Summer school

Agrobiodiversity in a changing climate

Sustainable production, fragile ecosystems, resilience to global changes

18 - 26 September 2019
FAO Headquarters

**FAO, ETHIOPIA ROOM (C285)**

<table>
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<tr>
<th>Date</th>
<th>Content</th>
<th>Lecturers</th>
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<tr>
<td><strong>DAY 1</strong></td>
<td><strong>Wednesday, 18 September</strong></td>
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<tr>
<td>08:45 - 09:00</td>
<td>Welcome and introductions</td>
<td>All participants</td>
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<tr>
<td>09:00 - 10:00</td>
<td>Crop genetic diversity, Domestication and Traditional Varieties</td>
<td>T. Hodgkin/ D. Jarvis/M. Turdieva (Bioversity)</td>
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<tr>
<td></td>
<td>(Chapters 1,2, Chap. 3 part I)</td>
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<td></td>
<td>Introduction to traditional varieties (pp. 1-11)</td>
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<td>The origins of Agriculture and Crops (pp. 13-28)</td>
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<td>Centres of Crop diversity and Centres of Origin (pp. 28-33)</td>
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<td>Nature, Biodiversity and Genetic Resources (pp. 35-40)</td>
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<td>10:00 – 13:00</td>
<td>Diversity and Its Evolution in Crop Populations (Chapter 4)</td>
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<td>The Nature of Diversity (pp. 64-66)</td>
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<td>Crops, Varieties, and Populations (pp. 67-70)</td>
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<td>Population Genetic Structure (pp. 71-77)</td>
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<td>11:00 - 11:15</td>
<td>Coffee break</td>
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<tr>
<td></td>
<td>Evolution in Crop Varieties and Populations (pp. 78-84)</td>
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<td>Reproductive Biology (pp. 84-89)</td>
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<td>Crops and Crop Varieties in Production Systems (pp. 91-92)</td>
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<td>13:00 - 14:00</td>
<td>LUNCH BREAK</td>
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<tr>
<td>14:00-17:00</td>
<td>Measuring Diversity in Crops (Chapter 5)</td>
<td>D. Jarvis (Bioversity)/P. Colangelo (CNR)</td>
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<td>Exploring the Extent and Distribution of Diversity (agronomic, biochemical, molecular) (pp. 92-107)</td>
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<td>Gathering data using Participatory approaches (pp. 108-118)</td>
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<td>15:00 - 15:15</td>
<td>Coffee break</td>
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<td>Designing and Investigation (pp.119-123)</td>
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<td>Practicum: Calculating On farm Diversity Indices: Richness, Evenness, Divergence (Chapter 5)</td>
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DAY 2  Thursday, 19 September

17:00 - 18:00  Presentations of participants

DAY 2  Thursday, 19 September

09:00-11:00  Abiotic and Biotic Components of Agricultural Ecosystems (Chapter 6)
- Abiotic components of Agroecosystems (pp. 126-131)
- Farmer Characterization and Classification of Abiotic and Biotic Components (pp. 137-145)
- Reducing the Dimensionality of Complex Data Sets (pp. 146-149)
- Ecosystem Diversity and Function (pp. 150-153)
- M. Reverberi/
- F. Attorre/ (Sapienza)
- D. Jarvis
- Bioversity

11:00 - 11:15  Coffee break

11:15-13:00  Diversity in, and Adaptation to, Adverse Environments On-farm (Chapter 6)
- Evolution of Crop Varieties in Stress Prone Environments (pp. 154-157)
- Abiotic Stress and Crop Genetic Diversity (pp. 157-163)
- Biotic Stress and Crop Genetic Diversity (pp. 163-169)
- Farmer Management of Crop Genetic Diversity to Cope with Environmental Stress (pp. 169-172)
- Identifying Where Diversity is Used to Cope with Environmental Stress (pp. 172-180)
- Genetic Diversity, Damage, and Genetic Vulnerability (pp. 181-190)
- D. Jarvis/
- P. Colangelo/
- D. Jarvis (Bioversity)

13:00 -14:00  LUNCH BREAK

Who Are the Managers of Diversity? Characterizing the Social, Cultural, and Economic Environments (Chapter 8)
- Farmers’ Roles and the Management of Crop Diversity (pp. 191-199)
- Social Relationships and the Distribution of Diversity (pp. 199-202)
- R. Nanyka (Bioversity)

