

Proposed Degree Title: Applied Agroecology

Thematic: Social Movement Studies

Short Definition: The MSc Applied Agroecology is an action-learning degree focused on the application of agroecological knowledge, science, practices and politics to real-world projects.

What is Agroecology?

Agroecology is the application of ecology to the design and management of sustainable agroecosystems. It is a whole-systems approach to agriculture and food systems development based on traditional knowledge, alternative agriculture and local food system experiences. The field of agroecology has been framed as both a science, movement, and practice. These three pillars include agroecology as:

1. a scientific discipline involving the holistic study of agro-ecosystems, including human-social and ecological elements
2. a set of principles and practices to enhance the resilience and ecological, socio-economic and cultural sustainability of food systems
3. a social movement seeking of people working to defend agroecological practices, and to accelerate them in areas dominated by industrial agriculture

What is Applied Agroecology?

Applied agroecology is simply the application of agroecological science, practices and politics to real-life systems. It is an action-learning orientated model, whereby practitioners actively reflect on what agroecology means in a tangible, meaningful way applied to their lives. As a living, dynamic field of intersectional knowledge, applying agroecology is fundamental to its dissemination and development. Practical applications may include managing an agroecological project such as a farm or community garden, organising agroecology related projects and enterprises, or actively participating in food sovereignty and agrarian social movements, as well as undertaking participatory research.

Agroecology in Higher Education

Agroecology is fundamentally a grassroots science, spread by farmer-to-farmer and social learning networks. However, there are a number of University Institutions that have developed agroecology courses. In this document, I intend to communicate the key aims of their programs and demonstrate how I have met these criteria through this Gaia University Program.

I have used five courses from across the world as case studies. These are the European MSc Agroecology delivered by a partnership of universities in Europe, the MSc Ecological Food Systems delivered by Schumacher College and Plymouth University in England, the MSc Integrated Studies in Land and Food Systems in Canada, the Graduate Program in Food Systems at the University of Vermont in the United States, as well as the Masters in Agroecology and Regenerative Food Systems in Mexico.

I have aimed to draw out the common themes between the courses and demonstrated how my MSc explored these topics to a postgraduate level. As all programs are

unique, its clear I will not be able to mirror curriculums, however, I wish to communicate how my MSc effectively achieves the title of Applied Agroecology.

Core Themes:

- Gain an understanding structure and function of complex agroecosystems. This includes systems and resilience thinking, as well as developing ecological literacy. It involves working in an interdisciplinary way and integrating diverse sources of knowledge including traditional ecological knowledge.
- Agroecological system design - including principles and practices of design. Learn to apply systems approaches in studying, designing and evaluating (agricultural) systems and food production chains
- Develop creative solutions for sustainable farming and responsible marketing processes based on an understanding of the economic, social and political processes structuring our food systems. Use common economic tools, ideas and applications to analyse issues concerning the sustainability of food systems.
- Action learning and action research through cooperation with farmers, and other stakeholders in the food system
- Agroecological science such as farming systems ecology, crop and weed ecology, plant production systems and soil quality, ecological horticulture, plant science and botanical diversity
- Project management and application of agroecological science in real-world situations
- Completion of a thesis or research project that will translate knowledge, skills, and experience gained so far into responsible action by conduct of an independent, scientific research on priority issues in the agricultural and food sectors. This includes written, verbal and graphic communication skills for research, teaching, and public understanding of science, career mapping and development.

Graduate Profile

In his article, 'How to Teach Agroecology', leading Professor Miguel Altieri lists what graduates of agroecology programs are expected to possess:

- A strong theoretical and conceptual background on agroecology and sustainable development, including practical know-how on crop, soil and biodiversity management and able to integrate socio-cultural dimensions
- Knowledge and skills regarding the design, management and evaluation of diversified and complex agroecosystems
- A strong grounding in quantitative methods to evaluate performance of agricultural systems and to analyze and interpret scientific data
- Ability to participate in multidisciplinary teams, engage in participatory processes including farmers and other actors, explicitly incorporating multi-

ethnic and gender relations

- Appreciation of traditional forms of agriculture, ability to mobilize local skills, technologies and resources for endogenous development
- High capacity to systematize and evaluate local development experiences and to set in motion a scaling-up process of successful agroecological initiatives
- The capacity to understand and to act accordingly in economic, social, cultural and political processes conducive to sustainable local development, via empowering social groups, conducive policies, alternative markets, etc.

