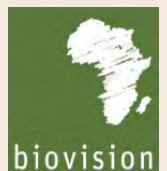


Agroecology and Agrobiodiversity Training Course 2021



Introduction

The Agroecology and Agrobiodiversity Training Course (AATC) is a 3.5-week intensive training course that exposes university students to the fundamentals of agroecology. It develops an in-depth understanding of the principles and practices of agroecology, agrobiodiversity and their applications, amongst students working with practitioners, researchers and policymakers among other actors in the Agriculture sector. The course borrows from and builds on the International Training Course on Organic Agriculture (ITCOA) which over the years has built a network of alumni from different Universities in four countries of focus – Ethiopia, Kenya, Tanzania, and Uganda. Overall, partnerships have involved universities; the University of Nairobi with four other

Universities – Makerere University Kampala, Uganda Martyrs University, Sokoine University of Agriculture and Bahir Dar University in these countries. These partnerships are based on mutual understanding in student selection and nomination as well as in-country and on-the-ground facilitators. With the advent of COVID-19, conducting the course with all partners centrally has become a challenge. Since 2020, each partner university has conducted the course in their home country. The current training (AATC) will be conducted through an e-learning platform, face-to-face and fieldwork sessions. The fieldwork work will involve an exchange among the students, and then with selected practitioners in the agroecology value chain.

This year, the ITCOA partners in Kenya;

University of Nairobi – Faculty of Agriculture, Manor House Agricultural Centre, NutriProduce and the Intersectoral Forum on Agrobiodiversity and Agroecology (ISFAA) have jointly partnered in the Agroecology and Agrobiodiversity Training Course. The training seeks to strategically contribute to the value system of agrobiodiversity, agroecology and organic agriculture in agricultural policy and practice in Kenya with direct inputs to injecting a mind shift in University students. The intended learning outcomes of the training course are i) Application of the knowledge gained for carrying out research, data collection, analysis and presentation; ii) Knowledge dissemination to colleagues, farmers, and stakeholders and iii) Project conceptualisation at local zones of influence. ■

Dear Participants



Fabian Kohler
Programme Officer at
Biovision Foundation
Switzerland

www.biovision.ch
www.infonet-biovision.org
www.agroecology-pool.org
www.theorganicfarmer.org

On behalf of Biovision Foundation I warmly welcome you to the 2021 Agrobiodiversity and Agroecology Training Course (AATC). The e-learning course and the weeks you will spend together are a unique opportunity to deepen your knowledge and skills in sustainable agriculture. We hope you can benefit to the maximum from this inspiring environment and draw on the gained experience and new contacts for many years to come. You shall leave this course motivated to further build on what you learned in the course from facilitators, practitioners and peers.

AATC holds the spirits and expe-

riences of the International Training Course on Organic Agriculture (ITCOA), a transformative learning experience taking place annually in Uganda since 2005. It has laid the foundations for the establishment of a similar course format in Kenya, where a coalition of committed partners took up the same idea and prepared an inspiring programme for you.

You are agents of change, who set sails to build initiatives, alliances and momentum for a more sustainable and inclusive agriculture system in East Africa. This is also what Biovision is committed to: the promotion and dissemina-

tion of agroecological knowledge to build sustainable livelihoods, conserve the environment and combat hunger, malnutrition, and poverty at their roots. We are proud to be sponsoring partners of AATC and are confident that it will be a profound professional and personal experience for you.

2021 is another extraordinary year and you all have passed through many ups and downs. We look forward to seeing you all flourish during AATC, as you become strong future allied actors for an equitable, ecological food system. Let's grow strong - and stay healthy! ■



Professor Richard N. Onwonga

Project Coordinator,

*Agroecology and Agrobiodiversity Training Course (AATC)
University of Nairobi,
Faculty of Agriculture,
Department of Land Resource Management and Agricultural Technology*

The world's population is projected at 9.1 billion by 2050. This phenomenal growth requires increased and sustained agricultural productivity to meet the ever-increasing food demands. In the face of this unprecedented growth, the world continues to face unparalleled challenges in loss of biodiversity and associated knowledge, climate change, land degradation and decreased agricultural productivity, factors that inter alia are a threat to food security and food systems. A candid discussion among researchers, scientists, and policy makers on how to promote food security, while ensuring sustainable food systems and preserving the ecosystem services we rely on is imperative. Application of the principles of agroecology and agrobiodiversity are hyped as the silver bullet towards a sustainable agri-food system that would guarantee the two-fold benefits of safeguarding food security and maintaining healthy and sustainable ecosystems.