15:00 - 15:15  Coffee break

Social Capital, Collective Action and Property Rights (pp. 202-203)
Tool and Methods for Documenting and Relating Farmer Characteristics to Crop Genetic diversity (pp. 203-211)

16:00 – 17:00  Practicum – Who are the Managers of Diversity? (Chapter 8)

17:00 - 18:00  Presentations of participants

DAY 3  Friday, 20 September

09:00 - 13:00  Measuring the Values of On-Farm Diversity (Chapter 9)
- Public and Private Values of Diversity (pp. 212-214)
- Varietal Choice and Diversity Maintenance (pp. 215-220)
- D. Gauchan (Bioversity)

11:00 - 11:15  Coffee break
- Econometric Models and Value Chain Actors (pp. 220-226)
- Measuring Non-Market Values of Diversity (pp. 226-31)

13:00 -14:00  LUNCH BREAK

14:00- 17:00  Policy and Genetic Diversity On-Farm (Chapter 3 part II, Chapter 10)
- The Development and Evolution of National Programs on Plant Genetic Resources (pp. 41-44)
- The Origins of an International Commitments to Plant Genetic Resources Conservation (pp. 45-46)
- I.L. Noriega (Bioversity)
Policy Debates on Conservation- ABS (pp. 46-57)

15:15 – 15:30 Coffee break

The Use of Genetic Resources for Plant Breeding (pp. 58-62)

Policies and Legal Frameworks that Have a Negative Impact on Farmers’ Capacities to Use Diversity On-Farm (pp232-242)

Policy Processes: Overview on Concepts and Methods (pp. 242-249)

Developing Policies that Support Farmers’ Role as Generators, Managers, and Conservers of Crop Diversity (pp. 249-254)

17:00 - 18:00 Presentations of participants

DAY 4 Saturday, 21 September (ROME BOTANICAL GARDEN - Largo Cristina di Svezia, 24)

09:00 – 10:30 Genetic Diversity and Selection Pressures at Different Social, Spatial, and Temporal Scales (Chapter 11)

The Crop Cycle (pp. 255-258) D. Jarvis/ P Colangelo (Bioversity)

Use of Harvested Materials and Diversity of Traditional Varieties (pp. 259-263)

Selection During Crop Production and Seed Management (pp. 263-264)

Patterns of Seed Supply: The “Seed Systems” (pp. 267-274)

Social, Spatial and Temporal Dimensions of Traditional Varieties (pp. 275-282)

10:30 - 10:45 Coffee break

10:45 - 12:30 Strategies for Collaboration and Intervention (Chapter 12)

Institutional and Partner Diversity (pp.283-285) P. De Santis (Bioversity)

Building Trust and Equitable Collaboration (pp. 286-290)

Actions that Incorporate Genetic, Ecological, Social and Economic Concerns in Support of On-farm Management of Crop Genetic Diversity (pp.291-303)

Farmers Benefit from the Use and Conservation of Materials (pp. 303-311)

12:30 - 13:00 Traditional Varieties and Agricultural Productivity (Chapter 13)

Socioeconomic, Policy, Environmental, Biological and Genetic Dimensions (pp.313-320) D. Jarvis/ (Bioversity)

The Future Value of Traditional Varieties (pp. 320-323)

Approaches to Maintenance of Traditional Varieties (pp. 323-325)

13:00 - 14:00 LUNCH BREAK F. Attorre/ (Sapienza)

14:00 - 17:00 Rome Botanical Garden visit – hands on experience on biodiversity D. Jarvis (Bioversity)

