HANDBOOK

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AGROECO HANDBOOK

Agroecological Entrepreneurship for Empowered Rural Youth 2025

مؤسسة أصدقاء المغرب
Fondation des Amis du Maroc
Morocco's Friends Foundation

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Puntland Community ry

TRAINING WITHOUT BORDERS

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1. Introduction

1.1 Background and Rationale

The AGROECO project was born out of a pressing need to address the dual challenges of youth unemployment in rural areas and the ecological degradation of agricultural systems. Across Europe and the Southern Mediterranean, many young people particularly those who are unemployed or NEET (Not in Education, Employment, or Training) are disconnected from emerging opportunities in sustainable agriculture. At the same time, the agricultural sector is undergoing a necessary green transformation yet lacks adequate youth participation and innovation.

AGROECO recognizes agroecology not just as an agricultural method, but as a pathway toward ecological resilience, social justice, and economic sustainability. The project seeks to bridge the gap between environmental needs and employment opportunities by equipping young people with the skills and knowledge to become agroecological entrepreneurs capable of building livelihoods that are both sustainable and impactful.

Agroecology, with its focus on local knowledge, ecological processes, and community engagement, offers an inclusive model for regenerative farming. By aligning this model with non-formal education and entrepreneurial thinking, AGROECO creates a framework that empowers youth to take leadership roles in the green transition.

1.2 Project Objectives

AGROECO aims to promote sustainable development by increasing the engagement of young people in agroecological practices. The project's key objectives include:

- Empowering rural youth with the knowledge, skills, and tools to develop sustainable agro-entrepreneurial activities.
- Bridging education and employment by introducing innovative training programs based on non-formal learning.
- Fostering green entrepreneurship, with a special focus on rural inclusion and environmental sustainability.
- Enhancing the competencies of youth workers, educators, and trainers in the field of agroecology.

- Promoting cross-border collaboration and the exchange of best practices among partners in Europe and the Southern Mediterranean.

These goals are closely aligned with the European Union's Green Deal, the Sustainable Development Goals (SDGs), and the global push for inclusive green economies.

1.3 Target Groups

The AGROECO project is specifically tailored to reach and support the following target groups:

Primary Target:

- Young people (aged 18–30) from rural or semi-rural backgrounds in Finland, Italy, Morocco, and Egypt.
- Unemployed or NEET youth seeking pathways to employment or self-employment in the agricultural sector.

Secondary Target:

- Youth workers, educators, trainers, and professionals engaged in rural development or youth employability.
- Organizations providing vocational or non-formal education in environmental or agricultural fields.

By focusing on both direct and indirect beneficiaries, AGROECO ensures a holistic ecosystem of support for sustainable youth entrepreneurship .

1.4 AGROECO Partnership

AGROECO is powered by a strong transnational consortium of four organizations from across Europe and the Southern Mediterranean. Each partner contributes unique expertise and plays a key role in the project's success:

Puntland Community Ry (Finland)

Role in AGROECO: Spearheading project coordination and sharing expertise in innovative training methodologies.

About Puntland Community Ry: Dedicated to community development and education, Puntland Community Ry has a rich history of fostering growth and opportunity in rural areas, aligning seamlessly with AGROECO's objectives.

Mine Vaganti NGO (Italy)

Role in AGROECO: Leading the development of educational curriculums and digital outreach strategies.

About Mine Vaganti NGO: With a focus on social innovation and youth empowerment, Mine Vaganti NGO brings a dynamic approach to AGROECO, infusing the project with creative solutions and cutting-edge digital strategies.

Morocco's Friends Foundation

Role in AGROECO: Enhancing cultural exchange and integrating traditional agricultural knowledge into the project.

About Morocco's Friends Foundation: serves as a network for youth associations and organizations, with the objective of promoting the exchange of experiences and working together to allow for new horizons of creation and participation among youths.

Training Without Borders (Egypt)

Role in AGROECO: Offering technical expertise and innovative resource development for the project.

About Training Without Borders: Focused on bridging gaps in education and skills training, Training Without Borders contributes its extensive experience in technical training and mentorship, vital for the success of AGROECO's initiatives

Together, these partners ensure AGROECO is both locally relevant and globally inspired, connecting tradition with innovation to build a better future through agroecology .

2. Context and Needs Analysis

2.1 Youth Unemployment in Rural Areas

Across Europe and the Southern Mediterranean, youth unemployment remains one of the most pressing socio-economic challenges particularly in rural and semi-rural regions. The disconnect between traditional agricultural pathways and the aspirations of young people has contributed to increasing marginalization. Rural youth often face:

- Limited access to modern education or vocational training;
- A lack of job opportunities beyond informal, seasonal labor;
- Structural barriers such as poor infrastructure, weak connectivity, and outmigration.

For NEET youth (Not in Education, Employment, or Training), the consequences are particularly severe: social exclusion, reduced self-confidence, and minimal prospects for economic independence. This scenario is exacerbated in areas with fragile ecosystems or where agriculture is vulnerable to climate change.

AGROECO responds to these challenges by targeting unemployed rural youth and providing a pathway into sustainable agroecological entrepreneurship, a sector that is both rooted in place and poised for growth in the green economy.

2.2 Agroecology as a Response

Agroecology offers more than an alternative farming method it presents a systemic solution to the intertwined issues of rural unemployment, climate resilience, and food sovereignty. Defined by its integration of ecological principles, traditional knowledge, and participatory practices, agroecology:

- Reinforces biodiversity and local ecosystems;
- Reduces reliance on external chemical inputs;
- Encourages innovation in low-tech, high-impact solutions;
- Builds community and cooperative models of development.

For young people, agroecology provides not only skills but purpose. It aligns with values of environmental justice, sustainable living, and circular economies. It also fosters a sense of agency, empowering youth to regenerate rural livelihoods while addressing climate and food crises.

AGROECO embeds agroecology into a youth empowerment framework, utilizing **non-formal education**, storytelling, and digital engagement to create accessible and inspiring training pathways.

2.3National Realities

Finland

Finland is known for its environmental commitment and strong education systems. The agricultural sector is highly modernized, yet small-scale, sustainable farming faces constraints including:

- Harsh climatic conditions;
- High operational costs;
- Youth migration from rural areas to urban centers.

Despite this, initiatives like **community-supported agriculture (CSA)** and digital farming platforms are gaining ground, offering new models for youth engagement .

Italy

Italy's agricultural landscape is rich in tradition, with deep roots in agroecological principles such as seed saving, permaculture, and organic farming. Regional differences are pronounced:

- Northern regions show higher innovation and integration into EU green policies;
- Southern regions face higher youth unemployment and structural challenges.

Italy is home to vibrant agroecological movements and universities leading in sustainable agriculture education (e.g., Pisa, Florence), making it fertile ground for green entrepreneurship .

Morocco

Agriculture is a cornerstone of Morocco's economy, yet the sector is under increasing stress from climate variability and water scarcity. The **Green Morocco Plan** and the newer **Generation Green 2020–2030** have opened new possibilities for youth, especially through:

- Oasis agriculture;
- Agroecological training centers;
- Women- and youth-led cooperatives.

Challenges remain in mainstreaming sustainable practices at scale, especially in less connected regions .

Egypt

Egypt's agricultural zones, especially along the Nile and reclaimed desert areas, are critical for national food security. However, barriers include:

- Limited arable land and severe water shortages;
- High youth unemployment rates;
- Lack of practical training in sustainable methods.

Agroecology is emerging as a solution to boost productivity while conserving resources. Youth-led initiatives, particularly in desert farming with solar irrigation, are beginning to shape new opportunities

3. Methodology

The AGROECO project adopts an educational methodology that is both inclusive and innovation-driven, designed to address the real needs of rural youth while promoting sustainable agroecological practices. Grounded in the principles of experiential learning, youth participation, and adaptability, the AGROECO methodology combines three interlinked pillars: non-formal education, participatory design, and continuous feedback mechanisms.

3.1 Non-Formal Education Approach

At the heart of AGROECO's educational philosophy lies the use of **non-formal education (NFE)** as a dynamic alternative to traditional instruction. This approach allows for flexibility, creativity, and personalization—making it especially suitable for engaging NEET youth who may have become disengaged from formal systems of learning.

Key characteristics of AGROECO's NFE framework include:

- **Learner-centered design**: The focus is on the needs, experiences, and motivations of youth participants.
- **Experiential learning**: Training combines theory with hands-on activities, such as practical workshops, field visits, and community projects.
- **Peer learning and reflection**: Youth are encouraged to learn collaboratively and reflect on their values, identities, and aspirations.

The pedagogical model draws heavily on real-world applications, connecting agroecological concepts to local realities and entrepreneurial action. Modules are structured to be **interactive, inclusive, and adaptable**, ensuring they are suitable for different cultural contexts across Finland, Italy, Morocco, and Egypt.

3.2 Participatory Design and Co-Creation

AGROECO is not just about delivering knowledge it's about building it together. The project strongly embraces a participatory design methodology, where young people, youth workers, and stakeholders are involved from the outset in co-creating the content, methods, and tools.

This approach ensures that:

- Training materials are culturally relevant and grounded in local needs;
- Youth feel a sense of ownership and empowerment over their learning journey;
- Innovative ideas can emerge organically from the community level, making solutions more sustainable.

Participatory processes were implemented through:

- Focus groups and interviews with rural youth and youth workers during the research phase;
- Collaborative curriculum development, integrating feedback from all partner countries;
- Ongoing peer-to-peer exchanges between stakeholders during pilot testing and dissemination.

The emphasis on co-creation aligns with the principles of agroecology itself: diversity, inclusion, and dialogue as tools for resilience and regeneration.

3.3 Research, Testing and Feedback Loops

AGROECO's methodology is underpinned by a research-based approach that ensures all educational tools and activities are relevant, effective, and evidence-driven. The process follows a clear cycle of design, testing, and refinement:

Research & Needs Assessment

Initial desk and field research were conducted in each partner country to identify:

- The main barriers faced by NEET youth in rural areas;
- Opportunities in agroecological entrepreneurship;
- Gaps in existing training and support systems.

Piloting & Testing

Training modules were tested in real-life settings with target groups:

- Participants engaged in workshops and community projects;
- Youth workers applied the methodology in field conditions;
- Feedback was collected in both structured (surveys) and informal (dialogue) formats.

Evaluation & Iteration

Based on the feedback, content was refined and adjusted:

- Materials were updated to improve clarity, accessibility, and cultural relevance;
- Additional tools were added (e.g., storytelling exercises, visual aids);
- A final evaluation report ensured all training elements aligned with AGROECO's learning objectives.

This iterative, user-informed process ensures that AGROECO is not a top-down intervention, but a living, evolving model shaped by those it serves.

4. Best Practices & Country Case Studies

This section presents a curated selection of best practices in agroecology and green entrepreneurship from each partner country. These examples reflect a blend of traditional agricultural knowledge and innovative ecological approaches. They serve as replicable models for youth engagement, offering insights into context-specific adaptations of agroecological principles.

4.1Finland: Community Networks and Digital Empowerment

In Finland, agroecological innovation is shaped by strong digital infrastructure, environmental policy, and cooperative culture. One exemplary practice is:

CSA (Community-Supported Agriculture) and Virtual Producer Networks

- Overview: Finnish farmers, especially small-scale organic producers, are increasingly adopting CSA models and virtual platforms to connect directly with consumers.
- Practice: Online hubs allow producers to sell seasonal food baskets and plan crop cycles based on community demand.

- Impact: These networks ensure stable income for farmers, reduce food waste, and reinforce community trust in sustainable food systems.

Another initiative leverages digital storytelling by youth organizations to document farm practices and ecological knowledge, promoting intergenerational exchange and rural innovation.

4.2 Italy: Social Agriculture and Circular Innovation

Italy's rich agroecological landscape merges traditional methods with legal and policy support for social innovation.

Permaculture on Confiscated Lands

- Overview: In regions like Sicily and Campania, land confiscated from organized crime is repurposed for permaculture farming and community regeneration.
- Practice: Youth cooperatives cultivate organic produce while learning business skills, agroecology, and social justice frameworks.
- Impact: These projects empower marginalized youth, restore dignity to affected territories, and create viable green jobs.

Blockchain for Transparency in Agri-Chains

- Overview: Italian startups use blockchain to track and certify agroecological products.
- Practice: QR codes on packaging allow consumers to verify origin, methods, and labor conditions.
- Impact: Builds trust, prevents greenwashing, and opens new markets for ethical producers.

4.3 Morocco: Oasis Regeneration and Women-Led Initiatives

In Morocco, traditional agricultural knowledge and climate resilience strategies intersect to create sustainable agroecological systems.

Revitalization of Oasis-Based Agriculture

- Overview: Facing desertification, communities in southern Morocco apply traditional water-saving techniques (e.g., khettaras) alongside permaculture.
- Practice: Youth groups and NGOs train locals in soil restoration, drought-resistant crops, and agroforestry.
- Impact: Enhances food sovereignty, restores degraded land, and strengthens cultural heritage.

Women's Agricultural Cooperatives

- Overview: Female-led cooperatives in regions like Souss-Massa produce argan oil and herbal teas using organic methods.
- Practice: Cooperatives integrate agroecology, local biodiversity, and fair-trade principles.
- Impact: Creates sustainable incomes and empowers rural women as environmental leaders.

Youth Exchange in Tiznit: Hands-on Agroecology & Cultural Exchange

As part of its commitment to integrating agroecological education with youth empowerment, Morocco's Friends Foundation hosted a transnational youth exchange in Tiznit from 11 to 17 May 2025. This experiential program exemplified how AGROECO's principles can be brought to life through non-formal education, intercultural immersion, and practical field engagement.

Goals of the Exchange

- Foster youth understanding of agroecology as a viable and sustainable livelihood path.
- Build transnational networks among rural youth from the Mediterranean and Northern Europe.
- Engage participants in local agroecological ecosystems and traditional Moroccan craftsmanship.
- Equip youth with practical, transferable skills for green entrepreneurship and community engagement.