Agroecology is the “ecology of food systems encompassing; the social, economic and ecological dimensions of sustainability” and can be applied as a model in the holistic redesign of food systems and aggressively pursue agriculture sustainability via a systems-based,

transdisciplinary, participatory, and action-oriented method. In this respect, agroecology aims at strengthening natural ecosystems within the agroecosystems, exploiting the appropriate ecological processes and the related ecosystem services. On the other hand, agrobiodiversity, also known as agricultural biodiversity, denotes the variability and variety of living organisms that contribute to food and agriculture in the widest sense, and the knowledge linked to it. The value of agrobiodiversity enhances farmer access to and manipulation of natural and productive resources, leading to increased food security. It is worth noting that biodiverse agricultural landscapes are a central feature of many farmer livelihoods and traditional diets are dependent on this agricultural biodiversity.

Agroecology and agrobiodiversity are great disciplines in addressing the food security-environmental degradation-poverty nexus. There is dire need to build capacities of students through imparting relevant skills and knowledge that will propel them to play their rightful roles as change agents and practitioners. At the Department of Land Resource Management and Agricultural Technology, University of Nairobi, we have a clear focus on sustainable management of land

resource, agroecosystems, and environment. Towards this end, concerted efforts that guarantee prudent natural resource use and systematic innovation in agriculture are at the core of our activities.

The Agroecology and Agrobiodiversity Training Course (AATC), funded graciously by Biovision Foundation will thus complement our resolve to support development of sustainable food systems and environment. The purpose of the AATC is to create awareness and build capacity of young professionals in the principles and practices of agroecology and agrobiodiversity. We are privy to the fact that critical decisions are needed in the modern agri-food system and thus the need for individuals equipped with skills and knowledge on agroecosystem health and biodiversity assessment. We commit to train several cohorts of students within our university and beyond in the next coming years, building a pool of well-appraised individuals on these aspects.

Despite the prevailing pandemic, COVID-19, we welcome you to walk this journey to “think, re-imagine and act sustainably”. We will ensure your safe stay and study at the University of Nairobi and field sites.

May you find this training educational, enriching and fulfilling. ■

Training Shedule

WEEK 1

MONDAY, SEPTEMBER 20

Modality: Virtual

9:00am – 11:00am

Introduction session to e-learning e-learning platform registration and onboarding

11:00am – 11:59pm

Individual capacity strengthening on matters agroecology, agrobiodiversity, agroecosystems health and practical individual engagement on activities

TUESDAY, SEPTEMBER 21

Modality: Virtual

9:00am – 11:00am

Seminar 1: Student exchanges on their experience in the agroecology space

Identify specific objectives they want met at AATC 2021

Discuss the phased approach of e-learning

11:00am – 11:59pm

Phase 1: The Economics - Can agroecology be economically viable?

Understanding the development context of agroecology, ecological organic agriculture and agrobiodiversity in East Africa and beyond.

WEDNESDAY, SEPTEMBER 22

Modality: Virtual

9:00am – 11:00am

Phase 2: The Social Side of Agroecology - What is the role of the agroecological system on welfare issues?

Understanding the social context of Ecological Organic Agriculture / Agroecology in East Africa and beyond;

11:00am – 11:59pm

Phase 3: Organic Agriculture and Ecology - Can Organic Agriculture Really Feed the World? Is going organic really any better?

Understanding the basics and principles of agroecology, agrobiodiversity and ecological organic agriculture.