17:00 - 18:00 Presentations of participants

DAY 5 Sunday, 22 September

REST – Free day
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<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>09:00 – 11:00</td>
<td><strong>Agroecology</strong>&lt;br&gt;The principles of Agroecology&lt;br&gt;Agroecology as a Science, Practice, and Social Movement</td>
<td>A. Bicksler (FAO AGPM)</td>
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<td>11:00 - 11:15</td>
<td><strong>Coffee break</strong></td>
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<tr>
<td>11:15 - 13:00</td>
<td><strong>Agroecology for Resilience and Climate Change Adaptation</strong></td>
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<td>13:00 - 14:00</td>
<td><strong>LUNCH BREAK</strong></td>
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<td>14:00 - 15:30</td>
<td><strong>Climate-Smart Agriculture (CSA)</strong>&lt;br&gt;The CSA Approach&lt;br&gt;- Challenges and opportunities for agriculture in the face of climate change&lt;br&gt;- CSA concept and 5 step-process to CSA implementation&lt;br&gt;- Practices and production systems for CSA&lt;br&gt;Tools and Methods for Evidence-based Decision Making in CSA: Brief introduction</td>
<td>F. Matteoli/ J. Schnetzer (FAO CBC)</td>
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<td>15:30 - 15:45</td>
<td><strong>Coffee break</strong></td>
<td>R. Vuolo (FAO CBC)/ L-S. Schiettecatte (FAO ESA)</td>
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<td>15:45 – 16:45</td>
<td><strong>Tools and Methods for Evidence-based Decision Making in CSA: Examples &amp; Exercise&lt;br&gt;- Modelling System for Agricultural Impacts of Climate Change (MOSAICC)&lt;br&gt;- Ex-Ante Carbon Assessment Tool (EXACT)</strong></td>
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<td>16:45 – 18:30</td>
<td><strong>Mountain partnership: mountain products' value chains</strong>&lt;br&gt;The Mountain Products initiative</td>
<td>G. Grussu (FAO MP)</td>
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**MODULE 3: AGROBIODIVERSITY VALUES AS MARKET DRIVERS**

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<tr>
<th>Time</th>
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<tr>
<td>09:00 - 13:00</td>
<td><strong>Slow Food</strong>&lt;br&gt;Agrobiodiversity as driver for rural development and the preservation of healthy ecosystems&lt;br&gt;Externalities, ecosystem services and common goods</td>
<td>F. Mattei/ E. Dughera (Slowfood)</td>
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<td>11:00 - 11:15</td>
<td><strong>Coffee break</strong></td>
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<td>11:15 - 13:00</td>
<td><strong>Promoting market access and generating sustainable demand paradigms&lt;br&gt;Education and awareness raising</strong></td>
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<td>13:00 - 14:00</td>
<td><strong>LUNCH BREAK</strong></td>
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<td>14:00 - 15:30</td>
<td><strong>NaturaSi</strong>&lt;br&gt;Organic products in Italy and in the world: growing market, more responsible consumers&lt;br&gt;Effective and equitable farming techniques and distribution processes with low environmental impact&lt;br&gt;Economic and social wellbeing of producers and their communities</td>
<td>F. Brescacin/ C. Murer (NaturaSi)</td>
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<td>15:30 - 15:45</td>
<td><strong>Coffee break</strong></td>
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<td>15:45 - 17:00</td>
<td><strong>How to build long lasting relationships of trust between producers, retailers and consumers</strong></td>
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17:00 - 17:30  
Open discussion  
Marketing and distribution strategies for small mountain producers  
Organic farming: new approaches and research

**DAY 8  Wednesday, 25 September**

10:00 - 17:00  
FIELD TRIP to Vallepietra Village  
Visit to the Slow Food presidium of Vallepietra, where a small consortium of farmers is starting to revive a traditional legume from the Simbrivio Valley, the "Ciavattone" bean.

**DAY 9  Thursday, 26 September**

09:00 - 13:00  
IFOAM  
Fundamental principles and definitions: Organic Agriculture  
Organic Agriculture and its relation and contribution to other Sustainable Agriculture initiatives

11:00 - 11:15  Coffee break

11:15 - 13:00  
Organic 3.0: Towards truly sustainable food and farming systems  
The Organic Movement and its Support Systems - Organic and SDGs  
L. Luttikholt (IFOAM)

13:00 - 14:00  LUNCH BREAK

14:00 - 15:30  
PGS (IFOAM)  
An overview/summary of current organic guarantee systems  
Locally appropriate and smallholder-friendly alternatives - and overview

15:30 - 15:45  Coffee break

15:45 - 17:00  
Participatory Guarantee Systems - principles and practice

17:00 - 17:30  Open discussion

17:30 - 18:00  Closing Remarks