I have created a detailed table of how the program of study I have undertaken meets both Altieri's criteria, as well as shares strong similarities with leading MSc Agroecology courses in the field. Please find this in the appendix.

Gaps and Expansion Within the Field:

The field of agroecology is one constantly being shaped by the people involved in the field. However, there can be a genuine disconnect between those who study agroecology as a theoretical or scientific discipline in western institutions, and those whose livelihoods or survival are based on the land or whose engagement with agroecology comes from active involvement in social movements. Many students who research agrarian social movements do so from a lens of the observer rather than being the subject of research. In Gaia University we are both researcher and subject. Our lives and real-world projects are the centre of our work and learning.

The key gaps in the field that I see are not so much within the fields themselves, but in the relationships between the fields; the edges between academia and grassroots organising, or the edges between scientific discipline and practical land management. Many postgraduate programs can offer students the opportunity to understand ecological sciences, such as soil science or plant production, but they do not necessarily equip students with the tools to apply this learning in real-life. For example an MSc Soil Science may not actually produce students who can better care for soils through regenerative soil care practices such as cover cropping, biochar, or compost teas for example. In a time of social injustice and ecological degradation, producing graduates with real-world skills is more important than ever.

Edges also cross scales of time and space. Learners undertaking MSc programs may interact with a farm project or food enterprise on a short-term basis, sometimes as short as a single day-trip, compared to managing a land project for several years. Their understanding of complex food systems may be limited to their particular geography or even a new location where they have moved to study. The depth of learning has real time-bound limits within a contemporary university time scale of a one-year full-time program.

The knowledge explored in a mainstream university institution is also most-likely to be constrained within political or ideological limits due to its relationship to the state and capitalism. Even the most radical professors can be constrained by curriculum pressures. Utilising the freedom provided by Gaia University, my degree is able to push these limits and create space for paradigm-shifting, radical perspectives on food system transformation.

My Niche Within the Field

In comparison to many students that I meet, it is clear my strengths lie in my practical experience - managing a 4-acre farm, running a social enterprise centred on food, working as a freelance permaculture designer and teacher, and actively organising in social movements. Through these real-world projects, I have developed my project management and organising skills and my analysis of the food system. My niche, however, is clearly my political thinking and development of ideas around political agroecology.

Manuel Gonzalez de Molina defines political agroecology as: "Political agroecology is based on the fact that agrarian sustainability cannot be achieved using only technological (agronomical or environmental) measures which help to redesign agroecosystems in a sustainable manner. Without a profound change in the institutional framework in force it will not be possible for successful agroecological experiences to spread and for the ecological crisis in the field to be combated effectively. Consequently, political agroecology examines the most suitable way to participate in these movements and to use those tools that render institutional change possible."

Political agroecology is an emerging field for applying the methods and findings of research in addressing socioecological change in agroecosystems. Manual summaries, "In short, the mission of political agroecology is producing knowledge that makes possible the establishment of institutions and social movements favorable to the development of agrarian sustainability."

Through my masters degree, I have researched how we can amplify agroecology and the necessary social, political, economic and ecological changes we need to make to achieve socially-just and ecologically sound food systems.

A further niche that I occupy is one of anti-speciesism. I teach an annual Vegan Permaculture Design Course that communicates research and knowledge around plant-based systems. I specialise in land use without farmed animals (that optimises self-determining animals such as wildlife). In my masters studies, a key area of research presented in one output was differing worldviews around animal agriculture, as well as the links between agroecology and social justice for nonhumans.

