramatic grassland degradation and intense institutional changes in local herding communities of northern China over the last three decades. The dissertation aims to (1) describe the institutional changes that have taken place in Chinese grassland use over the last three decades; (2) understand the dynamic physical and social contexts in which pasture-related transactions take place; (3) analyze the ways in which institutional change affects these transactions by taking into account local contextual situations; and (4) explain the dynamic relationship between institutions, transactions and social-physical contextual situations within a broad context of rapid transformation.

The study is based on theories of institutional economics and the institutional analysis of common pool resources. The study identifies nature-related transaction that are particularly relevant to social-ecological systems in which the actors face a set of potential decisions that may cause joint benefits or costs, leading to both physical and social interdependence. The analysis is focused on how institutions affect transactions by influencing their properties and by affecting characteristics of actors, which then creates feedback loops through institutional innovation, consequently affecting transactions in the future.

The results reveal that, over the last three decades, both agro-pastoral and nomadic pastoral communities have been facing challenges due to increasing uncertainty from both physical and social (institutional) perspectives. The current Chinese grassland use policies, which heavily regulate grassland use rights, appear to be a poor fit to the needs of pastoral management, as pastoral systems have place-specific ecological characteristics, and pastoral communities have local traditions and cultures tailored to the use of local pasture resources which have been neglected under the existing one-size-fits-all institutional solution. The current institutional environment may lead to further decreasing populations, reduced livestock rearing, and increased inequality within these communities, all of which are expected to influence pastoral resource management in the long term. The results also suggest that the current institutional environment does not take into account that pastoralists have adapted, and continue to adapt, to the complex and dynamic system of grassland use by involving themselves in various types of transactions. Synthesizing the findings from the case studies, the dissertation analyzes the dynamic inter-relationship between transactions, actors and institutions in the context of a complex and dynamic social-ecological system, seeking to contribute towards the current scientific understanding of sustainable natural resource management.

Zusammenfassung

Die vorliegende Dissertation beinhaltet eine institutionelle Analyse pastoralen Ressourcenmanagements in Hirtengesellschaften Nordchinas. Aufgrund einer besonders starken Degradation des genutzten Weidelandes in den letzten drei Jahrzehnten erleben diese Lebensgemeinschaften einen außerordentlichen institutionellen Wandel. Die Dissertation hat zum Ziel (1) den institutionellen Wandel in der Nutzung des chinesischen Grünlands der letzten drei Jahrzehnte zu beschreiben; (2) die Dynamik physischer und gesellschaftlicher Kontexte, in denen weidelandspezifische Transaktionen stattfinden, zu verstehen; (3) unter Berücksichtigung kontextspezifischer Besonderheiten die Wirkung institutionellen Wandels auf solche Transaktionen zu analysieren und (4) vor dem Hintergrund rasch ablaufender Transformationen die dynamischen Beziehungen zwischen Institutionen, Transaktionen und sozial-physischen Kontexten zu erklären.

Die Untersuchung stützt sich auf Theorien der Institutionenökonomie und der institutionellen Analyse von Allmende-Gütern. Anhand von Fallstudien aus pastoral-landwirtschaftlichen und nomadischen Gesellschaften in Nordchina identifiziert die Autorin verschiedene Arten von Transaktionen, denen eine besondere Relevanz für die Ökonomie sozial-ökologischer Systeme innewohnt. Die Akteure sind mit einer Vielzahl potentieller Entscheidungen konfrontiert, die zu gegenseitigen materiellen und sozialen Wechselwirkungen führen. Hierbei liegt der Fokus auf den Auswirkungen von Institutionen auf Eigenschaften von Transaktionen und Charakteristika der handelnden Akteure. Solche Wirkmechanismen führen zu Rückkopplungsschleifen durch institutionelle Innovationen und beeinflussen somit zukünftige Transaktionen.

Die Ergebnisse zeigen, dass in den letzten drei Jahrzehnten sowohl pastoral-landwirtschaftliche als auch nomadische Gemeinschaften einer steigenden Unsicherheit ihrer materiellen und gesellschaftlichen Perspektive ausgesetzt sind. Die aktuellen staatlichen chinesischen Regularien zur Nutzung von Weideland erweisen sich als ungeeignet, den Bedürfnissen der Bauern und Hirten zu entsprechen. Gesetze mit dem Ansatz, einheitliche Lösungen für alle zu schaffen, negieren lokale geographische Spezifitäten und die Traditionen und Gebräuche der Hirten, die speziell auf die Nutzung der Weidenressourcen zugeschnitten sind. Die aktuellen institutionellen Vorgaben werden zu einer weiter schrumpfenden Landbevölkerung, einem geringeren Viehbestand und zunehmender Ungleichheit innerhalb der Gesellschaft führen. Solche Veränderungen werden auf lange Sicht das pastorale Ressourcenmanagement beeinflussen. Indem pastorale Gesellschaften selbstständiger Bestandteil der Organisationsformen einer Vielzahl von Transaktionen sind, haben sie sich an die Komplexität und die Dynamik von Weidesystemen über Jahrhunderte