Participants

The exchange involved 24 young people aged 18–25 and youth workers up to 30 from Morocco, Italy, Egypt, and Finland. Participants were predominantly NEETs or emerging youth leaders from rural areas. Their selection was based on demonstrated interest in sustainable agriculture, environmental justice, and intercultural dialogue.

Activities Overview

The week-long program was structured around learning-by-doing and included:

- Workshops on agroecological theory and participatory discussion methods.

- Field visits to educational farms and cooperatives, focusing on biodiversity, soil preservation, and organic certification.
- Immersive activities at an Argan and cereal cooperative, exploring rural business models and agroforestry techniques.
- Cultural and ecological excursions to Lagzira Beach and the Tiznit medina.
- A leather handcraft workshop with local artisans, exploring links between ecological materials and heritage.
- Evening events promoting intercultural exchange and storytelling.
- Final action-planning sessions, where country teams developed follow-up initiatives for their communities.

Skills and Competencies Gained

Participants developed:

- A foundational understanding of agroecological practices and sustainable land use.
- Insight into cooperative structures, green value chains, and ethical marketing.
- Soft skills in communication, teamwork, leadership, and intercultural fluency.
- Confidence to act as youth multipliers within their local contexts.

Impact and Follow-Up

The exchange had both immediate and long-term effects:

- Strengthened peer-to-peer networks across participating countries.
- Each country group committed to follow-up actions, such as: Hosting local agroecology awareness workshops.

4.4 Egypt: Desert Farming and Renewable Energy Integration

In Egypt, scarcity of arable land and water has led to innovations that make agroecology a tool for survival and regeneration.

Desert Cultivation Using Solar Irrigation

- Overview: Youth-led startups reclaim desert land using drip irrigation powered by solar energy.

- Practice: Sustainable greenhouses cultivate vegetables year-round with minimal water use.
- Impact: Boosts food security, provides employment, and serves as a model for climate-adaptive agriculture.

Agroecology Hubs and Green Skills Training

- Overview: Initiatives like "Green Futures" train unemployed youth in composting, vermiculture, and eco-enterprise.
- Practice: Courses combine practical fieldwork with entrepreneurship coaching.
- Impact: Builds a new generation of eco-entrepreneurs ready to tackle ecological and social challenges

5. Training Format

The AGROECO training program was designed to build essential agroecological and entrepreneurial competencies in youth from rural areas, using a participatory and flexible structure. It combines modular content, diverse methods, and continuous evaluation to ensure relevance, engagement, and impact.

5.1 Structure of the Training

The training is organized into six core modules delivered through a combination of workshops, hands-on activities, and digital materials. It follows a modular and adaptable format which allows trainers to:

- Customize content based on learners' backgrounds;
- Deliver the program in-person, online, or in hybrid formats;
- Integrate local examples, challenges, and solutions.
- Each module is designed for a duration of 6 to 8 hours, combining theoretical input, collaborative exercises, and personal reflection.
- The structure supports both short-term intensives (e.g., youth camps or bootcamps) and longer programs (e.g., weekly cycles), depending on the organization's capacity.

5.2 Modules Overview

The AGROECO training includes the following thematic modules:

Agroecology Basics

- Introduction to agroecological principles and systems thinking
- Soil health, biodiversity, and ecological cycles

Green Entrepreneurship

- Idea development, business models in sustainable agriculture
- Value chains, market niches, and funding opportunities

Community Engagement

- Understanding rural dynamics, participatory mapping
- Building partnerships, local action, and stakeholder inclusion

Business Planning

- Writing business plans and social enterprise strategies
- Financial literacy, budgeting, and risk assessment

Communication & Digital Marketing

- Branding, storytelling, and social media use in agriculture
- Tools like Canva, Instagram, and website development

Monitoring & Evaluation

- Designing simple M&E tools for youth-led green projects
- Self-assessment and community impact analysis
- Each module includes specific learning outcomes, suggested duration, and alignment with youth needs and green job opportunities.

5.3 Training Format Methods & Tools

AGROECO's training methodology draws from non-formal education and youth work traditions. It emphasizes participation, creativity, and practical relevance.

Key methods:

- Storytelling and digital narratives: youth share their agroecological journey;

- Role-playing and simulation: simulate markets, policy debates, or farm planning;
- Group work and project development: teams co-create solutions or business ideas;
- Field visits and local expert talks: bringing theory into reality.

Tools include:

- Slide decks and training manuals;
- Instructional videos and case study cards;
- Reflection diaries and digital quizzes;
- Workshop scripts and facilitator notes.
- Trainers are encouraged to adapt content to local realities and integrate learners' own knowledge and interests.

5.4 Applied Example: AGROECO Training in Tiznit Youth Exchange

- How the modules were implemented through fieldwork and workshops.
- Emphasis on non-formal education methods (ice-breakers, cooperative visits, reflection).
- Tools used (action planning, hands-on workshops, cultural sharing).

5.5 Tranining format _Evaluation Strategy

- Evaluation in AGROECO serves both learning and accountability. It is structured into three levels:

1.Pre- and Post-Training Questionnaires

- Assess knowledge, attitudes, and self-efficacy before and after training.

2.Continuous Reflection

- Learners maintain personal reflection journals; trainers conduct mid-module check-ins.

3.Trainer Feedback Tools

- Observation grids, group feedback forms, and peer review sessions.

Impact is measured both quantitatively (e.g., knowledge gains, participation rates) and qualitatively (e.g., confidence in applying agroecological principles, entrepreneurial readiness).

Final evaluation includes a brief report template to help organizations track results and share outcomes with stakeholders and funders.

6. Impact and Sustainability

AGROECO is designed not only to deliver high-quality training but also to generate long-term systemic change. Its success is measured through its ability to empower young people, influence youth work practices, and support a shift toward sustainable agricultural ecosystems. This section outlines the project's expected impact, sustainability strategy, and recommendations for wider adoption and policy alignment.

6.1 Expected Results

AGROECO The project anticipates both short-term outcomes and long-term impacts at multiple levels:

For Youth:

- Enhanced knowledge and practical skills in agroecology and green entrepreneurship.
- Increased motivation and confidence to pursue sustainable livelihoods.
- Strengthened employability, especially among NEET youth in rural areas.

For Youth Workers and Educators:

- Improved competencies in using non-formal education methods.
- Access to a comprehensive training toolkit adaptable across contexts.
- Greater capacity to support young people's ecological and entrepreneurial journeys.

For Communities and Stakeholders:

- Localized case studies and best practices for rural development.
- Emergence of youth-led micro-initiatives in agroecology.
- Strengthened partnerships between youth organizations, farmers, educators, and local authorities.

6.2 Long-Term Sustainability

AGROECO has been designed with scalability and continuity in mind. Sustainability will be ensured through:

Institutional Integration:

- Partner organizations are committed to embedding the training format into ongoing youth work programs and rural development agendas.

- Several partners already operate community training centers that will continue using AGROECO materials post-project.

Open Access Tools:

- All outputs, including the Handbook, Best Practices Report, and Training Format, will be freely available online under open licenses.
- Materials can be adapted and reused by NGOs, schools, and youth centers across Europe and the Southern Mediterranean.

Capacity Building:

- The project develops not just tools, but human capacity—training youth workers and peer leaders who will continue facilitating learning in their own regions.
- A network of AGROECO "multipliers" will ensure outreach beyond the initial cohort.

Cross-Border Synergies:

- Strong links between partners in Finland, Italy, Morocco, and Egypt foster ongoing exchange of resources, experiences, and future projects.

Field Results from Youth Exchange Activities

- Practical impact on youth participants.
- Commitments to follow-up local actions.
- Increased transnational cooperation and peer learning.

6.3 Policy Recommendations

AGROECO promotes a vision that links youth development with ecological transition. To expand this impact, several policy directions should be pursued. First, agroecology must be recognized not only as an environmental solution but also as a strategic pathway to youth employment, rural regeneration, and entrepreneurship. Second, national and EU-level policies should invest more significantly in non-formal education, especially in rural areas, by supporting youth workers and experiential, participatory learning programs. Third, targeted funding and mentorship must be directed toward youth-led green initiatives, enabling young people to launch and sustain agroecological projects and social enterprises. Fourth, fostering transnational cooperation is essential governments and institutions should strengthen partnerships between European and Southern Mediterranean countries to promote agroecology and climate-resilient agriculture. Finally, green skills should be mainstreamed into youth and vocational training curricula,

embedding ecological literacy, sustainable food systems, and circular economy principles from secondary education onward. AGROECO provides a concrete model that can inform both policy and practice in addressing rural youth unemployment through sustainability and innovation.

7.Annexes

7.1. Literature Review Summary

7.2. Best Practices

7.3. Training Format

7.4. References

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7. ANNEXES

7.1. Literature review report

7.1.1 Introduction

The AGROECO project, intend to empower rural youth by providing them AGRO ecological entrepreneurship skills, in Finland, Italy, Morocco, and Egypt through international cooperation.

The target groups are unemployed or NEET youngsters of 18-25 years old coming from rural areas and youth workers of 18-30 years old willing to learn about agroecology and share this knowledge with young people.

The general objectives of the project refer to:

- Promote non-formal learning activities in Partner countries, especially targeting young people with fewer opportunities, with a view to improving the level of competencies while ensuring the active participation of young people in society;
- Raise awareness about the different styles of agricultural in an ecological and healthier way for rural youth;
- Foster cooperation across different regions of the world through joint initiatives.

According to Eurostat, in Europe, the youth unemployment rate reached 14,8% in February 20 before the COVID- 19 crisis and 17,1% in September 2020. In Middle East and North Africa, in 2019, the predicted youth unemployment rate was 25.7% according to the ILO (22.3% in Morocco and 26.5% in Egypt).

The limited access to education in rural areas compared to urban areas is an important obstacle to the achievement of equal opportunities in terms of employment, in particular for young people. Promoting economic opportunities for the rural poor and expanding social protection in rural areas is key to reducing the aforementioned disparity. The COVID-19 crisis has pushed towards a rising of poverty both in urban and rural areas. In rural areas the pandemic resulted in: travel and transport restrictions which disrupt the livelihoods of the rural poor, many of whom depend on mobility, seasonal and migrant work and remittances. In some countries, there has been a massive return of migrants to rural areas, largely due to job loss (online article social protection in rural areas: achieving universal access for all, UN/DESA Policy Brief, 2021) .

Equitable and inclusive rural development requires promoting access to quality education, health and other services as well as opportunities for decent work, especially for the rural poor.

It also calls for building resilience to shocks, addressing the degradation of natural resources and reducing inequality of opportunity both within rural areas and between rural and urban areas.

According to the article Reducing poverty and inequality in rural areas: key to inclusive development based on the World Social Report 2021, one of the five policies lessons which have succeeded is: to promote inclusive agricultural development.

Agricultural growth is estimated to be two to three times as effective in reducing poverty as growth in other sectors and benefits mainly the poorest in society. The benefits of promoting inclusive agricultural development are both direct, through increased incomes and food security, and indirect, through increased investment in health and education.

7.1.1.2 Finland

Introduction (total length, approximately half page)

Literature Review on Ecological Agriculture in Finland

This literature review explores the development and implications of ecological agriculture in Finland, drawing on recent findings from a variety of studies. The transition towards more sustainable agricultural practices is a pressing concern globally, and Finland presents an interesting case study due to its unique climatic, geographical, and socio-economic conditions.

Introduction
The concept of ecological agriculture, also known as organic farming, emphasizes the use of farming practices that maintain and enhance the ecological balance. In Finland, a country known for its vast forests, clean water, and commitment to environmental sustainability, ecological agriculture plays a crucial role in the national strategy for sustainable development. This review examines the current state, challenges, and future prospects of ecological agriculture in Finland, focusing on its contributions to sustainability, economic performance, and social well-being.

Findings of the Desk Research/Literature Review
Current State and Trends
Finland's approach to ecological agriculture is deeply rooted in its commitment to environmental preservation and sustainability. The Finnish government has implemented various policies and incentives to promote ecological farming practices. According to **Venäläinen et al. (2020)**, climate change poses multiple risks to boreal forests and forestry in Finland, indirectly affecting the agricultural sector and highlighting the importance of sustainable practices to mitigate these risks.

The transition towards ecological agriculture in Finland also aligns with broader European Union goals. **Fruscella et al. (2021)** discuss the development of iron and steelmaking technology in Sweden and Finland, emphasizing the move towards fossil-free processes. While this study focuses on industrial processes, it reflects a general trend towards sustainability that includes agriculture.

Ecological agriculture in Finland is not without its challenges. The need for innovative technologies and practices is crucial to overcome these challenges. For example, **Pei et al. (2020)** detail the HYBRIT project, which aims to develop fossil-free steelmaking technology. Similar innovative approaches are necessary in agriculture to ensure ecological practices can meet the country's food production needs sustainably.

Furthermore, **Dahlbo et al. (2018)** explore the recycling potential of post-consumer plastic packaging waste in Finland, shedding light on the broader context of waste management and sustainability in which ecological agriculture operates. Effective recycling and waste management are essential components of a sustainable agricultural system, reducing pollution and conserving resources.

Economic Performance and Social Well-being
The economic performance of ecological agriculture in Finland is closely tied to its environmental benefits. Ecologically produced goods often command higher prices on the market, reflecting consumer willingness to pay for sustainability. However, transitioning to ecological practices requires significant investment and a shift in traditional farming methods, posing economic challenges for farmers.

In terms of social well-being, ecological agriculture contributes to healthier lifestyles and promotes social equity. Access to organically produced food is increasingly viewed as not just a lifestyle choice but a right, supporting the well-being of all citizens. Additionally, ecological agriculture offers opportunities for rural development and supports small-scale farmers, contributing to social cohesion and community resilience.

Conclusion
Ecological agriculture in Finland presents a promising but challenging path towards sustainability. The country's commitment to environmental preservation, combined with innovative approaches to farming, positions Finland as a leader in ecological agriculture within the EU. However, addressing the economic and social challenges associated with this transition is essential for its success. Continued investment in research, technology, and policies that support ecological practices will be crucial for Finland to achieve its sustainability goals and serve as a model for other countries.