THURSDAY, SEPTEMBER 23

Modality: Virtual

9:00am – 11:00am

Seminar 2: Student exchanges on their results from critical assessments

11:00am – 11:59pm

Reflection – Synthesis
Consider you own a business in agroecology, agrobiodiversity or ecological organic agriculture...

Combining systems knowledge and innovation prospects on agroecology, agrobiodiversity and ecological organic agriculture.

FRIDAY, SEPTEMBER 24

Modality: Virtual

9:00am – 11:00am

Seminar 3 and Next steps: Take stock of student engagement, learning and identify areas of backstopping in practical

11:00am – 11:59pm

***Finalize pending assignments

WEEK 2

SUNDAY, SEPTEMBER 26

Location: UoN-Faculty of Agriculture

Session: Arrival

7:45am – 1:00pm | Check In

1:00pm – 2:00pm

Lunch break

2:00pm – 4:00pm

Welcome (Prof. Onwonga, UoN), Safety & Logistics Briefing (Templer, NP)

4:00pm – 5:00pm

Tea Break

5:00pm – 7:00pm

Interaction Sessions: Gaming (Board, Football), Group Discussions, Assignments

7:00pm – 8:30pm

Dinner

MONDAY, SEPTEMBER 27

Location: UoN-Faculty of Agriculture

Session: Introduction & Session A: Agrobiodiversity

7:45am – 8:00am | Daily Check In

8:00am – 10:30am

Overall Introduction to Agroecology, Agrobiodiversity and Ecological Organic Agriculture: Prof. Onwonga (UoN)

10:30am – 11:00am

Tea break

11:00am – 1:00pm

Linkages between agrobiodiversity, climate change and food security: Emmanuel Atamba (Route to Food, APSID)

1:00pm – 2:00pm

Lunch break

2:00pm – 4:00pm

Approaches and tools to enhance agrobiodiversity: Dr. Celine Termote, Alliance Bioversity-CIAT

4:00pm – 5:00pm

Tea Break

5:00pm – 7:00pm

Interaction Sessions: Gaming (Board, Football), Group Discussions,

Assignments

7:00pm – 8:30pm

Dinner

TUESDAY, SEPTEMBER 28

Location: UoN-Faculty of Agriculture

Session B: Agroecology

7:45am – 8:00am | Daily Check In

8:00am – 10:30am

Can we have a perfect farm or food system - Critical reflections [short clips]: Noel Templer (NP, Alliance Bioversity-CIAT)

Concepts and practices of agroecology: Peter Chege (RODI Kenya)

10:30am – 11:00am

Tea break

11:00am – 1:00pm

Interconnectedness between agrobiodiversity and agroecology: Dr. Robert Mbeche

1:00pm – 2:00pm

Lunch break

2:00pm – 4:00pm

Contemporary issues in agroecology: Ms Wanjiru Kamau

4:00pm – 5:00pm

Tea Break

5:00pm – 7:00pm

Interaction Sessions: Gaming (Board, Football), Group Discussions, Assignments

7:00pm – 8:30pm

Dinner

WEDNESDAY, SEPTEMBER 29

Location: UoN-Faculty of Agriculture

Session C: Ecological Organic Agriculture

7:45am – 8:00am | Daily Check In
8:00am – 10:30am

Concepts and practices of ecological organic agriculture: Dr. Janeth Chepkemoi (UoN) & Noel Templer (NP, Alliance Bioversity-CIAT)

10:30am – 11:00am
Tea break

11:00am – 1:00pm
Transition/conversion to ecological organic agriculture: Dr. Janeth Chepkemoi (UoN)

1:00pm – 2:00pm
Lunch break

2:00pm – 4:00pm
Contributions of EOA to food security and sustainability: Prof. Onwonga (UoN)

4:00pm – 5:00pm
Tea Break

5:00pm – 7:00pm
Interaction Sessions:
Gaming (Board, Football), Group Discussions, Assignments

7:00pm – 8:30pm
Dinner

THURSDAY, SEPTEMBER 30
Location: Nairobi and Environs
Session D: Field Excursions