angepasst, und passen sich immer noch ständig an. Die Ergebnisse erlauben den Rückschluss, dass die momentanen gesetzlichen Regelungen diese Tatsache außer Acht lassen. Wenn man die Ergebnisse aus den Fallstudien zusammenfassend betrachtet, analysiert die vorliegende Dissertation die dynamischen Wechselwirkungen zwischen Transaktionen, Akteuren und Institutionen innerhalb komplexer und dynamischer sozial-ökologischer Systeme. Damit leistet sie einen klärenden Beitrag zum aktuellen wissenschaftlichen Verständnis nachhaltigen Managements natürlicher Ressourcen.

Table of Contents

Acknowledgements.....	vii
Table of Contents.....	xiii
List of Tables.....	xvii
List of Figures	xix
1 Introduction	1
1.1 Theoretical background	1
1.2 Empirical problem statement.....	2
1.3 Research objectives	5
1.4 Methodological approach	6
1.4.1 Research site selection.....	6
1.4.2 Empirical methods.....	8
1.5 Structure of the dissertation.....	9
2 Conceptualizing the research: Theoretical context and a transaction- based analytical framework	13
2.1 A historical review of the transaction concept in institutional economics... 14	
2.1.1 Social transactions in classical institutional economics.....	14
2.1.2 Transactions in industrial organizations in transaction cost economics	16
2.2 Exploring an analytic framework for the study.....	18
2.2.1 Taking into account dynamic social and biophysical contexts	19
2.2.2 An alternative framework for institutional analysis in Social- Ecological Systems: Institutions of Sustainability	20
2.2.3 An extended version of the Institutions of Sustainability framework... 22	
2.3 Applying the extended Institutions of Sustainability framework to guide the empirical analysis of Chinese pastoral cases	24
3 Individualized pastureland use: Responses of herders to institutional changes	27
3.1 Introduction.....	27
3.2 Research background.....	29
3.2.1 Research site	29

3.2.2	Research methods.....	33
3.3	Results.....	36
3.3.1	Frequent occurrence of illegal (night) grazing.....	36
3.3.2	Vanish of cooperative herding.....	37
3.3.3	Decreased self-organizing activities.....	40
3.4	Discussions	42
3.5	Conclusions and recommendations	46
4	Changes in Chinese pastoralism: The transformation of pastoral communities through state policies in northern China	49
4.1	Introduction.....	49
4.2	Case background.....	51
4.3	Conceptual framework for the analysis.....	53
4.4	Methodology.....	56
4.5	Results.....	58
4.5.1	Immediate consequence of the ban	59
4.5.2	Indirect consequences of institutions on actors and transactions.....	60
4.6	Discussion.....	65
4.7	Conclusions.....	68
5	Agro-pastoralism under climate change: Perceptions of climate change, local adaptations and institutions in northern China	71
5.1	Introduction.....	71
5.2	Conceptual basis	73
5.3	Empirical background.....	75
5.3.1	Research site.....	75
5.3.2	Field methods and data	77
5.3.3	Background information on research sites	78
5.4	Local perceptions: Drought as the most relevant climate risk to local livelihoods.....	80
5.5	Local climate adaptation strategies.....	81
5.5.1	Increasing livelihood diversification.....	81
5.5.2	Increasing storage.....	83
5.5.3	Reducing common pooling.....	84

5.5.4	Increasing integration into market exchanges	85
5.6	Discussion.....	86
5.7	Conclusion and implications	90
6	The Chinese perspective on pastoral resource economics: A vision of the future of socio-economic development of pastoralism in China in a context of ecological vulnerability	93
6.1	Introduction.....	93
6.2	Institutional changes in Chinese pastureland use over the last 30 years	94
6.3	Case study selection and methods	95
6.4	Empirical results	97
6.4.1	Changes in agro-pastoralist communities in the study area	97
6.4.2	Changes in pastoralist communities in the study	98
6.5	Discussion.....	100
6.6	A vision of the future of the socio-economic development of pastoralism in China	102
7	Conclusions and implications.....	105
7.1	Research findings.....	105
7.2	Policy implications	107
7.3	Theoretical implications	109
7.4	Suggestions for further research	111
	Reference.....	113