Findings of the desk research/literature review

Advancements, Challenges, and Future Prospects of Ecological Agriculture in Finland
Advancements in Ecological Agriculture in Finland
Finland has made significant strides towards ecological agriculture, aiming to reduce environmental impact and enhance sustainability. The adoption of ecological farming practices has been encouraged by both governmental policies and the active involvement of farmers who are increasingly aware of the environmental, economic, and social benefits of such practices. For instance, **Venäläinen et al. (2020)** highlight the critical role of climate change in shaping agricultural practices, suggesting a pivotal moment for the transition towards more sustainable and resilient agricultural systems in boreal forests regions, including Finland .

Furthermore, technological innovations play a crucial role in this transition. The HYBRIT project, as discussed by **Pei et al. (2020)**, exemplifies the innovative approaches being explored in Finland and Sweden to reduce carbon emissions in the steelmaking industry, indirectly benefiting agricultural sustainability by proposing a shift towards fossil-free industrial practices .

Challenges Facing Ecological Agriculture
Despite the advancements, ecological agriculture in Finland faces several challenges. Climate change poses a multifaceted threat, inducing abiotic stresses like droughts and biotic pressures such as pest outbreaks, which could potentially disrupt ecological farming systems. **Venäläinen et al. (2020)** detail these challenges, emphasizing the need for adaptive strategies to mitigate the impacts of climate change on boreal forests and forestry, which are intrinsically linked to agricultural sustainability .

Moreover, the transition to ecological agriculture is hampered by economic and social barriers. The initial costs of transitioning, coupled with the need for knowledge and skill development among farmers, present significant hurdles. The literature suggests a pressing need for policies and support systems that facilitate this transition, making it economically viable and socially acceptable.

Future Prospects

Looking ahead, the future of ecological agriculture in Finland is promising but requires concerted efforts from various stakeholders. Continued investment in research and development is essential to innovate and refine agricultural practices that are both productive and sustainable. Lohiniva et al. (2020)'s work on enhancing risk communication efforts during outbreaks provides an interesting perspective on the importance of understanding public perceptions and behaviors in promoting sustainable practices, including in the agricultural sector .

Additionally, fostering collaborations between the government, private sector, academia, and farming communities is vital to creating an enabling environment for ecological agriculture. This includes policies that incentivize sustainable practices, research into climate-resilient crops and farming techniques, and education and training programs for farmers.

In conclusion, ecological agriculture in Finland stands at a crossroads, with the potential to lead by example in the global push towards agricultural sustainability. By addressing current challenges and leveraging opportunities for innovation and collaboration, Finland can continue to advance towards a more sustainable and ecologically friendly agricultural future.

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Italy

Introduction (total length, approximately half page)

A short overview of the the existent situation in Italy regarding ecological agriculture..

In Italy, agroecological practices are not officially defined; however, they are well in place, linking traditional agricultural knowledge with modern and technologically advanced practices. Both of them are already experimented and applied in the organic agriculture sector. Among these practices, we have identified the following:

I. Mixed farming systems. This practice has been discouraged since decades through the promotion of specialization in the agricultural sector. In Italy, 60% of the national agricultural area is under specialized crop farming, 28% is under specialized livestock farming, and only 12% is under mixed farming [58]. However, 78% of total Italian farms are family based and there is space for improvement, towards mixed farming systems.
II. Locally adapted crops and local animal breeds. Italy has a very rich agricultural and food biodiversity and the use of locally adapted varieties is still a common practice because of the variety of pedo-climates and culture. In quality production, Italy confirms its leadership in Europe, being the country with the highest number of geographical origin food product labels awarded by the EU: 250 products in 2014 shared by Protected Designation of Origin (PDO), Protected Geographical Indication (PGI) and Traditional Specialities Guaranteed (TSG).
III. Despite the negative effects of green revolution on the agri-food system, plant and animal genetic resources have survived in the field primarily as a result of the activity of farmers and associations (Organic movement, Rete Semi Rurali, Slow Food) who continued to cultivate uncompetitive local varieties and animal breeds as part of local agricultural and gastronomic traditions. After an initial emphasis on germplasm conservation, the current approach is to focus on participatory and evolutionary plant breeding [59] to develop new resilient populations able to face climate change effects at local level.
IV. Soil fertility enhancement and climate change mitigation. There is a slow but steady increasing trend in the use of longer crop rotations, cover crops and green manures, crop residue management, and conservation tillage [60]. Factors beyond the plot scale may outweigh mitigation measures, thus training to farmers on the application of conservation practices is crucial to overcome barriers to implementation [61].
V. Landscape conservation and terracing. Italy has 41% hills and 35% mountainous territory and terraces, which were very diffuse since late Medieval time and are still used today in olive and vineyard cultivation along the coastal areas of Campania (Amalfi) and Liguria, as well as in Alpine and Apennine territories. Typical features like farming terraces, olive yards, and highland meadows and pastures have been decreasing over the past 50 years. This resulted in a declining biodiversity and loss of traditional Mediterranean landscapes [62]; however, these practices are being rediscovered, for example, through their support in CAP's Regional Development Programmes.
VI. Agroforestry and agrosylvopastoral systems. These practices were once traditional in Italy, but nowadays are still far from being applied at farm level. However, there are very interesting pioneer research activities in central Italy [63,64], for example, combining extensive free-range systems of poultry production in olive orchards intercropped with asparagus cultivation.

Findings of the desk research/literature review (total length, 2-3 pages)

Academic text with references (if it is possible, follow the proposed order)

The term "agroecology" is not yet frequently encountered in different discourses in Italy. Nevertheless, several activities and policies dealing with agricultural and food systems, as well as examples of farming, enterprises, and research/education activities based upon an agroecological approach, exist since the late 1970s. A first attempt to trace the history of agroecology in the country in a systematic way, by taking into account the developments in research, education/training, and policy, has been carried out in the literature [28].

History of Agroecology

The genesis of agroecology in Italy has its main foundations in academia. The precursor of agroecology is considered to be the agronomist professor of the University of Pisa, Pietro Cuppari (1816–1870), who thoroughly studied the farm as an agroecosystem [29]. In the early 20th century, his steps were followed by Girolamo Azzi (1885–1969), professor at the University of Perugia, who is considered the founder of agricultural ecology [30]. Soon after World War II, the work of Cuppari was re-elaborated and expanded by Alfonso Draghetti in his book "Principles of farm physiology" [31]. During the times of the green revolution, agroecology was nearly neglected until its approaches and values were rediscovered and brought forward in the late 1970s by Fabio Caporali (University of Tuscia, Viterbo), Concetta Vazzana (University of Florence), and Maurizio Paoletti (University of Padova). In the mainstream view of national academies, agroecology and organic farming were marginalised until the late 1990s, when the development of organic farming in Italy finally raised the interest of the national research community [32].

In fact, the development of agroecology has in Italy largely coincided with that of organic farming [33]. Some remarkable pioneers of this approach were already present since the 1970s, that is, well before the first EU regulation on organic agriculture was established (Reg. EC 2092/91). Among these, one of the most influential was Gino Girolomoni, who established the cooperative 'Alce Nero' (Black elk) in 1977 in the central region of Marche based on clear principles of ecological production, environmental sustainability and conservation of peasant knowledge. In early eighties, the regional aggregations that promoted organic farming give life to the commission "What is Organic?" with the purpose of discussing the technical aspects of the organic method and arriving at the first unitary standards by Associazione Italiana Agricoltura Biologica (AIAB) and Mediterranean Association for Organic Farming (AMAB), which was founded by Girolomoni and remained a cornerstone of this approach, until organic farming boomed in the late 1990s, putting Italy as one of the countries with the largest share of organic production in Europe and beyond. Since 1997, IFOAM AgriBioMediterraneo (the first Regional group of International Federation of Organic Agricultural Movement) have raised this issue at Mediterranean level within IFOAM, strongly advocating for the development of organic agriculture based on agroecology [34,35].

In the late 2000s, it became evident that, in some cases, the success and development of organic farming could make farmers downplay the fundamental role of agroecological principles and practices in organic management [36] and let them focus only on an input substitution approach, hence following the pathway of "conventionalization" [37]. In Italy, this risk was raised in 2009 during the final conference of the Ministry of Agriculture's project 'States General of Organic Farming', when

the importance to refocus organic production on agroecological approaches was stressed [38]. In July 2015, during the International Expo in Milan, a conference on agroecology was organised by the Joint Research Centre of the European Commission, which gathered several key persons who promoted agroecology in Europe and beyond. On one hand, this event fostered the foundation of Agroecology Europe (**www.agroecology-europe.org**), a European association for the promotion of agroecology, which was then formally established in January 2016. On the other, it gave impetus to the establishment of an Italian Observatory on Agroecology (OPERA), launched in 2017, in Milan [39].

Research and Education

1. Research Institution and Research Topics

In Italian universities and research centres, there is increasing interest in agroecology, but research activities are still limited. However, in Italy, long-term experiments (LTEs) for organic farming and agroecological practices have been established by both universities and research councils. At the Universities of Florence, Perugia, Pisa, and Tuscia, there are LTEs, established since 1992, 1998, 2000, and 2001, respectively, comparing organic versus conventional arable crop management, soil fertility, tillage and weed management, and yield assessment [40,41]. Some of the LTEs were also designed to assess the comprehensive evaluation of agro-environmental sustainability. The need to support and to promote LTEs as pre-condition to empower the potential of the organic farming research/innovation communities was acknowledged by the RETIBIO project, funded in Italy by the Organic Farming Office of the Ministry of Agriculture (MipAAF) and coordinated by the CREA (Italian Council for Research in Agriculture and analysis of agricultural economy).

The Scuola Superiore Sant'Anna in Pisa (SSSA) has a research group of agroecology strongly engaged in agroecological research through regional, national, and international projects.

CREA have developed several studies on agroecology, mainly on innovations for agronomic management in organic farming, for example, on (i) agronomic systems and technologies for adaptation to climate change in organic farming systems, (ii) improving soil conservation and resource use in organic systems, and (iii) sustainable techno-economic solutions for agricultural value chains. In addition, some scientific societies are developing Agroecology as an internal section (e.g., SOI, Italian Society for Horticulture).

At food systems level, the University of Gastronomic Sciences at Pollenzo-Bra (UNISG) conduct several research activities to support bio-cultural diversity (i.e., on local varieties of winter cereals [42]) and on sustainability assessment of agri-food systems [43,44].

2. Academia

Courses on Agronomy at Italian university have a base in Agricultural Ecology, but only few explicit on agroecology. At the University of Florence, a course on agroecology of 6 ECTS (European Credit Transfer and Accumulation System (ECTS) within the postgraduate programme in sustainable management of agroecosystem is offered in Italian [45]. This is the heritage of Prof. Concetta Vazzana, who also coordinated the first Italian post-graduate course in 'ecological agriculture' (2000–2005). At University Mediterranea of Reggio Calabria, a course on agroecology (6 ETCs) within the Postgraduate Programme in Agricultural Sciences and Technologies has been taught in Italian since 2011.

Other Italian universities are engaged in MSc programmes and postgraduate courses on organic farming (Padova and Udine University), some of which were paused or have been refocused (e.g., at

the University of Florence, Pisa, Napoli, Torino, Bologna). At several Italian universities, agroecology is taught by individual lecturers, without these courses being yet part of overall BSc/MSc programmes, aiming to offer higher education opportunities to students interested in agroecological subjects.

At UNISG, an action oriented, phenomenon based, participatory, and experiential learning approach is put in place, according to the agroecological educational theory and practice [46,47]. At the same university, many courses offer several didactic journeys and food tasting sessions [48]. The goal of this experiential learning process is to develop knowledge, skills, and attitudes enabling students to deal with complex situations in agricultural and food systems development. This approach has been already developed at MSc level since 2011 [49].

As to PhD programmes, the Scuola Superiore Sant'Anna's International PhD Programme in Agrobiodiversity [50] is largely based on the application of agroecological research approaches.

3. Farm Schools and Vocational Training

An initial example of long-lasting farm school and vocational training experience in agroecology is the Scuola Esperienziale Itinerante in Agricoltura Biologica (Experiential Itinerary Learning School on Organic Farming, SE) established in the northeastern region of Veneto by a group of farmers and technicians [51]. They offer hands-on courses reprising the 19th century approach of 'cattedre ambulanti' (walking lectures), where the main focus is on learning by seeing and doing, and where theories are introduced only as complement to the illustration and discussion on practices. SE experts have educated several young persons who later developed their own agroecological farm, mainly in organic vegetable cropping.

Collective Action

1. Political Action

There are a number of ongoing activities somehow related to the political side of agroecology taking place in various Italian regions, but a census of them is difficult because of their fragmentation and heterogeneity. However, they share the above-mentioned history of the agroecological movement in the country, that is, their close affinity with organic farming. One of the main fields of agroecological political action in Italy is the quest for food sovereignty as driven by the saving, reuse, and sharing of seeds. In 1996, a national seed savers association ("Civiltà Contadina" or Farming Civilization) was established with the purpose of protecting agricultural biodiversity through in situ conservation of seeds of underutilized local species and varieties [52]. Regional associations of seed savers are also present and are particularly active in central Italy (e.g., Marche and Tuscany), where local germplasm is maintained in regional genebanks. Civiltà Contadina, together with other seven co-founding associations, established the Italian Rural Seed Network (Rete Semi Rurali) [53] in 2007. This organisation soon became a reference organization in the country for agrobiodiversity conservation through use, connecting with corresponding institutions in other parts of Europe and globally. More recently, relevant national NGOs (Non-governmental organizations) engaged in international cooperation, for example, COSPE and Mani Tese [54,55] have embraced agroecology as their reference model for their sustainable agriculture projects around the world. Interest on agroecology by Italian NGOs and other politically-oriented movements is expected to grow in the near future,

following similar trends elsewhere. Activities by organizations working closely with agroecological Italian farmers are expected to be fostered by CAP's regional Rural Development Plans, in which some recently introduced measures (e.g., local projects taking the spirit of EU's European Innovation Partnerships, EIPs) are well in line with the participatory approach supported by agroecology.