7:45am – 8:00am
Daily Check In

8:00am – 1:00pm
Field excursion to Sylvia's Basket
***Maai Mahiu Farm

1:00pm – 2:00pm
Lunch break

2:00pm – 4:00pm
Multi-stakeholder initiatives to promote agrobiodiversity: Dr. Oulu (ISFAA)

4:00pm – 5:00pm | Tea Break
5:00pm – 7:00pm

Interaction Sessions:
Gaming (Board, Football), Group Discussions, Assignments

7:00pm – 8:30pm
Dinner

FRIDAY, OCTOBER 1
Location: UoN-Faculty of Agriculture - Kitale
Session E: Travel

7:45am – 8:00am | Daily Check In

8:00am – 4:00pm
Travel to Manor House Agricultural Centre

4:00pm – 5:00pm
Tea Break

5:00pm – 7:00pm
Interaction Sessions:
Gaming (Board, Football), Group Discussions, Assignments

7:00pm – 8:30pm
Dinner

SATURDAY, OCTOBER 2
Location: Manor House AC, Kitale
Session F: Free, Planning & Introductions

7:45am – 8:00am | Daily Check In

8:00am – 1:00pm
Free Morning (Students) & Planning Meeting (AATC Team)

1:00pm – 2:00pm
Lunch break

2:00pm – 4:00pm
Concepts and practices of agrobiodiversity: Dr. Martin Oulu (ISFAA)

Introduction to Data Collection Methods and Tools (AATC Team)

4:00pm – 5:00pm | Tea Break

5:00pm – 7:00pm
Interaction Sessions:
Gaming (Board, Football), Group Discussions, Assignments

7:00pm – 8:30pm
Dinner

WEEK 3

SUNDAY, OCTOBER 3
Location: Manor House AC, Kitale

8:00am – 1:00pm
Session G: Introduction to Manor House AC

2:00pm – 4:00pm
Tool Pretests

*Daily check in and Meal breaks follow normal routine

MONDAY, OCTOBER 4
Location: Manor House AC, Kitale

8:00am – 1:00pm
Session H: Practical Training on Technologies at Manor House AC

2:00pm – 4:00pm
Fieldwork

*Daily check in and Meal breaks follow normal routine

TUESDAY, OCTOBER 5
Location: Manor House AC, Kitale

8:00am – 1:00pm
Session I: Practical Training on Technologies at Manor House AC

2:00pm – 4:00pm
Fieldwork

*Daily check in and Meal breaks follow normal routine

WEDNESDAY, OCTOBER 6
Location: Manor House AC, Kitale

8:00am – 1:00pm
Session J: Practical Training on Technologies at Manor House AC

2:00pm – 4:00pm
Fieldwork in the PM

*Daily check in and Meal breaks follow normal routine

THURSDAY, OCTOBER 7
Location: Manor House AC, Kitale

8:00am – 1:00pm
Session K: Feedback Preparation for Farmers

2:00pm – 4:00pm
Community Feedback

*Daily check in and Meal breaks follow normal routine

FRIDAY, OCTOBER 8
Location: Manor House AC, Kitale

8:00am
Session L: Travel
Departure for Mpala Research Center

SATURDAY, OCTOBER 9
Location: Mpala Research Center

8:00am – 1:00pm
Session M: Game Drive & Introduction (About Mpala Research Centre)

2:00pm – 4:00pm
Research Methods Sessions

*Daily check in and Meal breaks follow normal routine

WEEK 4

SUNDAY, OCTOBER 10
Location: Mpala Research Center
8:00am

Session N: Travel
Departure for Nairobi, UoN-CAVS





MONDAY, OCTOBER 11

Location: UoN-Faculty of Agriculture

8:00am – 4:00pm

Session O: Output Preparations - Part I

*Daily check in and Meal breaks follow normal routine

TUESDAY, OCTOBER 12

Location: UoN-Faculty of Agriculture

8:00am – 4:00pm

Session P: Output Preparations - Part II

*Daily check in and Meal breaks follow normal routine

WEDNESDAY, OCTOBER 13

Location: UoN-Faculty of Agriculture

8:00am – 4:00pm

Session Q: Final Workshop & Graduation

*Daily check in and Meal breaks follow normal routine

THURSDAY, OCTOBER 14

Location: UoN-Faculty of Agriculture

8:00am – 4:00pm

**Session R: Departures
End of AATC 2021 & Departures**

ABBREVIATIONS:

AATC: Agroecology and Agrobiodiversity Training Course

UoN: University of Nairobi

CAVS: College of Agriculture and Veterinary Sciences

NP: NutriProduce

RODI: Resources Oriented Development Initiatives

ISFAA: Intersectoral Forum on Agrobiodiversity and Agroecology

Meet your instructors



Dr. Céline Termote

Dr. Céline Termote is the Africa Team Lead for the Food Environment and Consumer Behaviour research program at the Alliance of Bioversity International and CIAT in Nairobi, Kenya. She has over twenty (20) years' experience in multi-disciplinary research on food systems, healthy diets, ethnobotany, agroecology, traditional knowledge and participatory approaches in several African countries (DR Congo, Benin, Kenya, Burkina Faso, etc.).

She currently runs several large grants implementing community-based approaches for farm, market and diet diversity. She has been collaborating in other projects documenting traditional knowledge and characterizing local agrobiodiversity, including food composition. She obtained her PhD from Ghent University, in Belgium and prior to that she was a development worker in rural DR Congo (Kasai), working as an Advisor in Sustainable Agriculture. ■



David Ngari Nyaga

David Ngari Nyaga Nyaga is the Programs Manager and the Deputy Director at Resources Oriented Development Initiatives (RODI-Kenya). He has more than 15 years' experience in the field of agroecology as a trainer and curriculum development practitioner. He is the technical lead in the development of the Agroecology and Agrobiodiversity Training Course training guide and manuals for trainers of trainers and facilitators working in schools, colleges, and the community. He has led baseline studies, impact assessment, and audits in the fields of agro-ecology, food security, restorative prisoner rehabilitation, criminal justice system among other fields.

He has Bachelor of Science Degree and a Diploma Holder in Horticulture. He is also a Certificate holder in Organic farming. David is driven by his positive attitude and tireless energy to encourage, and support others to work hard and succeed in life. He is inspired by the desire to create a positive impact on people's life and contribute to community development. ■



Emmanuel Atamba Oriedo

Emmanuel Atamba Oriedo, food and farming systems expert is involved in research, advocacy, development and execution of different agri-food projects. He is the Research and Policy Analyst at Route to Food () and consults for Justdiggit, as a Landscape Restoration Enterprise Developer. In addition, he founded APSID, a consulting firm specializing in sustainable agriculture. APSID works directly with farmers to amplify knowledge and information on sustainable food systems.

Emmanuel has published several opinion pieces, position papers on alternatives to the industrial form of agriculture, food safety, food rights and agriculture policies in Kenya and has been featured on numerous TV and Radio interviews educating the public on sustainable farming, food systems and Food Rights. In addition, he hosted the Agri-Talk show on KTN Farmers TV.

Emmanuel holds a Bachelor of Science Degree in Agriculture (Agricultural Economics Major) from the University of Nairobi. He has been on an ardent vegan diet for close to 3 years, and actively advocates for clean eating, plant-based diets for sustainable, healthy living in harmony with other species and nature. ■



Dr. Janeth Chepkemoi

Dr. Janeth Chepkemoi is an expert in the field of organic agriculture, rangeland ecosystems and greenhouse gas emission avoidance, reduction, and mitigation. She has hands-on experience in farmers extension services, soil research, assessment and development activities with immense knowledge of ecosystems, agronomic systems and crop nutrients.