Degree Thematic: Social Movement Studies

One dictionary definition of a social movement is a group of diffusely organized people or organizations striving toward a common goal relating to human society or social change, or the organized activities of such a group. These groups might be attempting to create change (Occupy Wall Street, Arab Spring), to resist change (anti-globalization movement), or to provide a political voice to those otherwise disenfranchised (civil rights movements). Social movements create social change.

Through my MSc, I have aimed to study and learn from several social movements. These include movements of which I have been an active part of - food sovereignty, anarchism, animal liberation, anti-fracking and environmentalism, and prison abolition movements. I have learned about other movements from through reading and observation, such as La Via Campesina, the global movements of peasants, anti-racism, anti-fascism, labour movements worldwide, groups focusing on popular education and radical pedagogy, and movements confronting extreme energy and fossil fuel extraction. Each output packet has brought me closer to contemporary and historical movements for social change and the rich learnings that can be drawn from them.

Social Movement Studies in Higher Education

A number of programs include the study of social movements in their courses. I have identified X programs that share a similar focus to the thematic area of my degree. These include International Development, Social Justice and Sustainability (MSc) at Bath University, an MA Power, Participation and Social Change with the Institute of Development Studies at Sussex University, Environmental Social Science at the University of Kent, MSc Education, Power and Social Change at Birbeck University in London, as well as MA Social Justice and Community Organizing at Prescott College in the United States.

By reviewing these courses, I have been able to identify the similarities in my studies over the last five years of completing this MSc. The common learning outcomes are:

Learning Outcomes from MSc programs in the field	Achieved by my MSc program
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<p>Demonstrate ability to articulate, evaluate, and compare scholarly and applied theories of culture power, and social change</p> <p>Demonstrate ability and disposition to explain, analyze, and participate in multiple approaches to building the power and capacity of impacted communities to participate in important social decision making</p> <p>Demonstrate a critical understanding of concepts and approaches to social and environmental justice, wellbeing and sustainability, and their strengths and limitations</p>	<p>All of my project output packets contain reflections on power and social change. This includes models around repression, prisons, energy extraction, anarchism, anti-speciesism, radical education, food sovereignty, decolonisation, and social and environmental justice in the context of the political ecology of soils, including soil contamination and remediation.</p>
<p>Demonstrate ability to successfully formulate ethical, collaborative, movement-based research problems and design and carry out scholarly research in the applied field of social justice and community organizing</p>	<p>My research work has been designed with the 'militant research' methodology where I am exclusively looking at problems relating to social movements and aiming to find solutions, for example researching inspiring educational models to help accelerate agroecology based on grassroots pedagogies in the Global South.</p>
<p>Demonstrate an appreciation of how integrated perspectives can capture the complex interactions between social and ecological systems</p>	<p>My capstone OP3 applied agroecology specifically focused on navigating and deconstructing worldview relating to social and ecological knowledge.</p>
<p>Demonstrate the links between education and social and political movements, and develop understandings of how 'education' as a contested field should be viewed within a globalised and postcolonial context.</p>	<p>This was the focus of my capstone OP2 on education for agroecology, where I shared a detailed report communicating my research around education and movements for agroecology (drawing from other social movements in addition).</p>

My Process for Validation Within the Field: Evidence of Documentation

My process for validation within the field is evidence of documentation. Please see the OP5 Learning Review for a detailed list of output packets. This includes both my Gaia University work and output packets, as well as my own website which serves as a living portfolio of my work in the field.

My work is documented in these categories:

- [Agroecology](#)
- [Design](#)
- [Organising](#)
- [Education](#)
- [Writing](#)

Appendices

Appendix A - Core Themes of Postgraduate Study in Agroecology

Gain an understanding structure and function of complex agroecosystems. This includes systems and resilience thinking, as well as developing ecological literacy. It involves working in an interdisciplinary way and integrating diverse sources of knowledge including traditional ecological knowledge.