The FAO database on legislation [56] has identified the following laws in Italy:

- National Strategic Plan for the Development of the Organic System. The Plan, deployed in 2015, has a general objective (to develop the national organic system as a whole) and defines three specific objectives: (a) strengthening of the production phase; (b) strengthening of supply chains; and (c) strengthening of the biological system. Ten strategic actions have been identified. FAO have so far identified organic agriculture as crucial for agroecology development with the vision that they are more converging than diverging [36].
- National Biodiversity Strategy. Pursuant to the obligations deriving from the United Nation's Convention on Biological Diversity, this document lays down the National Strategy on Biodiversity, whose overall goal is to ensure the preservation of biodiversity, the rational and sustainable exploitation of natural resources, and the fair and equitable sharing of benefits arising from their utilization.
- Act No. 194 of 2015 on the protection and promotion of biodiversity for food and agriculture. This law sets out measures to protect and improve biodiversity for food and agriculture. The aim is to protect local genetic resources under threat of extinction or facing genetic erosion. It establishes the National System for the Protection and Promotion of Biodiversity for Food and Agriculture.

Moreover, the Future Policy Award nominated in 2018 for World Championship in Agroecology, the following Policies in Italy:

- The Legislative Decrees No. 226, 227, and 228, known as "Orientation and modernisation of agriculture, forestry, and fisheries decrees", 2001. Ministerial Decree, 2nd Energy Account, 2007 (II Conto Energia). Ministerial Decree, Uniform minimum criteria for the definition of conservation measures related to special areas of conservation (SACs) and special protection areas (SPAs), 2007.
- Liguria: Regional Law No. 66 on Organic Agriculture, 2009. Guidelines Article 8 on Biodistrict.
- Mals: Referendum for a Pesticide-Free Future in the Municipality of Mals, 2014. Ordinances for a Pesticide-Free Future in the Municipality of Mals, 2016.

2. Social Movements, Networks, Territories and Food Systems

Besides the NGOs and national/regional organizations cited in the previous paragraph, others that have recently embraced agroecology in their visions and action plans are also listed below. The Slow Food association, both at Italian and International level, promotes the use of "slow agriculture", which is their novel name for agroecology [57]. AgriBioMediterraneo (ABM) was the first regional Group of the International Federation of Organic Agricultural Movement (IFOAM) to be established. The history of IFOAM–ABM goes back to 1990 with the first meeting held in Vignola (Mo), Italy, to foster the agroecological approach into organic movements. After 25 years of activities, ABM organised a first International Conference "Agroecology for organic agriculture in the Mediterranean" in 2015, with the aim to improve interdisciplinary scientific dialogue, and to implement information exchange and dissemination of knowledge and innovation strategies on organic agriculture for the Mediterranean area [35].

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Egypt

Introduction (total length, approximately half page)

A short overview of the current situation regarding data on existing school and community-based remedies and programmes addressing alcohol use disorder in your country.

Egypt's agricultural sector, rooted in ancient traditions along the fertile banks of the Nile, faces modern challenges that necessitate innovative solutions. Ecological agriculture emerges as a promising paradigm shift, drawing from sustainable practices to address pressing issues of environmental degradation, resource scarcity, and food security. This introduction provides an overview of ecological agriculture in Egypt, contextualizing its historical significance, current challenges, and the principles guiding its implementation. Ecological agriculture, often synonymous with sustainable or organic farming, has gained significant attention in recent years as a viable approach to enhance food security, protect biodiversity, and mitigate the impacts of climate change.

In the rapidly evolving landscape of global agriculture, Egypt stands as a notable example of embracing sustainable agricultural practices. With an increasing emphasis on environmental conservation and food security, Egypt's agricultural sector has undergone a significant transformation in recent years. This literature review aims to explore the findings of desk research pertaining to Egypt's sustainable agricultural initiatives, focusing on the utilization of cutting-edge technology to enhance productivity, mitigate environmental impact, and ensure long-term sustainability. By examining existing literature and research, this review seeks to provide insights into the current state of Egypt's agricultural sector and identify key factors driving its sustainable agricultural transformation.

In Egypt, where agriculture is a cornerstone of the economy and a crucial component of rural livelihoods, the adoption of ecological agriculture practices presents both opportunities and challenges. This literature review aims to provide a comprehensive overview of the current status, advancements, and challenges of ecological agriculture in Egypt. It synthesizes findings from various studies and reports to highlight the progress made, the practices being implemented, and the ongoing efforts to promote sustainable agriculture in the region.

Findings of the desk research/literature review (total length, 2-3 pages)

Academic text with references (if it is possible, follow the proposed order)

Egypt's agricultural heritage dates back to antiquity, characterized by sustainable practices harnessing the natural fertility of the Nile floodplain. However, the advent of modern agriculture introduced intensive methods reliant on synthetic inputs, leading to soil erosion, water depletion, and ecological imbalance. Egypt's agricultural sector grapples with multifaceted challenges, including water scarcity, soil degradation, pollution, and biodiversity loss. Intensive irrigation, chemical fertilizers, and pesticides exacerbate these issues, jeopardizing the long-term sustainability of Egyptian agriculture. Ecological agriculture in Egypt emphasizes soil health, water conservation, biodiversity, chemical-free pest management, and community engagement. By prioritizing these principles, farmers can enhance

productivity, resilience, and environmental stewardship.

Egypt's agricultural sector plays a crucial role in the country's economy, providing employment opportunities for millions and contributing significantly to national GDP. Historically, the sector has faced challenges such as water scarcity, soil degradation, and limited arable land, necessitating innovative approaches to ensure its sustainability.

Various initiatives and projects promote ecological agriculture in Egypt, including organic farming certification, research and extension programs, farmers' cooperatives, and policy support. These efforts aim to foster knowledge sharing, capacity building, and market access for ecologically grown products.

Ecological agriculture in Egypt is gradually gaining traction, with various initiatives and projects being implemented to promote sustainable farming practices. The Food and Agriculture Organization (FAO) has been instrumental in supporting Egypt's efforts to transition towards more sustainable agricultural practices. For instance, the FAO, in collaboration with the Egyptian government, has launched projects aimed at promoting Climate-Smart Agriculture (CSA) and enhancing agricultural biodiversity. These projects focus on increasing the adaptive capacity of rural communities, especially in regions like Kafr Elsheikh, Beheira, and Aswan.

Several sustainable agricultural practices are being adopted in Egypt to improve productivity while conserving natural resources. These include the use of organic fertilizers, integrated pest management, crop rotation, and the adoption of improved irrigation techniques. The FAO has been promoting validated innovative and improved CSA technologies that are designed to restore and protect on-farm biodiversity. These practices not only enhance soil fertility and water efficiency but also help in reducing the carbon footprint of agricultural activities.

Despite the progress, the adoption of ecological agriculture in Egypt faces several challenges. These include limited access to resources and knowledge among smallholder farmers, the need for more robust policy support, and the economic constraints that hinder large-scale implementation of sustainable practices. However, there are significant opportunities as well. The Egyptian government's commitment to improving agricultural productivity through sustainable means, coupled with international support, provides a favorable environment for the expansion of ecological agriculture. Additionally, there is increasing awareness among farmers about the benefits of sustainable practices, which is crucial for broader adoption.

The Egyptian government has played a pivotal role in promoting sustainable agriculture through policy initiatives, research funding, and capacity-building programs. Key policies include subsidies for water-efficient irrigation technologies, incentives for organic farming, and regulatory frameworks to promote sustainable land management practices.

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Morocco

Introduction (total length, approximately half page)

A short overview of the current situation regarding data on existing school and community-based remedies and programmes addressing alcohol use disorder in your country.

Ecological agriculture in Morocco is currently gaining ground due to growing awareness of environmental sustainability and the need for resilient farming practices. Here's a brief overview of the current situation:

Government initiatives: The Moroccan government has launched programs to promote sustainable agriculture, including organic farming. These initiatives aim to provide support, training and incentives to farmers wishing to adopt ecological practices.

Research and education: Universities and research institutions in Morocco are conducting studies on ecological agriculture, focusing on soil conservation, water management, biodiversity enhancement and alternative pest management strategies. However, more investment in research and education is needed to develop and disseminate sustainable farming techniques on a large scale.

Community initiatives: Several grassroots organizations and NGOs are working to promote ecological agriculture at community level. They organize workshops, training sessions and demonstrations to raise farmers' awareness of sustainable practices and provide them with technical assistance.

School programs: Some schools and educational institutions integrate ecological agriculture into their curriculum to raise awareness of the importance of sustainable food production. These programs often include practical activities such as school gardens, where students learn organic farming practices.

In conclusion, while ecological agriculture appears to be a viable alternative in Morocco, much remains to be done to overcome obstacles and promote its wider adoption. Continued support from

government, research institutions, national and international NGOs and communities is essential to advance sustainable farming practices in the kingdom.

Findings of the desk research/literature review (total length, 2-3 pages)

Academic text with references (if it is possible, follow the proposed order)

Report on the importance of adopting agroecology in Morocco:

In recent years, agricultural models aimed at respecting nature and health have diversified and become institutionalized, thanks to growing support by Moroccan society for this type of practice. Two main sub-models have emerged: the first is part of the industrial approach and aims, through state certification, to move from a niche market to an emerging international market: this is the 'Organic Agriculture. The second is practiced by farmers and neo-rural people for mainly subsistence purposes and small or medium-scale marketing: this is agroecology.

This article aims to clearly define and take stock of

the state of agroecology in Morocco. Produced from a series of interviews conducted with agroecologists, its objective is to encourage broader reflection on the normative meaning of agroecology as an agricultural model, but also as a mode of responsible consumption, a sustainable economic model and an instrument of advocacy. of a united and developmentalist identity.

Reference:

Reportage sur l'importance d'adopter l'agroécologie au Maroc

Agroecology Observatory in Morocco:

All over the world, farmers and consumers are increasingly making the link between environmental preservation, food quality and their health. Initiatives are multiplying around short circuits, farmers' markets and country fairs, AMAPs and other associative networks. This involves encouraging the reduction of the number of intermediaries between producers and consumers and defending certain principles in terms of the environment, ethics and even the social, solidarity and responsible economy. Behind these trends lies a profound transformation in city/rural relationships and in urban dwellers' perception of their connection to nature in a world where disconnections with rurality are numerous and profound.

In a context where agroecology is now presented at the international level as a credible response to social expectations in terms of healthy food, preservation of natural resources and biodiversity, jobs, etc. what are the socio-economic, political and territorial processes linked to the emergence of farms claiming to be agroecological in the countries of the southern and eastern shores of the Mediterranean, and in particular in Morocco?

In fact, near the main Moroccan metropolises (Rabat-Salé, Casablanca, Marrakech, Agadir, Fez, etc.), we observe the emergence of initiatives to promote agroecological agriculture. Initially individual and inspired by practices and discourses from the North, these initiatives attempt to structure themselves

"from below", without real support from public authorities.

We speak of agroecology to designate not only these fairly recent initiatives which take place on the outskirts of large cities, but also the traditional activities of a small family peasantry which predominates in many marginal regions (mountains, oases, etc.). These farms, where women play a key role, are often too poor to buy chemical inputs. We therefore ask ourselves the question of knowing to what extent this type of exploitation has remained the guarantor of agriculture without chemical inputs, mobilizing specific know-how, and therefore likely to be classified in the category of agroecology.

References:

- Contribution of food distribution systems to urban food security: case study of the Rabat conurbation (Morocco). Notes techniques AFD, n° 48: https://www.afd.fr/fr/nt-48-systeme-alimentaire-qualite-sanitaire-aderghal-lemeilleur-romagny

- The rise of agroecology in Morocco: some lessons from the near hinterland of Rabat. Paper presented at the Origine, Diversité et Territoires forum "Agroécologie: transitions multiples des territoires", December 5-6, 2019, Lausanne, Switzerland : https://origin-for-sustainability.org/

- Does distance still matter when organizing urban food supply? The case of the Rabat conurbation.AFD Research Papers, n° 2019-91: https://www.afd.fr/fr/la-distance-est-elle-toujours-importante-pour-organiser-lapprovisionnement-alimentaire-urbain-le-cas-de-lagglomeration-de-rabat

Agricultural growth is estimated to be two to three times as effective in reducing poverty as growth in other sectors and benefits mainly the poorest in society. The benefits of promoting inclusive agricultural development are both direct, through increased incomes and food security, and indirect, through increased investment in health and education.

7.2. BEST PRACTICES

7.2.1 Best Practice in Finland

Title: *Innovative Low-Carbon Public Services (InnoHiili)*

Implementation Period: The project was launched in December 2015 and concluded in November 2017.

Location: Ii, Finland.

Coordinating Entity: The project was coordinated by Micropolis Ltd., with contributions from The Designers' Association of Northern Finland.

Objectives:
The main objective of the InnoHiili project was to reduce CO_2 emissions by creating an energy-

efficient municipal area. It aimed to involve citizens in designing low-carbon public services and to implement eco-friendly and energy-efficient solutions throughout the community.

Stakeholders Involved:
Key stakeholders included the citizens of Ii, Micropolis Ltd., The Designers' Association of Northern Finland, the Finnish Environment Institute (SYKE), and the European Union, which provided financial support.

Beneficiaries:
The direct beneficiaries were the approximately 10,000 residents of Ii, Finland. Indirectly, other Finnish municipalities interested in replicating low-carbon models also benefited from the project's results and methodology.

Financing:
The total budget for the project was €297,526. Of this, €208,267 was funded by the European Union's European Regional Development Fund under the "Sustainable Growth and Jobs 2014–2020 – Structural Funds Programme of Finland."

Project Description:
Activities included participatory sessions to gather citizen input on sustainable services, the installation of renewable energy heating systems in public buildings, the introduction of electric municipal vehicles, and the use of digital systems to monitor the consumption of water, electricity, and heat in real time.