She is a well-rounded professional who has a solid background and experience in the field of research with extensive knowledge of soil and water sampling and quality monitoring programs. She is passionate about simplifying science by demystifying scientific concepts and research findings to staff, crop producers, fertilizer retailers and public. ■



Dr. Martin Oulu

Dr. Oulu is an expert in agrobiodiversity, climate-smart agriculture, and sustainable food systems. He is a researcher and lecturer at the Department of Agricultural Economics, University of Nairobi. He also coordinates the Intersectoral Forum on Agrobiodiversity and Agroecology (ISFAA) on behalf of the GIZ. ISFAA brings together government, civil society organisations (CSOs), farmer organisations, private sector, research and academia, and donors to dialogue on how best to achieve an agroecological transformation of the agriculture sector. Dr. Oulu received his PhD in Human Ecology from Lund University in Sweden. His research interests are transdisciplinary and include agroecological transformations, (agro)biodiversity conservation, climate smart agriculture (CSA), environmental and climate change policy integration/mainstreaming, ecologically unequal exchange (EUE), nexus research, and environmental justice – including the right to food. ■



Noel Templer

Noel Templer's professional work focuses on the intersection between farmer socio-economic and agro ecology environments, household food and seed security, and public policy. He has worked in policy and informal and resilient seed systems and independently led several key development program activities. He specializes in system strengthening and developing evidence-based changes on policy, market systems, and improvements to food security.

He has worked in USAID and DFID - funded climate innovative and food/seed systems programs across East, Central, and Southern Africa. He is a trainer in transdisciplinary courses (AATC, ITCOA) and coordinates e-learning efforts. He works with various organizations focusing on agro ecology and sustainability including Alliance of Bioversity International and CIAT, Biovision Foundation, Impaxio GmbH, GIZ and FiBL.

LinkedIn Bio: <https://www.linkedin.com/in/noel-templer-34b29650/> ■



Dr Robert Mbeche

Dr Robert Mbeche is a Senior Lecturer at the Department of Agricultural and Resource Economics at Jomo Kenyatta University of Agriculture and Technology in Nairobi, Kenya. He holds PhD on Agriculture and Rural Development from the School of Agriculture, Policy and Development at the University of Reading. His research focuses on the dynamics of agricultural innovation, value chain analysis, food systems, food and nutritional security, climate change and impacts on livelihoods of the poor and marginalized and regularly publishes on topics relating to agriculture and food systems, environmental governance and climate change ■





Prof. Richard N. Onwonga

Prof. Richard N. Onwonga holds a PhD in Natural resource Management (Doctor rerum naturalium technicarum/ Dr. nat. techn) from the University of Natural Resources and Applied Life Sciences (BOKU), Vienna; MSc. in Soil Science and B.Sc. in Agriculture Education & Extension from Egerton University. Currently he is the Associate Professor in the Department of Land Resource Management and Agricultural Technology (LARMAT) at the University of Nairobi. His current research interests are on (i) application of agroecological intensification approaches for enhanced agricultural productivity under varied environments and (ii) Evaluating impact of climate change perturbations on agricultural productivity and soil organic carbon dynamics, and other agroecosystem services for sustainable management of agricultural systems.

Before his stint in teaching, Prof. Onwonga worked with the Ministry of Agriculture (MoA) in various capacities and facilitated the link between the MoA and Kenya Agriculture Research Institute for the Kenya Agriculture Productivity and Sustainable Land Management Project; in charge of the implementation of World Bank sponsored work improvement initiatives including service charters and 100 days Rapid Result Initiatives for the MoA. He trains students, farmers, policy makers and other stakeholders on ecological organic agriculture and agroecology. ■



Wanjiru Kamau

Wanjiru Kamau is an agriculture specialist whose main area is in horticulture within a natural resources' conservation context. She has extensive knowledge and training in food safety systems and multi-stakeholder engagement in agricultural value chains.

She has over 20 years' experience in diverse agribusiness and civil society organisations including the tea and horticulture sectors. She has depth of experience in the organic sector on advocacy, capacity building, and research on issues of environmental conservation, human health, and small-scale farmers in partnership with various multi stakeholders. She has published in mainstream media on various aspects/ challenges associated with food systems for small scale farmers and consumers in Africa. Wanjiru is passionate about agroecological approaches in development that emphasize social, economic, and environmental aspects for the benefit of current and future generations. ■