Agroecological system design - including principles and practices of design. Learn to apply systems approaches in studying, designing and evaluating (agricultural) systems and food production chains

Over the past 5 years I have consciously developed my agroecological knowledge through self-education (reading and studying literature), attending courses and trainings, and via real-world design projects. In parallel to studying with Gaia University, I completed the Diploma in Applied Permaculture Design - this was a four year course whereby I completed 10 real-world design projects, of which two-thirds were agroecological systems, including smallholdings, an animal sanctuary, community garden and 30-acre farm. I also completed a 5-day course with over 40 hours of lectures with leading professors Miguel Altieri and Clara Nichols from the University of Berkeley in California.

My capstone OP3 is the most significant documentation of my applied agroecological learning. It contains an appendix detailing my portfolio as an agroecologist. It also 'deconstructs' agroecology as a science and looks at diverse forms of knowledge, including indigenous and traditional ecological knowledge from a decolonial perspective. In terms of systems and resilience thinking, these are two subjects I teach on permaculture design courses. Gaia University has enabled me to develop my systemic thinking through cultivating this skillset in each output packet as I explore the complex realms of food system change.

Develop creative solutions for sustainable farming and responsible marketing processes based on an understanding of the economic, social and political processes structuring our food systems. Use common economic tools, ideas and applications to analyse issues concerning the sustainability of food systems.

Food system economics were the main focus of my pre-capstone output three. In this output, I researched the role of economics and if it is possible to achieve agroecology or food sovereignty within capitalism, as well exploring alternative economic systems and anarchist economic ideas, in theory, and in practice. My analysis also included

understanding the role of energy, mainly fossil fuel exploitation, and increasing waves of 'extreme energy' and how they intersect with agroecology as a key issue of concern for the sustainability of food systems.

Action learning and action research through cooperation with farmers, and other stakeholders in the food system

Action-learning is the core pedagogy of Gaia University and is how my learning pathway is designed. It is fully integrated into the structure of the programme through designing output packets, embracing real-world projects, and reflecting upon these creating detailed documentation of analysis and learning. In all of my output packets I used the model of action research. My most used methodology and research framework was 'militant research' coined by Kevin Van Meter as research carried out with the aim of producing knowledge useful for militant or activist ends. Van Meter articulates that militant researchers, "Seek to delink research and knowledge production from the power relationships that define the academy, capital and the state-apparatus. The purpose of this research is to be engaging as well as useful, and create a feedback loop for movements so that strategies can be strengthened and the limited resources we have for organizing can be used strategically. Additionally, it is vitally important that movement organizers and participants document their own activities so that we may amplify, grow, and at times replicate our efforts."

Agroecological science such as farming systems ecology, crop and weed ecology, plant production systems and soil quality, ecological horticulture, plant science and botanical diversity

My capstone year output three contains an overarching portfolio of my training as an agroecologist. It details the professional positions I have held, my agroecological system design experience, teaching experience and practical skills. It also contains an overview of the continual professional development I have undertaken. Output 4 is centred on soil and also contains an overview of my engagement with the field of soil science as an area of specialism.

Project management and application of agroecological science in real-world situations

Throughout the period of this masters degree, I have developed abundant skills in project management. A very brief summary of projects that I have managed includes Somerset Land for Food - a £250k project on bringing 100 hectares of land into community food production in Somerset. This included producing an Access to Land Handbook. Following this project, I then managed the Growing Resilience Project and developed a Certificate in Community Horticulture that supported 15 learners to achieve a qualification in community organising and horticulture.

After leaving Somerset Community Food in 2014, I started Feed Avalon - a community interest company and workers cooperative that works towards food resilience in Glastonbury, Street and surrounding villages where I live. We managed a two-year £40k project called 'Growing Glastonbury' establishing a community garden and working with mentors to support people to grow food. We have also developed a community kitchen, a wildflower park, mushroom farm and organised regular local food events. I have managed the EAT Project - education and training in food system skills for over four-years, supporting hundreds of people to gain skills in food production.