Results Achieved:
The project led to a substantial reduction in CO_2 emissions. All public buildings in Ii now operate with renewable energy heating systems. The municipality adopted electric vehicles for public service use, resulting in significant environmental gains and annual financial savings of approximately €600,000.

Innovation:
InnoHiili demonstrated a forward-thinking model for public service delivery by integrating digital monitoring tools and placing citizen engagement at the center of municipal sustainability strategies.

Empowerment:
The project empowered local businesses through the development of a localized EU Ecolabel initiative, encouraging energy-saving behavior and the adoption of eco-friendly practices. It also fostered civic empowerment by involving the community in co-designing the public services they use.

Website:
More information can be found at: https://ec.europa.eu/regional_policy/en/projects/finland/low-carbon-life-in-finland

Title: *Forest Boost*

Implementation Period: The project ran from December 1, 2020, to August 31, 2023.

Location: The initiative was conducted across several European countries, with coordination from Finland and active participation from partners in Germany, Belgium, Estonia, and Poland.

Coordinating Entity: The project was coordinated by Itä-Savon koulutuskuntayhtymä (Educational Consortium of Eastern Savo), Finland.

Objectives:
The Forest Boost project aimed to strengthen the network among vocational forest colleges, enable safe and impactful Erasmus+ mobility opportunities for forestry students, and deepen collective understanding of forestry challenges and sustainable methods across Europe.

Stakeholders Involved:
Key contributing institutions included Berufskolleg am Eichholz (Germany), de wijnpers (Belgium), Keski-Pohjanmaan koulutusyhtymä (Finland), Luua Metsanduskool (Estonia), and Zespol Szkol Lesnych i Ekologicznych w Brynku (Poland).

Beneficiaries:
The main beneficiaries were forestry students and teachers from the participating vocational colleges, who gained direct access to cross-border training and exchange.

Financing:
The project was funded through the Erasmus+ Programme with a total EU grant of €119,406.50.

Project Description:
Forest Boost organized a series of Learning, Teaching, and Training (LTT) activities held in Germany, Poland, Belgium, Estonia, and Finland. These events focused on themes such as climate change adaptation in forestry, internationalization of forestry education, and sustainability in forest resource management. The methodology emphasized experiential learning, collaboration between institutions, and the co-creation of teaching content and tools.

Results Achieved:
The project led to heightened awareness of the forest economy across participating countries, increased the volume and quality of student mobility programs, and resulted in practical outputs including e-learning materials and a structured network for forestry educators in Europe.

Innovation:
Forest Boost introduced an innovative educational structure by combining traditional forestry education with digital resources, peer-to-peer learning, and international collaboration. It addressed contemporary forestry challenges through a multidimensional, participatory framework.

Empowerment:
The project enhanced the professional development of both students and teachers by equipping

them with practical skills, intercultural competencies, and new methodologies—fostering greater agency in both local and European contexts.

Website:
More information is available at: https://samiedu.fi/

Contact:
Itä-Savon koulutuskuntayhtymä, Pohjolankatu 4–6, 57201 Savonlinna, Finland.
Phone: +358 15 550 6000

Title: *The Web Village for Agricultural Education*

Implementation Period: The project was launched in early 2007 and has continued to evolve.

Location: The initiative is national in scope, involving 34 Agricultural Institutes across Finland.

Coordinating Entity: The project is coordinated by the collective network of Agricultural Institutes in Finland.

Objectives:
The primary goal of the Web Village is to support and modernize agricultural education by developing a networked, virtual learning environment. This initiative seeks to better educate new generations and serve emerging livelihood opportunities in agriculture. It aims to increase knowledge among teachers, students, and farmers through digital content and remote learning, while promoting innovation in vocational training.

Stakeholders Involved:
All 34 Agricultural Institutes in Finland contribute to the implementation, including their educators, students, and the surrounding farming communities. The Finnish National Board of Education is also a key stakeholder.

Beneficiaries:
Annually, more than 3,000 new students in vocational agricultural education benefit from the platform. Additionally, teachers at the institutes and local farmers who engage with the educational content are indirect beneficiaries.

Financing:
Specific financing details are not provided, although it is likely that public educational funding, possibly via the Finnish National Board of Education, supported the project.

Project Description:
The Web Village project links all participating agricultural institutes via a central virtual platform. It supports blended learning, with online modules complementing practical work on school farms. Each participating school contributes by documenting and sharing essential farming processes, with active involvement from students. These contributions help students build practical, work-life skills while fostering an open-access knowledge base.

Results Achieved:
Although specific figures are not detailed, the project has significantly enhanced the learning environment for agricultural education in Finland. It offers scalable, eco-efficient educational models that promote sustainability and digital literacy in farming.

Innovation:
This initiative is a pioneering example of using virtual connectivity to modernize agricultural education. By combining online tools with real-world farming education, it presents a blended

learning model that enhances engagement and relevance. Its sustainability-focused curriculum prepares learners for future agricultural challenges.

Empowerment:
The platform empowers both students and teachers by providing access to a rich repository of agricultural knowledge and best practices. It fosters national collaboration, allowing institutions to share resources and methodologies, ultimately strengthening the overall quality of agricultural education.

Website:
Although previously hosted at http://www.virtuaali.info/, the site appears inactive at present.

Contact:
Mrs. Susanna Tauriainen, Finnish National Board of Education
Phone: +358-40-3487811
Email: susanna.tauriainen@oph.fi

Title: ***Community Supported Agriculture (CSA) Initiatives***

Implementation Period: Initiated in 2011 and currently ongoing.

Location: Predominantly implemented around major cities in Finland.

Coordinating Entity: The initiative is coordinated by the Finnish Organic Association (Luomuliitto).

Objectives:
The primary objective of the CSA initiative is to promote local and sustainable food production and consumption. By creating a direct link between consumers and producers, the project aims to enhance food system resilience, reduce environmental impact, and support ecological agriculture.

Stakeholders Involved:
The main stakeholders include CSA cooperatives, the Finnish Organic Association, local farmers engaged in organic agriculture, and the consumer communities that support and benefit from CSA activities.

Beneficiaries:
The initiatives have engaged approximately 2,000 participants, including individual consumers and farming households. These beneficiaries actively participate in cooperative systems that supply fresh, local, and sustainably farmed produce.

Financing:
The CSA model operates primarily as a cooperative system. While specific financial data is not provided, the funding is largely community-based, with members contributing to operational costs in exchange for regular food shares.

Project Description:
Finnish CSA initiatives emphasize ecological farming practices and the shortening of the food supply chain. Farmers and consumers collaborate through seasonal agreements, allowing for transparent production processes and shared risk. The cooperatives often involve community events, workshops, and educational sessions on sustainability and farming, fostering greater awareness and engagement.

Results Achieved:
The initiative has resulted in the formation of 8–10 active CSA cooperatives, delivering locally grown, organic food to around 2,000 people. It has strengthened local food networks, encouraged biodiversity in farming, and improved access to nutritious food.

Innovation:
CSA initiatives in Finland represent an innovative approach to local food systems by building direct producer–consumer relationships. This grassroots model increases food system transparency, reduces food miles, and encourages eco-friendly production techniques.

Empowerment:
The project empowers farmers by ensuring a stable market and fair income, while consumers gain influence over food production practices. It cultivates environmental awareness and community participation in sustainable food consumption.

Website:
Not available.

Contact:
No official contact information provided.

Title: *Go Green & Care*

Implementation Period: The project was implemented from September 1, 2014, to August 31, 2016.

Location: The project engaged organizations across six European countries, with coordination based in Finland.

Coordinating Entity: Ylä-Savo Municipal Federation of Education / Ylä-Savo Vocational College, Finland.

Objectives:
The Go Green & Care project aimed to enhance the capacity of Vocational Education and Training (VET) institutions to deliver Green Care education across diverse sectors. These sectors included agriculture, animal husbandry, horticulture, environment, forestry, business, tourism, hotel management, and social and health care. The focus was on fostering green competencies and promoting holistic well-being through nature-based educational models.

Stakeholders Involved:
Project partners included the Savo Consortium of Education/SAKKY (Finland), EDEX/Intercollege (Cyprus), Bridgwater College (UK), Parnumaa Kutsehariduskeskus (Estonia), and the European Forum for Technical and Vocational Education and Training – EfVET (Netherlands), among others.

Beneficiaries:
The primary target groups were educators and students within VET institutions involved in the aforementioned sectors. The initiative supported professional development and improved teaching content for vocational learners.

Financing:
The project received a grant of €150,149 under the Erasmus+ Programme.

Project Description:
The project activities included transnational meetings and thematic workshops designed to explore the integration of Green Care practices into VET curricula. A central output was the development of a comprehensive Teacher's Guidebook for Green Care education, which consolidated best practices, instructional methods, and case studies. Additionally, dissemination was carried out through digital platforms and professional networks.

Results Achieved:
Go Green & Care resulted in the creation of an online platform and a detailed educational guidebook, offering teaching resources, best practices, and policy insights. The project significantly strengthened educators' ability to incorporate nature-based care methods into various educational pathways and sectors, thus improving the quality and relevance of vocational education.

Innovation:
The project introduced a multidisciplinary model of Green Care that bridges health, education, and environmental sustainability. It pioneered nature-based education in the VET context, linking therapeutic approaches with employability skills and social well-being.

Empowerment:
Educators were empowered with new, evidence-based tools and content for teaching Green Care. Students gained awareness and practical experience in fields that promote mental and physical well-being through environmentally responsible practices.

Website:
http://gogreencare.eu/

Contact:
Ylä-Savo Municipal Federation of Education
Asevelikatu 4, 74100 Iisalmi, Finland
Phone: +358 400 827 251

7.2.2. Italy

Title: *The Part of Italy That Resists Climate Change*
Implementation Period: 2021
Location: All regions of Italy
Coordinating Entity: ZeroCO2 – an Italian benefit company focused on sustainability through high social impact reforestation and agroforestry projects.
Objectives:
The project aims to promote sustainable agriculture as a tool for enhancing soil and crop resilience, supporting local communities, and providing opportunities for job placement, social inclusion, and environmental education. It also seeks to empower vulnerable populations through agroecological practices.
Stakeholders Involved:
More than 45 social agricultural cooperatives located across Italy partnered with ZeroCO2 in implementing the project.
Beneficiaries:
Agricultural cooperatives and local communities, including migrants, persons with disabilities, and individuals in socially disadvantaged conditions.
Financing:
The project is financed by ZeroCO2.
Project Description:
This initiative supports agroforestry and social agriculture projects throughout Italy. It collaborates with local cooperatives and farms to implement sustainable agricultural practices that generate social impact. Each region addresses specific environmental and social issues:

- **Basilicata:** Trees support the fight against illegal gangmastering (caporalato).
- **Liguria:** Restoration of agricultural terraces to reduce hydrological instability.
- **Lombardy:** Development of inclusive green spaces in urban Milan.
- **Sicily:** Permaculture on lands confiscated from the Mafia.
- **Lazio:** Agricultural training for migrants and people with disabilities in fruit and vegetable production for stable employment.

Results Achieved:

- 12,000 trees planted
- Over 50 cooperatives engaged
- 15.5 hectares reforested
- More than 90 different species introduced

Innovation:
The project integrates agroecological practices with climate adaptation strategies. It combats desertification, drought, and hydrological imbalance while improving biodiversity. Rather than focusing solely on reforestation, it develops multifunctional landscapes that combine environmental regeneration with social integration.
Empowerment:
By collaborating with social agricultural cooperatives, the project enables reintegration and upskilling of individuals in disadvantaged situations. It fosters inclusive employment, vocational

training, and community resilience. Revenue-generating activities such as fruit processing and local sales enhance financial autonomy and sustainability.

Website:

Sustainable Agriculture in Italy | zeroCO2

Contact:

Not specified.

Title: ANTEA – Blockchain for Food Traceability (ANTEA - Blockchain per la tracciabilità dei prodotti alimentari)

Implementation Period: 2020

Location: Nationwide across all 20 regions of Italy

Coordinating Entity: Movimento Difesa del Cittadino (MDC)

Objectives:

The ANTEA project aimed to enhance food safety and consumer awareness by implementing blockchain technology for agricultural product traceability. Specific objectives included:

- Developing a blockchain-based system to trace production chains in agriculture.
- Raising awareness about unfair commercial practices and food certification.
- Training citizens, entrepreneurs, and legal professionals on food laws and consumer rights.
- Promoting responsible consumption through public education.

Stakeholders Involved:

MDC collaborated with key partners such as Codacons, Progeu, and AIAB – the Italian Association for Organic Agriculture.

Beneficiaries:

The project targeted a broad group of stakeholders including:

- Agribusinesses and agricultural entrepreneurs (ages 18–65)
- Volunteers and workers involved in agrifood sectors
- General public interested in food safety and consumer rights

Financing:

Funded by the Italian Ministry of Labour and Social Policies (Ministero del Lavoro e delle Politiche Sociali).

Project Description:

The ANTEA project addressed two major issues in Italian agriculture: product counterfeiting and "Italian sounding" branding. Using blockchain technology, the project piloted traceability systems within three agricultural enterprises from the AIAB network. This immutable and transparent system ensures data authenticity throughout the production chain. Public outreach included events, flash mobs, and an extensive communication campaign, alongside training sessions and the publication of a handbook on unfair trade practices.

Results Achieved:

- Development of the ANTEA Blockchain Platform
- Completion of national research on unfair practices and consumer protection
- Training of agrifood operators
- Public awareness events across Italy
- Distribution of educational materials and policy guidelines

Innovation:

ANTEA introduced a groundbreaking approach to food traceability through blockchain, characterized by:

- Transparency: Clear and accessible product origin data
- Traceability: Real-time monitoring of supply chains
- Interconnectedness: Integrated data across all supply chain actors
- Trust & Anti-counterfeiting: Enhanced consumer confidence
- Legal Validity: Blockchain data increasingly recognized in policy and regulation

Empowerment:

The project empowered agricultural enterprises by offering a technology-based solution to long-standing food safety issues. It also enabled consumers to make informed choices and elevated the credibility of sustainable Italian agriculture through traceable and verifiable practices.

