Agrobiodiversity Conservation and Economic Development

Edited by Andreas Kontoleon, Unai Pascual and Melinda Smale
## Contents

- List of figures xi
- List of tables xiii
- Contributors xvii
- Foreword xxi
- Acknowledgements xxiii

### 1 Introduction: Agrobiodiversity for economic development: what do we know? 1
   ANDREAS KONTOLEON, UNAI PASCUAL AND MELINDA SMALE

### PART I

#### Policy perspectives 25

- 2 Managing plant genetic resources for sustainable use in food and agriculture: balancing the benefits in the field 27
  LESLIE LIPPER AND DAVID COOPER

- 3 Do we have an adequate global strategy for securing the biodiversity of major food crops? 40
  MELINDA SMALE, PETER HAZELL, TOBY HODGKIN AND CARY FOWLER

- 4 Do we need crop landraces for the future? Realizing the global option value of in situ conservation 51
  MAURICIO R. BELLON

- 5 Marketing underutilized plant species for the poor: a conceptual framework 62
  GUILLAUME P. GRUÈRE, ALESSANDRA GIULIANI AND MELINDA SMALE
Contents

6 Non-market institutions for agrobiodiversity conservation
RUTH MEINZEN-DICK AND PABLO EYZAGUIRRE 82

7 Development, intensification and the conservation and sustainable use of farm animal genetic resources
ADAM G. DRUCKER AND LUIS CARLOS RODRIGUEZ 92

PART II

Multiple objectives, trade-offs and synergies between productivity and agrobiodiversity 111

8 Biodiversity conservation and productivity in intensive agricultural systems
AMANI OMER, UNAI PASCUAL AND NOEL RUSSELL 113

9 Pricing agrobiodiversity: a stochastic approach to model environmental efficiency
JOHANNES SAUER 137

10 Diversity, productivity and resilience in agro-ecosystems: an example from cereal production in Southern Italy
SALVATORE DI FALCO AND JEAN-PAUL CHAVAS 170

11 The role of crop genetic diversity in coping with drought: insights from eastern Ethiopia
LESLIE LIPPER, ROMINA CAVATASSI AND JEFFREY HOPKINS 183

12 A trade-off analysis between rangeland health and income generation in southern Namibia
STÉPHANIE DOMPTAIL, ALEXANDER POPP AND ERNST-AUGUST NUPPENAU 204

13 Estimating the interactions of soil biota with agricultural practices
SÉBASTIEN FOUDI 233

14 Estimating the value of milpa diversity and genetically modified maize to farmers in Mexico: a choice experiment approach
EKIN BIROL AND ERIC RAYN-VILLALBA 247
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Can greening markets help conserve landraces in situ? Eggplants in India</td>
<td>VJESH V. KRISHNA AND UNAI PASCUAL</td>
<td>267</td>
</tr>
<tr>
<td></td>
<td><strong>PART III</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Market and non-market institutions for agrobiodiversity conservation</strong></td>
<td></td>
<td>291</td>
</tr>
<tr>
<td>16</td>
<td>Agro-biodiversity as natural insurance and the development of financial insurance markets</td>
<td>STEFAN BAUMGÄRTNER AND MARTIN F. QUAAS</td>
<td>293</td>
</tr>
<tr>
<td>17</td>
<td>Determinants of collaborative conservation costs of Coffea arabica's wild population in montane rainforest of southwestern Ethiopia</td>
<td>ASEFFA SEYOUM, BEZABIH EMANA, FRANZ W. GATZWEILER AND BELAINEH LEGESSE</td>
<td>318</td>
</tr>
<tr>
<td>18</td>
<td>Agrobiodiversity in poor countries: price premiums deemed to miss multifaceted targets?</td>
<td>MITRI KITTI, JAAKKO HEIKKILÄ AND ANNI HUHTALA</td>
<td>335</td>
</tr>
<tr>
<td>19</td>
<td>Market participation and crop biodiversity in a developing economy: bananas in Uganda</td>
<td>Svetlana Edmeades and Melinda Smale</td>
<td>355</td>
</tr>
<tr>
<td>20</td>
<td>The value of ecosystem services and agrobiodiversity in central Sulawesi</td>
<td>Klaus Glenk, Jan Barmann and Rainer Marggraf</td>
<td>368</td>
</tr>
<tr>
<td>21</td>
<td>Farmers’ participation in agri-environmental programs and impact on farm performance: an empirical analysis applied to Swedish agriculture</td>
<td>Karin Larsen</td>
<td>392</td>
</tr>
<tr>
<td>22</td>
<td>Over-compensation payments for agro-biodiversity conservation</td>
<td>Cornelia OHL, Martin Drechsler, Karin Johst and Frank Wätzold</td>
<td>406</td>
</tr>
<tr>
<td></td>
<td><strong>Index</strong></td>
<td></td>
<td>421</td>
</tr>
</tbody>
</table>