In addition to this work, I undertake ad-hoc consultancy work designing agroecological systems for private clients. In the MSc period, my consultancy projects included a 30-acre farm in Somerset, a medicinal community garden in Bristol, a smallholding in Gloucestershire and an animal sanctuary in Northamptonshire. I also co-manage Brook End, a four-acre permaculture demonstration site where I live with my family. We grow food for the family and year-round visitors and course participants.

Completion of a thesis or research project that will translate knowledge, skills, and experience gained so far into responsible action by conduct of an independent, scientific research on priority issues in the agricultural and food sectors. This includes written, verbal and graphic communication skills for research, teaching, and public understanding of science, career mapping and development.

In the action-learning and action-research model of Gaia University, each output packet is a report on our research outcomes. I aimed to cultivate this skillset to a more advanced level in my capstone year. In output 2 I communicated my research in the field of education for agroecology and presented it in a more formal report structure. In output 3 I presented research on deconstructing science for agroecology, again presented in a similar research report format. I have developed my written, verbal and graphic communication skill significantly over the last 5 years. I am even employed as a freelance graphic and website designer on occasion, due to the skills I have developed during this pathway. I have disseminated my learning via numerous outlets including Permaculture News, Permaculture Magazine, the Occupied Times, Positive News, Red Pepper Magazine and more. I was also recently headhunted to work with a group called Corporate Watch, an independent research collective, with whom I now work part-time, due to the demonstrable research work I had undertaken within my MSc and as a movement organiser.

In terms of career mapping, this is attended to through the learning intentions pathway design and learning review output packets. Both of these projects enable agile career designing and the tracking of career progression, as well as comparative analysis of the self within the field(s) we work within.

Appendix B - Altieri's Graduate Profile

Altieri's Criteria	Evidence in MSc Applied Agroecology
A strong theoretical and conceptual background on agroecology and sustainable development, including practical know-how on crop, soil and biodiversity management and able to integrate socio-cultural dimensions	Theoretical background: present in all project OPs 2-4 in both pre and capstone years Practical know-how: demonstrated in my CV through numerous trainings and practical experience managing a 4-acre demonstration centre for 8 years

<p>Knowledge and skills regarding the design, management and evaluation of diversified and complex agroecosystems</p>	<p>Design skills developed through simultaneously completing the Diploma in Applied Permaculture Design, plus BSc Integrative Ecosocial Design</p> <p>Evaluation skills developed through capstone OP3, deconstructing agroecology</p> <p>Management skills developed through projects (see project page of OP5) over 5 years of completing this MSc</p>
<p>A strong grounding in quantitative methods to evaluate performance of agricultural systems and to analyze and interpret scientific data</p>	<p>Evidenced in capstone OP3 on applied agroecology, as well as in OP4 on soil, also via the completion of 5-day short course on agroecology with Altieri</p>
<p>Ability to participate in multidisciplinary teams, engage in participatory processes including farmers and other actors, explicitly incorporating multi-ethnic and gender relations</p>	<p>Evidenced in my community organising work with Feed Avalon and Reclaim the Fields.</p>
<p>Appreciation of traditional forms of agriculture, ability to mobilize local skills, technologies and resources for endogenous development</p>	<p>My OP3 Applied Agroecology output packet focused on deconstructing agroecology as a science and exploring traditional ecological and indigenous knowledge. My work with Feed Avalon demonstrates my ability to mobilise local skills, technologies and resources for community development in our area.</p>
<p>High capacity to systematize and evaluate local development experiences and to set in motion a scaling-up process of successful agroecological initiatives</p>	<p>The role of output work has been to systematise and evaluate my work in the field so that I can better scale up the impact of projects. This has been very effective - see my OP5 Learning Review reflections on pivot points.</p>
<p>The capacity to understand and to act accordingly in economic, social, cultural and political processes conducive to sustainable local development, via empowering social groups, conducive policies, alternative markets, etc</p>	<p>This capacity has been developed through grassroots organising over 8 years in which I have worked with not just a diversity of people, but also a diversity of projects and with a diversity of tactics. This has enabled me to get a holistic overview of economic, social, cultural and political processes conducive to agroecological change.</p>