Website:

ANTEA – Blockchain for Food Traceability

Contact:

Not specified.

Title: ***RISGENSAR – Conservation of Animal and Plant Genetic Resources of Agricultural Interest***
(*RISGENSAR – Progetto Conservazione delle risorse genetiche animali e vegetali di interesse agrario*)
Implementation Period: 2017
Location: Sardinia, Italy
Coordinating Entity: AGRIS – Agenzia Regionale per la Ricerca in Agricoltura della Sardegna
Objectives:
The RISGENSAR project focused on conserving Sardinia's agro-biodiversity through the following goals:

- Identify and catalogue biodiversity at the genetic, species, and ecosystem levels.
- Protect and disseminate high-nature-value farming and forestry systems.
- Promote sustainable use of endangered plant varieties and animal breeds through valorization and genetic resource conservation.

Stakeholders Involved:
AGRIS collaborated with the Interdepartmental Centre for the Conservation and Enhancement of Plant Biodiversity at the University of Sassari, under a framework agreement approved by the Sardinian Regional Council.
Beneficiaries:
The primary beneficiary was the Sardinian Region, including farmers, agricultural operators, and biodiversity conservation researchers.
Financing:
Funded through the *Programma di Sviluppo Rurale 2007–2013 (PSR)* – Sardinia's Rural Development Programme.
Project Description:
The project surveyed Sardinian agricultural territories to collect and characterize at-risk genetic plant and animal resources. This included historical document analysis, farmer interviews, and in-situ and ex-situ conservation activities. Dedicated gene banks and descriptive databases were created to ensure long-term preservation. Activities also involved agronomic and livestock research to support sustainable re-use and local valorization of collected resources.
Results Achieved:

- Establishment of a regional inventory and gene banks.
- Harmonized characterization of Sardinian plant agrobiodiversity using national descriptors.
- Preservation and accessibility of genetic resources for future sustainable agriculture.
- Coordination of diverse local actors into a structured agro-biodiversity network.

Innovation:
The project applied cutting-edge biomolecular techniques for accession analysis and created unified descriptive tools. It represents a pioneering model for regional coordination in biodiversity conservation and sustainable agricultural development.
Empowerment:
RISGENSAR strengthened Sardinia's cultural and economic identity by promoting locally

adapted plant and animal varieties. It fostered territorial pride, supported sustainable farming practices, and enabled diversification in production with lower environmental impact. Local actors were empowered to contribute actively to biodiversity conservation and regional resilience.

Website:

agrobiodiversardegna.it – RISGENSAR Project

Contact:

Not specified.

Title: ***PERILBIO – Organic Innovation through Networks and Living Labs*** (*PERILBIO: l'innovazione del bio si fa in rete, con i Living Lab*)

Implementation Period: 2023

Location: Sardinia, Italy

Coordinating Entity: CREA – Council for Agricultural Research and Economics (CREA-OFA: Olive, Fruit and Citrus Growing Division)

Objectives:

The PERILBIO project aimed to:

- Consolidate and expand CREA's network of Long-Term Research Devices (DRLPs) in organic farming.
- Create Living Labs—collaborative platforms integrating research, practice, and local priorities.
- Co-design innovations in organic farming in response to real needs expressed by local stakeholders.
- Support development of a National Research Plan in Organic Agriculture aligned with agroecological transitions.

Stakeholders Involved:

Multiple CREA research centres participated: horticulture, agriculture and environment, animal husbandry and aquaculture, and bioeconomy policy experts.

Beneficiaries:

Farmers, researchers, educators, and civil society actors engaged in organic farming. Specific focus included three new DRLPs on animal husbandry: mariculture (Capraia Island), poultry and rabbit farming (Monterotondo, Rome).

Financing:

Funded by CREA with institutional support from Italy's national research system in agriculture and food.

Project Description:

PERILBIO builds upon previous RETIBIO and RETIBIO2 projects, maintaining long-term agroecological field labs. Activities included:

- Establishing new DRLPs in plant production (e.g., fruit growing in Rome, horticulture in Metaponto).
- Creating two Living Labs as participatory co-innovation platforms.
- Monitoring carbon in soil and testing crop resilience to climate change.
- Engaging 40+ experts and stakeholders to define a National Research Plan for Organic Agriculture focused on local needs and innovation.

Results Achieved:

- Expansion of the DRLPs network.
- New experimental hubs for animal and plant systems.
- Enhanced stakeholder engagement through Living Labs.
- Drafting of a new National Organic Agriculture Research Plan shaped by participatory input.

Innovation:

The project introduced integrated and participatory research platforms (Living Labs) as permanent co-creation environments. It focused on agroecological diversification, carbon tracking, and alternative farming methods, including seed preservation, copper-free disease control, and circular economy assessments.

Empowerment:

PERILBIO empowered stakeholders by enabling co-design and testing of farming innovations rooted in local conditions. It provided open, democratic access to research infrastructure and built capacity across diverse farming systems, strengthening resilience and sustainability.

Website:

PERILBIO – Organic innovation through Living Labs (crea.gov.it)

Contact:

CREA Press Office: stampa@crea.gov.it

Best Practice – Italy / Europe

Title: *AE4EU – Building a European Network on Agroecology to Accelerate the Transition Towards Sustainable Agriculture and Food Systems*

Implementation Period: January 2021 – December 2023 (3-year project)

Location: Italy, Belgium, UK, Germany, The Netherlands, Greece, Spain, France, Romania, Sweden

Coordinating Entities:

- University of Gastronomic Sciences (Italy)
- Council for Agricultural Research and Economics (Italy)

Objectives:

AE4EU was created to strengthen agroecological transitions in Europe by:

- Mapping and networking actors and initiatives in agroecology.
- Establishing Living Labs and research infrastructures as learning spaces.
- Creating a European Agroecology Exchange Network.
- Enhancing policy alignment with the European Green Deal and Farm to Fork strategy.
- Increasing investment and long-term support for agroecological innovation.

Stakeholders Involved:

Consortium of 12 major European institutions, including:

- ISARA (France)
- Coventry University (UK)
- Wageningen University and Research (Netherlands)
- Agroecology Europe (Belgium)
- Thünen Institute (Germany)
- Eco Ruralis (Romania)
- University of Santiago de Compostela (Spain)
- Swedish University of Agricultural Sciences (Sweden)
- Agreoecologiki (Greece)
- Via Campesina (Belgium)

Beneficiaries:

Farmers, researchers, students, policymakers, civil society, and food system actors across Europe—reaching dozens of stakeholder groups engaged in co-innovation and agroecological transition.

Financing:

Funded under the European Union's Horizon 2020 research and innovation programme.

Project Description:

AE4EU fostered cooperation between research institutions, grassroots organisations, and policy bodies to support agroecology as a science, a practice, and a social movement. Key activities included:

- Mapping agroecology initiatives across Europe.
- Establishing Living Labs and Research Infrastructures for experimentation and learning.
- Creating a hub for policy dialogue, knowledge sharing, and training.
- Designing policy scenarios for tailored interventions aligned with EU sustainability goals.

Results Achieved:

- Developed a European Agroecology Exchange Network.

- Identified and mapped existing agroecological initiatives and infrastructures.
- Developed recommendations for sustainable long-term funding.
- Produced policy guidance aligned with the CAP, Green Deal, and Eco-schemes.
- Strengthened connections between researchers, farmers, and food system innovators.

Innovation:

AE4EU introduced Living Labs as user-centered, participatory ecosystems fostering open innovation and collaboration across scientific, social, and policy domains. It blended community-based learning, real-time data collection, and systemic experimentation for agroecological transformation.

Empowerment:

The project empowered diverse actors—particularly farmers and researchers—to co-create solutions for sustainable agriculture. It built capacity for multi-actor governance and enhanced the visibility and legitimacy of agroecological practices at the EU level.

Website:

AE4EU – Agroecology for Europe

Contact:

Coordinator: Alexander Wezel – ISARA, France
Email: Baptiste Grard – ISARA: bgrard@isara.fr

Egypt

Best Practice – Egypt
Title: *Promoting Climate Smart Agriculture and Agricultural Biodiversity*
Implementation Period: July 2023 – June 2027 (Ongoing)
Location: Behera, Kafr Elshaikh, and Aswan, Egypt
Coordinating Entity:
Ministry of Agriculture and Land Reclamation (MoALR)
Objectives:
The project aims to address climate change impacts on vulnerable communities through:

- Enhancing the adaptive capacity of rural populations.
- Promoting climate-resilient agriculture and biodiversity.
- Improving soil health using sustainable techniques.
- Creating green jobs via agricultural waste valorization.

Stakeholders Involved:

- Ministry of Agriculture and Land Reclamation (MoALR)
- Ministry of Water Resources and Irrigation (MoWRI)
- Ministry of Environment (MoE)
- National Council for Women (NCW)
- Local NGOs, media, smallholder farmers, youth, and policymakers

Beneficiaries:
Target groups include vulnerable rural populations—smallholder farmers, landless individuals, women, youth, and unemployed persons—across the project areas.
Financing:
Funded by **Global Affairs Canada**
Project Symbol: **GCP/EGY/039/CAN**
Project Description:
This multi-year initiative delivers a comprehensive suite of activities designed to promote climate-smart agriculture (CSA) and restore agro-biodiversity in Egypt:

- Scientific studies on climate impact and CSA options.
- Development and deployment of CSA technology packages.
- Establishment of **Farmer Field Schools (FFS)** focused on biodiversity, soil health, and nature-based solutions.
- Training of master trainers and extension facilitators.
- Restoration of biodiversity in date palm plantations.
- Development of micro-enterprises focused on agricultural waste upcycling.
- Creation of early warning systems for weather risk management.
- Establishment of **Public-Private-Community Partnerships (PPCPs)**.
- Public awareness campaigns promoting CSA and ecosystem resilience.

Results Achieved:

- Measurable increases in agricultural productivity and ecosystem diversity.
- Improved resilience of farming systems to climate risks.
- A supportive policy and community environment for sustainable agriculture.

Innovation:

- Integration of **climate-smart agriculture** and **nature-based practices** tailored to Egypt's rural conditions.
- Economic innovation via **waste valorization**, turning agricultural by-products into resources for income and soil enrichment.

Empowerment:

The project supports **economic inclusion** through skill development, job creation, and sustainable farming. It uplifts marginalized groups—particularly women and youth—through targeted training and enterprise development, enhancing resilience, food security, and livelihoods.

Website:

FAO Egypt - Canadian Project Overview

Contact:

Dr. Hussein Zakaria – Hussein.Zakaria@fao.org

Pictures:

Title: ***Supporting the Establishment of the Food and Agriculture for Sustainable Transformation (FAST) Partnership***

Implementation Period: October 2023 – March 2025 (Ongoing)

Location: Global initiative, with engagement across regions through COP-linked activities.

Coordinating Entity:

Food and Agriculture Organization (FAO)

Objectives:

The FAST Partnership was developed to improve climate finance for transforming agrifood systems by 2030. It aims to:

- Increase both the quantity and quality of climate finance directed to the sector.
- Define clear priorities and strategies for the partnership.
- Coordinate stakeholders and monitor the implementation of aligned activities.
- Establish foundational structures and prepare for sustainable funding cycles beyond the project's duration.

Stakeholders Involved:

- Governments
- Intergovernmental organizations
- UN agencies
- Civil society and youth organizations
- Farmers' networks
- Regional and global policy actors

Beneficiaries:

The Partnership targets a wide institutional group: national governments, international agencies,

grassroots networks (especially youth and farmer organizations), and civil society groups, all benefiting through enhanced access to finance, policy tools, and climate-smart strategies.

Financing:

Funded by the Federal Government of Germany, specifically through the Federal Ministry of Food and Agriculture (BMEL).

Budget: USD 999,792

Project Description:

The FAST Partnership is built around two key phases:

1. Inception Phase:
   - Define the Partnership's aims, structure, and identity.
   - Create founding documents, communication frameworks, and stakeholder maps.
   - Ensure alignment with national, regional, and international development priorities.
2. Implementation Phase:
   - Deliver a two-year action plan with regular monitoring.
   - Launch a website and knowledge-sharing platform.
   - Organize stakeholder engagements and prepare reporting for COP 29.
   - Establish rolling membership applications and plan for post-project sustainability.

Methodologies Used:

- Stakeholder mapping and initiative alignment analysis.
- Climate-related finance diagnostics specific to agrifood systems.
- National/international policy framework integration.
- Creation of an Engagement Strategy and visual identity for the FAST Partnership.
- Institutionalized reporting and feedback loops through high-level meetings and COP platforms.

Results Achieved:

- Operational FAST Partnership with Terms of Reference, defined priorities, and a governing board.
- Launch of online presence and knowledge exchange systems.
- Engagement of multiple stakeholders and institutions in coordinated activities.
- Developed tools to ensure the partnership's continuity and effectiveness beyond the initial project period.

Innovation:

The project introduces a COP-to-COP linkage model, creating continuity in climate-agriculture finance efforts across successive climate summits. This ensures momentum in funding, policy alignment, and global cooperation on agrifood transformation.

Empowerment:

FAST empowers institutions and individuals by:

- Strengthening capacity to secure climate finance.
- Improving skills and policy tools for resilient food systems.
- Facilitating inclusive dialogue platforms where local voices, especially youth and farmers, are integrated into global decision-making.

Website:

N/A

Contact:

Giulia Maria Galbiati – Project Coordinator
FAST-Partnership@fao.org

Pictures:


FAST
Partnership
FOOD AND AGRICULTURE FOR SUSTAINABLE TRANSFORMATION
For people, for climate, for nature

Title: ***Building Capacity of MOSS Supported Beneficiaries in the Targeted Governorates through Stimulating Agriculture and the Agro-Food Value Chain***

Implementation Period: December 2020 – December 2021

Location: Egypt (multiple governorates)

Coordinating Entity:

Food and Agriculture Organization (FAO), in collaboration with the **Ministry of Social Solidarity (MOSS)**

Objectives:

- Strengthen the economic empowerment of MOSS beneficiaries by shifting them from aid recipients to self-sufficient producers.
- Stimulate activities in livestock, horticulture, and agro-food value chains.
- Promote community organization around value-added agriculture.
- Enhance access to market information and sales channels.
- Improve both the quality and quantity of agricultural produce.

