

Technological and Institutional Innovations for Marginalized Smallholders in Agricultural Development

Franz W. Gatzweiler • Joachim von Braun
Editors

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Foreword

We face a global food crisis of many dimensions. Food prices for the poor are rising and volatile. About a billion people are chronically hungry. Most shocking of all, 1 in 3 children under the age of five are seriously malnourished and will grow up physically and mentally stunted. At the same time, some two billion people are overweight or obese. Furthermore, we have to feed a growing world population demanding more varied and nutritious diets, including a wide range of livestock products. We will have to produce more food, but on more or less the same amount of land and with the same amount of water.

In recent years, I and a team of experts drawn from Europe and Africa, known as the Montpellier Panel, have been attempting to articulate the concepts, frameworks and practical actions we will need to cope with these challenges. We have argued that a way forward is sustainable intensification, producing more with less, but also using inputs more prudently, adapting to climate change, reducing greenhouse gases, improving natural capital and building resilience. It is a tall order, a challenge far greater than that we faced at the time of the Green Revolution.

An important contribution to the debate is this volume edited by Franz Gatzweiler and Joachim von Braun. Its aim is to improve the understanding of how, when and why innovation can bring about sustainable intensification in agriculture, improving the lives of poor smallholders, a majority of which live in Sub-Saharan Africa and South Asia. It presents contributions from theory, policy and practice to the science of sustainable intensification. The volume explores opportunities for marginalized smallholders to make use of technological and institutional innovations in order to achieve sustainable intensification and improve productivity and wellbeing.

The insightful framework developed by Gatzweiler and von Braun considers the different needs of smallholders in different agro-ecological environments and with different human capabilities. The diversity of strategies in each of the segments improve the targeting of innovations when they need to be people and area specific. The identified strategies also tell us about the type of enabling environment in which innovations can tap unused productivity potential by leveraging human and

agro-ecological capital. According to that framework, innovations which are people focused are likely to be more relevant in areas where agro-ecological potentials are low and innovations which create additional value in agricultural productivity are more relevant in areas with unused agro-ecological potentials. That is an important aspect which will make sustainable intensification more focused. For some small-holders, technology will be the dominant innovation for food security, others will need multiple and diverse strategies and build on their social capital, while for others again non-farm income opportunities are the better alternative.

The examples provided in this volume tell us that technological innovation can take diverse forms from high-yielding and stress-tolerant varieties to modified farming practices. Those innovations need to be accompanied by institutional innovations at multiple scales and engage stakeholders from government, local communities and business. Institutional innovation is not only necessary to ensure the access and use of technological innovations but also to create an enabling environment which rewards grassroots innovators for being creative and sharing their knowledge.

The rich collection of contributions from Sub-Saharan Africa and South Asia in this volume are based on original field-based research demonstrating an in-depth understanding of the lives of poor smallholders and the conditions under which they themselves engage in innovation or adopt innovations. It shows by a host of telling examples that a lot more can be done fast and sustainably for and with smallholders by making use of an area-and-people focused targeting concept.

The support of this research by the Bill & Melinda Gates Foundation is a significant indication of the Foundation's commitment to enhance agricultural innovation for poverty reducing actions at scale in marginalized communities and complex diverse agro-ecologies.

The book is a rich source of knowledge for students, scholars and practitioners in the field of science and policy for understanding and identifying agricultural productivity growth potentials for smallholder farmers and development.

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The present volume was accomplished with the cooperation of researchers, funders, practitioners and decision makers from a variety of backgrounds, who collectively took a fresh look at how to overcome the barriers and grasp the opportunities of innovations in agriculture, which would sustainably reduce poverty and marginality. We are grateful to all authors of this volume and those who directly or indirectly contributed to advancing our knowledge on innovations for sustainable agricultural intensification.

Apart from various research colloquia and meetings, findings under this research project had been presented and discussed at the 8th conference of the Asian Society of Agricultural Economics in Dhaka, October 2014.

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Bonn, Germany

Franz W. Gatzweiler
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