



ROUTLEDGE  
EXPLORATIONS  
IN  
ENVIRONMENTAL  
ECONOMICS

# **BIOTECHNOLOGY AND AGRICULTURAL DEVELOPMENT**

**TRANSGENIC COTTON, RURAL INSTITUTIONS AND  
RESOURCE-POOR FARMERS**

Edited by Robert Tripp



# Biotechnology and Agricultural Development

This book addresses the continuing controversy over the potential impact of genetically modified (GM) crops in developing countries. Supporters of the technology claim it offers one of the best hopes for increasing agricultural production and reducing rural poverty, while opponents see it as an untested intervention that will bring corporate control of peasant farming. The book examines the issues by reviewing the experience of GM, insect-resistant cotton, the most widely grown GM crop in developing countries.

The book begins with an introduction to agricultural biotechnology, a brief examination of the history of cotton production technology (and the institutions required to support that technology), and a thorough review of the literature on the agronomic performance of GM cotton. It then provides a review of the economic and institutional outcomes of GM cotton during the first decade of its use. The core of the book is four country case studies based on original fieldwork in the principal developing countries growing GM cotton (China, India, South Africa and Colombia). The book concludes with a summary of the experience to date and implications for the future of GM crops in developing countries.

This review challenges those who have predicted technological failure by describing instances in which GM cotton has proven useful and has been enthusiastically taken up by smallholders. But it also challenges those who claim that biotechnology can take the lead in agricultural development by examining the precarious institutional basis on which these hopes rest in most countries. The analysis shows how biotechnology's potential contribution to agricultural development must be seen as a part of (and often secondary to) more fundamental policy change. The book should be of interest to a wide audience concerned with agricultural development. This would include academics in the social and agricultural sciences, donor agencies and NGOs.

**Robert Tripp** has a doctorate in social anthropology and has spent his career working on issues related to agricultural technology development and dissemination. He spent 15 years with the Economics Program of the International Maize and Wheat Improvement Center (CIMMYT) and 12 years as a research fellow with the Overseas Development Institute (ODI).