Stakeholders Involved:

- Ministry of Social Solidarity (MOSS)
- FAO
- Local implementation partners
- Private sector actors involved in agrifood and marketing

Beneficiaries:

Financial support recipient families and smallholder farmers in horticulture and livestock. The exact number of individuals reached is not specified but includes a broad base of MOSS-supported rural families.

Financing:

Funded by the **FAO**

Project Symbol: TCP/EGY/3804

Project Description:

The project was designed to uplift vulnerable populations through inclusive, income-generating agriculture and agro-industry activities. It emphasized capacity development, market linkage, and quality assurance. Activities included:

- Reorganizing community groups into micro-productive units.
- Implementing agribusiness and food-processing business models.
- Providing training in marketing, processing, livestock, and poultry.
- Facilitating partnerships with private sector buyers and supply chains.
- Enhancing the technical skills of MOSS staff and target groups.

Results Achieved:

- Improved quality of life and poverty reduction in rural areas.
- Strengthened production capacities and value-added processing by vulnerable groups.
- Emergence of sustainable micro-businesses in agrifood value chains.

Innovation:

The project introduced **collective micro-enterprise models** in agriculture and food processing, with tailored business training, product development, and inclusive value chain integration, particularly impactful in transitioning aid recipients into entrepreneurs.

Empowerment:

- Enabled the economic transition of MOSS beneficiaries from dependency to active producers.
- Strengthened their capacity to manage income-generating projects.
- Enhanced community-level resilience and autonomy through agriculture.

Website:

Globally Important Agricultural Heritage Systems.

Contact:

(Not provided)

Title: ***Festival of Medicinal and Aromatic Plants in Egypt***

Implementation Period: October 27–28, 2022

Location: Fayoum Governorate, Egypt

Coordinating Entity:

German Society for International Cooperation (GIZ Egypt), through the Agricultural Innovation Project (AIP)

Objectives:

- Promote and develop the medicinal and aromatic plants (MAPs) sector in Egypt.
- Showcase the capabilities and products of Egyptian MAP producers.
- Facilitate linkages among agricultural market stakeholders.
- Ensure producers' compliance with national and international quality standards.

Stakeholders Involved:

- Producers of medicinal and aromatic herbs in Egypt
- Service providers in agriculture
- Chemical distributors
- Suppliers of agricultural production materials

Beneficiaries:

- Egyptian producers and exporters of medicinal and aromatic plants
- Major producers and exporters of fresh and processed fruits and vegetables

Financing:

Funded by GIZ Egypt under the Agricultural Innovation Project (AIP)

Project Description:

This two-day festival served as a platform for connecting stakeholders in the Egyptian MAPs value chain. It brought together herb and plant producers, service providers, and input suppliers to strengthen partnerships and market access. Key features included:

- Product exhibitions and stakeholder interaction
- Participation of AGQ Labs providing advanced analytical services to assess quality and safety (testing for pesticide residues, mycotoxins, heavy metals, microbiology, allergens, etc.)
- Educational activities highlighting best practices for export compliance and food safety

Results Achieved:

- Improved market visibility and networking opportunities for Egyptian MAP producers
- Strengthened compliance with international food safety standards via AGQ Labs' testing
- Boosted confidence in Egyptian MAP exports

Innovation:

Use of cutting-edge analytical technologies by AGQ Labs, ensuring the safety and quality of products at levels required by international buyers. This significantly supported producers in accessing export markets.

Empowerment:

The initiative empowered Egyptian producers by:

- Equipping them with knowledge and services to meet international standards
- Opening up access to new market opportunities
- Supporting sustainable agriculture and export readiness through improved product traceability and certification

Website:

Not available

Contact:
egypt@agqlabs.com
+20 2 3691 4906

Pictures:

Best Practice – Egypt
Title: *Feed the Future Egypt Rural Agribusiness Strengthening Project*
Implementation Period: August 1, 2018 – July 31, 2023

Location:

Greater Cairo, Delta Region (Beheira, Alexandria, Dakahlia, Gharbia, Ismailia, Menoufia, Qalyoubia, Sharkia), and Upper Egypt (Beni Suef, Minya, Qena, Luxor, Aswan, Sohag, Assiut)

Coordinating Entity:

Abt Associates

Subcontractors: CID Consulting, Global Cold Chain Alliance, J.E. Austin Associates, 20/20 Development Company

Objectives:

- Enhance competitiveness and market responsiveness of Egypt's horticulture industry
- Strengthen sustainable domestic and international market linkages
- Improve post-harvest handling, storage, and productivity
- Support smallholder farmers and food processors
- Improve nutrition, especially among women and children

Stakeholders Involved:

- USAID Egypt
- Abt Associates and project subcontractors
- Horticultural institutions and producer organizations
- Private sector market actors and finance providers

Beneficiaries:

Smallholder farmers, food processors, producer organizations, and stakeholders in the horticultural value chain (legal and informal)

Financing:

Donor: USAID Egypt

Contract Number: 72026318C00004

Project Description:

The project used a market-driven, systems-strengthening approach to make Egypt's horticulture sector more competitive and inclusive. Key activities included:

- Establishing market linkages between smallholder farmers and buyers
- Improving post-harvest infrastructure and practices
- Promoting climate-resilient agriculture and low-cost technologies (e.g., drip irrigation, solar dryers)
- Providing nutrition training for women and caregivers
- Facilitating access to finance for value chain actors

Results Achieved:

- Signed numerous contracts and agreements linking producers to markets
- Introduced climate-smart technologies to boost sustainability
- Enabled smallholders to access financial services and new sales channels
- Trained farmers and processors, leading to measurable increases in productivity and incomes

Innovation:

- Promoted innovative post-harvest solutions (e.g., solar greenhouses)
- Scaled low-cost, climate-adaptive irrigation and storage technologies
- Bridged rural producers with formal market systems via digital and cooperative solutions

Empowerment:

- Improved farmers' access to markets and financial tools
- Increased the capacity and autonomy of producer organizations
- Enabled food processors and rural entrepreneurs to build viable businesses

Website:

Not available

Contact:

 Walid Sallam, Chief of Party – Abt Associates

Pictures:


بنك الطعام المصري
FEED FUTURE
USAID
دعم وتمكين
صغار المزارعين


30 Farmers at 12 Sep 22
24 Farmers at 5 Sep 22
1
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8
9
Google

1.1Morocco

Title: *Natural Honey Manufacturing Unit*

Implementation Period: 2023 – *Ongoing*

Location:

Tiznit, Morocco

Coordinating Entity:

Agricultural Cooperative CHOUKRAT

Objectives:

General Objective:

- Establish a sustainable and efficient honey manufacturing unit serving local and regional markets.

Specific Objectives:

- Increase honey production in the region.
- Improve product quality and consistency.
- Create employment in beekeeping and honey processing.
- Enhance beekeepers' income and livelihoods.
- Promote environmentally friendly and sustainable beekeeping practices.

Stakeholders Involved:

- Tiznit Provincial Council
- Rpess Tiznit

Beneficiaries:

Local beekeepers (informal and cooperative-affiliated)

Financing:

Funder: Agence Nationale de Développement des Zones Oasiennes et de l'Arganier

Project Description:

1. Facility Establishment

- Site selection based on feasibility studies.
- Facility design and renovation to meet food safety standards.
- Procurement of honey extractors, filters, bottling machines, storage tanks, and quality control tools.

2. Beekeeper Training

- Training modules on modern beekeeping and honey processing.
- Hands-on workshops, field visits, and technical support.

3. Honey Collection & Processing

- Organized collection points for raw honey.
- Fair pricing system based on quality.
- SOPs for processing and quality control using moisture meters and lab testing.

4. Marketing & Sales

- Branding (logo, name, packaging).
- Participation in farmers' markets and trade fairs.
- Collaborations with restaurants and retailers.
- Online marketing and social media strategy.

Methodology:
Participatory and adaptive approach; beekeepers engaged in planning, decision-making, and monitoring. Environmental sustainability is central to the processing phase.

Results Achieved:
- Regional honey production increased by **23%**.
- **53 new jobs** created.
- Beekeepers' income increased by **30%**.
- Enhanced product quality and adoption of sustainable practices.

Innovation:
- Use of **modern beekeeping and processing technologies**.
- Development of **unique branding and marketing** strategies.
- Special focus on **distinct honey varieties** and quality.

Empowerment:
- Upgraded technical skills and access to markets.
- Fair pricing systems to ensure income growth.
- Strengthened environmental stewardship among local producers.

Website:
Facebook – CHOUKRAT Cooperative
Contact:
choukrat95001@gmail.com

Best Practice – Morocco
Title: ***Project for the Development of Arganiculture in Degraded Environments (DARED)***
Implementation Period: March 2018 – September 2023
Location:
Sous-Massa, Guelmim, and Essaouira, Morocco
Coordinating Entity:
National Agency for the Development of Oasis and Argan Zones (ANDZOA)
Objectives:

- Implement arganiculture on 10,000 hectares.
- Preserve the argan ecosystem.
- Strengthen capacity building, knowledge management, and promote research related to argan forestry.

Stakeholders Involved:

- Agricultural Development Agency (ADA)

Beneficiaries:

- **Direct:** 26,000 inhabitants
- **Indirect:** 345,000 inhabitants
- Around 300 cooperatives involved in argan collection and processing with more than 6,500 members.

Financing:

- Green Climate Fund
- Ministry of Agriculture, Morocco

Project Description:
The **DARED Project** aims to protect and sustainably manage Morocco's argan forests while promoting agroforestry practices to reduce environmental degradation and enhance local livelihoods. It aligns with national efforts to mitigate the effects of climate change and preserve the **Argan Biosphere Reserve**.
Key Activities Include:

- Large-scale **argan tree plantation** (10,000 ha).
- Promotion of **intercropping** with aromatic and medicinal plants (PAM).
- **Rainwater harvesting** systems installed for irrigation.
- **Capacity building** for beneficiaries and local stakeholders.
- Structuring and supporting **professional organizations** and **Groupements d'Intérêt Économique (GIEs)**.

- Enhancing the **value chain** of argan-based products through market development.
- **Co-management frameworks** established for the Argan Biosphere Reserve.
- **Support for scientific research** on argan ecology and resilience.

Results Achieved:

- Successful establishment of arganiculture across **10,000 ha**.
- Expanded **PAM plantations** across **2,000 ha**.
- Increased community participation in **sustainable land management**.
- Creation and reinforcement of professional structures for local producers.
- Strengthened **institutional and stakeholder capacity** in climate change adaptation.
- Enhanced local value chains for argan products.

Innovation:

- Integrates arganiculture with **ecosystem restoration** in vulnerable regions.
- Supports **research-driven development** of argan farming techniques.
- Encourages community-based co-management of a biosphere reserve, blending **traditional knowledge with innovation**.

Empowerment:

- Engaged local communities through training and technical assistance.
- Strengthened **economic resilience** of rural populations.
- Empowered cooperatives and right holders to participate in value-added argan product development.

Website:

DARED Project on ANDZOA Website

Contact:

contact@andzoa.ma

Co-funded by the European Union

Title: ***IBRTIKAR (INNOVATION)***
Implementation Period: 2024 – 2027 (ongoing)
Location:
Four pilot agroforestry regions in Morocco: Tangier-Tétouan-Al Hoceima, Béni Mellal-Khénifra, Drâa Tafilalet, and Oriental
Coordinating Entity:
Ministry of Agriculture, Maritime Fisheries, Rural Development, Water and Forests (MAPMDREF)

Objectives:

- Adapt agricultural and forestry training to ecological transition and climate challenges.
- Train new generations of students, teachers, farmers, and foresters in sustainable practices.
- Consolidate collaborative research frameworks to support agroecological transition.
- Disseminate knowledge among stakeholders and promote sustainable practices.
- Design and implement entrepreneurship training modules and incubators focused on green value chains.

Stakeholders:

- Agronomic and Veterinary Institute (IAV) Hassan II
- National Institute of Agronomic Research (INRA)
- National School of Agriculture of Meknes (ENAM)
- National Forestry Engineering School (ENFI)

Beneficiaries:
Students, teachers, farmers, and forestry professionals across Morocco

Financing:
Funded by the European Union as part of the **AL ARD AL KHADRAA – Terre Verte** program

Description:
This innovative initiative supports Morocco's national "Génération Green" and "Forêts du Maroc" strategies. The project provides practical training and education in sustainable agricultural and forestry practices. It fosters green entrepreneurship, collaborative research, and field-based knowledge dissemination to address climate change and biodiversity loss.
Key Activities:

- Curriculum revision aligned with ecological transition.
- Capacity-building for agricultural and forestry institutions.
- Establishment of an **incubator** for entrepreneurship in sustainable agri-food chains.
- Implementation of e-learning, mentorship programs, and practice exchanges.

- Research co-construction with farmers and knowledge-sharing platforms.

Results Achieved:

- Enhanced capacity of students, educators, and professionals to engage in sustainable food and forestry systems.
- Institutional support for four national agricultural and forestry training bodies.
- Strengthened linkages between education, research, and practical field implementation.

Innovation:

- **Agroecological techniques** like agroforestry and permaculture adapted to climate realities.
- **Modern pedagogical tools** such as simulators and blended learning for upskilling.
- Strong **public-private-academic partnerships** facilitating co-design of solutions and knowledge exchange.

Empowerment:

- Empowers future green leaders through integrated technical and entrepreneurial training.
- Supports environmentally sustainable farming and forestry.
- Builds long-term climate resilience and enhances biodiversity conservation.
- Promotes inclusive, green economic opportunities in rural Morocco.

