

Institutions of collective action and property rights
for natural resource management

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Institutioneller Wandel der Landwirtschaft und Ressourcennutzung

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**Institutions of collective action and property rights
for natural resource management**

Participation of rural households in
watershed management initiatives in semi-arid India

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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

Focus of the *Governing Sustainability in India* subseries

Deep transformations of interconnected social, ecological and technical systems are taking place in many regions of the world, requiring complex processes of institutional change. In India, such processes of transformation are particularly intense. As in many other countries, the main drivers there can be found in population growth associated with demographic change and economic growth, closely interlinked with technological change. Especially in Indian society, this often occurs in contexts of high population density, extreme resource scarcity, weak carrying capacity of ecosystems and harmful pollution. The growing economy calls for reliable energy provision and increased energy efficiency while, at the same time, also needing to cope with climate change.

The ICAR subseries *Governing Sustainability in India* provides a collection of studies on such action situations in both rural and urban areas. Rural areas are increasingly affected by the above-mentioned problems, as people's livelihoods there often depend directly on well-functioning bio-physical systems. They suffer from soil erosion, declining water tables, loss of biodiversity, impacts of climate change and other crucial problems. In Indian cities meanwhile, particularly its emerging megacities, urbanization is proceeding rapidly, leading to increased demand on natural resources. Changing lifestyles and economic growth are increasing energy consumption and greenhouse gas emissions. Climate change impacts, worsened by such urban developments, are already causing extreme weather events such as floods, heat waves and droughts.

In such action situations, crafting institutions can be the key to achieving sustainable development. The young researchers presenting their analyses in this subseries have accepted this challenge and engaged in excellent, in-depth studies. A variety of related issues were analysed, including enhanced energy efficiency, power-generation efficiency, policies for renewable energy, political discourses for promoting biofuels, sustainable traffic solutions, sustainable food chains, localized food systems, food accessibility for the urban poor, electricity provision for irrigation, microcredit organisations to combat poverty, governance of water allocation, industrial water pollution abatement, collective action in watershed management, rehabilitation of displaced farmers, and local service delivery. We are very grateful to the authors for having employed well-developed analytical frameworks, enlightening theoretical approaches and multiple methods to contribute to our common knowledge base. They have been working together with many partners in India and elsewhere, to whom we also want to express our special gratitude.

Volker Beckmann and Konrad Hagedorn
Ernst-Moritz-Arndt-Universität Greifswald & Humboldt Universität zu Berlin

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List of Abbreviations

ADL	Adilabad
APWALTA	Andhra Pradesh Water, Land and Trees Act
ATP	Anantapur
BC	Backward Castes
BPL	Below Poverty Line
CCT	Continuous Contour Trenches
CGIAR	Consultative Group on International Agricultural Research
COWDEP	Comprehensive Watershed Development Program
CPI	Consumer Price Indices
CPR	Common Pool Resource
DDP	Desert Development Program
DFID	Department for International Development
DoRD	Department of Rural Development
DPAP	Drought Prone Area Program
DRDA	District Rural Development Authority
DWMA	District Water Management Agencies
EGS	Employment Generation/Guarantee Schemes
FAO	Food and Agriculture Organization
FC	Forward Caste
GDP	Gross Domestic Product
GIA	Gross Irrigated Area
GoAP	Government of Andhra Pradesh
GO	Government Orders
GoI	Government of India
GP	Gram Panchayats
HH	Household
HYV	High Yielding Varieties
IAD	Institutional Analysis and Development Framework

ICAR	Indian Council of Agricultural Research
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDS	Institute of Development Studies
IGWDP	Indo-German Watershed Development Program
IRDP	Integrated Rural Development Program
IV	Instrumental Variable
IWDP	Integrated Wastelands Development Program
JFM	Joint Forest Management
KHM	Khammam
KNL	Kurnool
MDG	Millennium Development Goals
MDT	Multi-Disciplinary Team
MoAC	Ministry of Agriculture and Cooperation
MoEF	Ministry of Environment and Forests
MoRD	Ministry of Rural Development
MRO	Mandal Revenue Office
MSP	Minimum Support Prices
NAS	New Agricultural Strategy
NBSSLUP	National Bureau of Soil Survey and Land Use Planning
NGO	Non-Governmental Organisation
NLG	Nalgonda
NPW	National Policy on Watersheds
NRAA	National Rainfed Area Authority
NRM	Natural Resource Management
NSS	National Sample Survey
NTFP	Non-Timber Forest Products
NWDP	National Watershed Development Programme
NWDPA	National Watershed Development Program for Rainfed Areas
OLS	Ordinary Least Squares
PDS	Public Distribution System
PIA	Project Implementing Agencies

PIDOW	Participative and Integrated Development of Watersheds
PRA	Participatory Rural Appraisal
PRIs	Panchayati Raj Institutions
RR	Rangareddy
RVP	River Valley Projects Scheme
SAT	Semi-Arid Tropics
SC	Scheduled Caste
SDC	Swiss Development Cooperation
SHG	Self Help Groups
SLF	Sustainable Livelihood Framework
SSA	Sub Saharan Africa
ST	Scheduled Tribe
SWC	Soil and Water Conservation
TAC	Technical Advisory Committee
UG	User Groups
UNOHCHR	United Nations Office of the High Commission for Human Rights
VA	Voluntary Association
VO	Voluntary Organisation
WA	Watershed Association
WC	Watershed Committee
WDF	Watershed Development Fund
WDT	Watershed Development Team