Website:

INRA – Project Overview

Fellah Trade – Partnership News

IAV – Official Statement

Co-funded by the European Union

Best Practice – Morocco
Title: ***Innovations for Organic Agriculture in Africa (IIABA)***
Implementation Period: 2020 – 2023
Location:
Morocco – with a focus on six regions: Tangier, Fez, Rabat, Casablanca, Marrakech, and Agadir
Coordinating Entity:
Réseau des Initiatives Agroécologiques au Maroc (RIAM)

Objectives:
- Build new local and regional markets for organic produce
- Improve governance and effectiveness of organic guarantee systems
- Expand the use of Participatory Guarantee Systems (PGS)
- Promote organic production and consumption in public policies
- Establish cross-sectoral and inter-professional dialogue platforms
- Strengthen national organic and ecological farming movements
- Disseminate knowledge and advocate for organic practices at all levels

Stakeholders:
- **National Research Institute for Agriculture, Food and Environment (INRAE)**
- **International Center for Research in Agriculture for Development (CIRAD)**
- **African Organic Network (AfrONet)**

Beneficiaries:
- Farmers involved in agroecology or ecological transition
- Consumers
- Market intermediaries
- Institutional stakeholders in local food systems
- Civil society organizations

Financing:
Funded by the **French Development Agency (AFD)** and supported by **AfrONet**

Description:
The IIABA project aims to institutionalize innovations in organic agriculture across Africa, with Morocco as a key partner. RIAM leads the Moroccan implementation, focusing on:
- Developing short supply chains via direct-to-consumer models (e.g., farmers' markets, farm shops, produce baskets)
- Strengthening the **SPG Agroécologie Maroc** label, guided by charters, specifications for plant/animal production, and structured farm surveys
- Facilitating regional round tables and awareness-raising meetings
- Supporting agroecological communities in governance and certification
- Promoting policy engagement and market diversification through workshops and digital tools

Results Achieved:

- Creation of an organic agriculture **observatory**
- Establishment of **new physical points of sale** and **two digital platforms**
- **30 active PGS** systems per country, with **3 new ones developed** in each
- **7 policy briefs** released
- **3 cross-sectoral platforms** built for dialogue and collaboration
- **15 national movements** formed to champion agroecology
- A strengthened national agroecological network and consistent reporting mechanisms

Innovation:

- Promotion of **Participatory Guarantee Systems** as community-based certification models
- Regional **round tables and best practice exchanges**
- Introduction of **short circuit marketing** and **community-led governance structures**
- Cross-border research collaboration with INRAE and CIRAD
- Digital transformation of marketing and certification processes

Empowerment:

- Empowered farmers and cooperatives to self-organize, certify, and access markets
- Strengthened capacity for advocacy, policy dialogue, and ecological transition
- Fostered civil society engagement and consumer awareness
- Enabled a resilient, decentralized certification system tailored to local realities

Website:

SPG Agroécologie Maroc – RIAM

Contact:

reseauagroecologiemaroc@gmail.com

7.3 TRAINING FORMAT - AGROECO

The training format "**AGROECO**" has been developed as a dynamic and adaptable framework aimed at empowering rural youth through ecological and sustainable approaches to agriculture. Developed collaboratively by all project partners, this format provides a structured yet flexible guide to deliver engaging, participatory, and skill-oriented learning experiences based on **Non-Formal Education (NFE)** principles.

The **main objective** of the format is to foster creativity, ecological awareness, and collaborative skills among young people in rural areas by exploring diverse styles of sustainable agriculture. These include permaculture, agroforestry, regenerative agriculture, organic and biodynamic farming, vertical farming, aquaponics, and community-supported agriculture (CSA). Each module encourages critical reflection, hands-on learning, and the development of green competences, contributing to personal growth and active engagement in environmental stewardship.

In **practical terms**, each partner contributed two modules composed of an icebreaker, a team-building activity, and two main exercises. These modules are intended to be interactive and easily replicable, with each activity lasting 1 to 3 hours and designed using a standardized template. This ensures coherence across all contributions while allowing creativity and contextual adaptation.

Through energizers, simulations, theoretical inputs, round tables, business model canvas sessions, and case studies, this training format aims to equip trainers and facilitators with a rich toolkit to deliver impactful learning experiences rooted in ecological thinking, practical knowledge, and community building.

Methodology: Non-formal education

In order to ensure the development of individuals in a changing and interconnected world, **it is essential to have access to training opportunities** that enable the acquisition, development and functional maintenance of the competences necessary to enhance personal and professional aspirations.[1]

Non-formal education (NFE) refers to any educational action that occurs outside of conventional or formal learning contexts but within a framework of some type.[2] It is typically defined within an education spectrum that incorporates how it relates to formal education and Informal learning.

- **Formal education** corresponds to a systematic, organized education model, structured and administered according to a given set of laws and norms, presenting a rather rigid curriculum as regards objectives, content and methodology. It encompasses the formal education system, including vocational and university education, and it culminates in the achievement of a recognised certification, diploma, degree or professional qualification.
- **Informal learning** occurs whether or not there is a deliberate choice and is realised in the performance of activities in everyday situations and interactions that take place. It is without external support and is not institutionalised and occurs within the context of work, family and leisure.
- **Non-formal education** and learning is characterised by a deliberate engagement of a person, in any organisation which provides purposeful education and training, even volunteering, civil service, private social service and in enterprises. Non–formal education is any type of structured and organised learning which is intentional and planned by an educational provider, but which does not lead to formal qualifications recognised by the relevant national education authorities.

NFE is an integral part of a lifelong learning concept that ensures that young people and adults acquire and maintain the skills, abilities and dispositions needed to adapt to a continuously changing environment. Generally, the most consistent part of non-formal education is carried out by non-governmental organisations involved in community and youth work. Non-Formal Education is the outcome of deliberate effort and arises from the learner's conscious decision to acquire and master a certain activity, skill, or area of knowledge. It does not require an external accreditation or assessment and it does not follow a defined syllabus.

1 Asunción Manzanares Moya, Non-formal training and lifelong learning, 2021

2 Council of Europe, COMPASS Manual for human rights education with young people, 2020

Also, the educative processes promoted by NFE supports the development of flexible curricula and methodologies, capable of adapting to the needs and interests of participants, for which time is not a pre-established factor but is contingent upon their work pace. This means that NF learning includes various structured learning situations which do not either have the level of curriculum, syllabus, accreditation and certification associated with 'formal learning', but have more structure than that associated with 'informal learning', which typically take place naturally and spontaneously as part of other activities.[3]

Young/Adult learning refers to the idea that adults (18 years or older) engage in learning activities to acquire more knowledge and skills for professional and personal life. Adult education can be part of a *formal* education system, vocational training, or course to obtain a degree. Non-formal adult education includes all forms of structured learning activities other than formal education systems. *Informal adult learning*, on the other end, includes all learning activities of adult life that take place in an unstructured way.

The objective of non-formal adult education is, by taking a point of departure in the courses and activities, to increase the individual's general and academic insight and skills and enhance the ability and desire to take responsibility for their own life, as well as taking an active and engaged part in society.

The desire to learn is the key competency of the future. It is therefore important that the non-formal adult education sector is in tune with using and further developing its obvious potential to create and strengthen the motivation for people to learn.

In their research, Pedersen and Elsborg discovered five key elements of non-formal adult education, that also motivate the desire to learn:[4]

- The insistence on meeting the participant at eye level and relating to them as a resourceful player
- An energizing social setting for action
- Flexible and targeted preparation of the content
- Active interaction between teaching and counselling
- Focus on both process of education and development.

[3] Edustorytelling I Guide, 2022

[4] Elsborg, S., Pedersen, S., *Non-formal adult education and motivation for life-long learning*, 2013

TRAINING FORMAT - AGROECO MODULE 1

VERTICAL FARMING

PUNTLAND COMMUNITY RY

Aquaponics Workshop for Youth

Learning Objectives:

- Understand the main components and principles of vertical farming.
- Develop teamwork, research, and planning skills.
- Apply theoretical knowledge to design a sustainable vertical farming project.
- Explore sustainable agricultural practices.
- Foster participant connection and peer learning.

Duration:

- Icebreaker Activity: 15–30 minutes
- Team Building Activity: 30–40 minutes
- Main Activity (2 sessions): 1.5 hours each (only one selected for execution)

Materials Needed:

- Icebreaker Activity:
  - Bingo cards (with prompts on vertical farming and personal interests)
  - Pens or markers
- Team Building Activity:
  - Eco-friendly balloons (air or water-filled)
  - Whistle or timer
  - Cones or markers to divide play area
- Main Activity:
  - Poster boards or large paper sheets
  - Markers, pens, pencils
  - Laptops/tablets (optional)
  - Handouts or reference materials on vertical farming

Preparation:

- Prepare bingo cards with unique prompts.
- Inflate balloons and prepare the team activity space.
- Create a short overview presentation or handout on vertical farming principles.
- Organize all materials ahead of the session.

Activity Description:

1. Icebreaker – Vertical Farming Bingo
   - Participants mingle to find peers who match prompts on their bingo card.
   - Each box is signed by someone who matches the description.
   - Facilitator highlights interesting responses and initiates discussion.
2. Team Building – Aquaponics Balloon Toss
   - Participants split into two teams representing aquaponic systems.
   - Balloons symbolize limited resources (e.g., water/nutrients).
   - Teams toss balloons to the other side; the team with fewer balloons on their side wins.
   - Variations include movement restrictions (one hand, one foot, etc.).
3. Main Activity – Design a Vertical Farming Project
   - Brief overview of vertical farming (10 min).
   - Participants form teams (4–5 people).

- Phase 1: Brainstorm & Research (30 min)
- Phase 2: Design Plan (45 min)
    - Teams detail layout, crop choices, water/nutrient cycles, and sustainability solutions.
- Presentation (15 min)
    - Each team presents and receives peer/trainer feedback.
- Wrap-Up (10 min)
    - Discussion of innovations, lessons learned, and real-world application.

Learn Check / Debriefing:

- Icebreaker: Share insights about participant interests and vertical farming awareness.
- Team Activity: Reflect on teamwork, coordination, and the metaphor of resource management.
- Main Activity: Q&A and individual sharing of key takeaways.

Trainer Tips:

- Pair introverted participants with outgoing ones during the icebreaker.
- Ensure a safe space for physical activity and inclusivity.
- Encourage balanced participation in team discussions.
- Offer guidance during brainstorming, especially around technical areas.

Handouts Provided:

- Bingo card for the icebreaker
- Vertical farming overview sheet (definitions, system types, sustainability practices)
- Optional list of further reading and online resources

References:

- University of Hawaii Aquaponics
- FAO Aquaponics Guide
- SIREM Article on Youth and Environmental Learning

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TRAINING FORMAT - AGROECO MODULE 2

AQUAPONICS

PUNTLAND COMMUNITY RY

Aquaponics Workshop for Youth

Learning Objectives:

- Understand the basic principles and components of aquaponics systems.
- Develop teamwork and collaboration skills.
- Apply practical knowledge to design and build a mini aquaponics system.
- Explore sustainable agricultural practices.

Duration:

- Icebreaker Activity: 15–30 minutes
- Team Building Activity: 30–40 minutes
- Main Activity: 1.5 hours

Materials Needed:

- Icebreaker Activity:
- Index cards with aquaponics-related questions/facts
- Bell or timer
- Team Building Activity:
- Small fish tanks or clear containers
- Plastic tubing, air/water pumps
- Plant pots or net cups
- Gravel or pebbles
- Small fish (optional) or fish figurines
- Seeds or small plants
- Scissors, glue, tape, markers
- Main Activity:
- Large sheets of paper or poster boards
- Markers, pens, pencils
- Laptops or tablets (optional)
- Reference materials and handouts on aquaponics

Preparation:

- Prepare index cards with engaging aquaponics-related facts/questions for the icebreaker.
- Organize and test all materials for activities (e.g., pumps, tubing setups).
- Arrange the room for easy movement and collaboration in small groups.
- Print out handouts and/or slide material on aquaponics systems.

Activity Descriptions:

- Icebreaker Activity – “Aquaponics Speed Networking”
- Distribute one index card to each participant containing a question or fact related to aquaponics.
- In pairs, participants have 2 minutes to discuss their card with their partner.
- A bell/timer signals rotation. Repeat the process 3–4 times.
- Wrap up with a group discussion where participants share interesting insights.

Team Building Activity – “Aquaponics Circles”

- Objective: Simulate system thinking by collaboratively building a model of an aquaponics cycle.
- Instructions:
- Divide participants into small teams (4–5 people).

- Provide each group with components to visually assemble an aquaponics cycle using simple materials (e.g., small containers for tanks, tubing for water flow).
- The team must assign roles: fish care, filtration, plant setup, and system monitoring.
- Groups design the system so that all components interact (fish waste → water filtration → plant growth → clean water return).
- After 20–30 minutes, each team explains how their cycle works.
- Trainer gives brief feedback, emphasizing the interconnected nature of aquaponics.

Main Activity – "Design and Build a Mini Aquaponics System"

- Introduction (10 minutes): Short presentation or video explaining real aquaponics systems.
- Group Formation: Teams from the previous activity remain intact.
- Design Phase (30 minutes): Each team sketches out a mini aquaponics system on poster board. They must define:
- Fish type and plant choice
- Water cycling method
- Nutrient flow
- Sustainability concerns
- Prototype Build (40 minutes): Using the provided materials, teams create a small-scale model (not functional, but visual).
- Presentation (10 minutes): Each group presents their system to others, explaining choices and challenges.
- Feedback and Wrap-Up (10 minutes): Trainer highlights creativity, scientific reasoning, and collaboration.

Learn Check / Debriefing:

- Ask participants to list one thing they learned about aquaponics they didn't know before.
- Discuss challenges encountered during design/build and how teams overcame them.
- Reinforce key principles: resource cycling, sustainability, team coordination.

Trainer Tips:

- Encourage quiet or reserved participants to take on leadership roles in planning or presenting.
- Be available for technical support but allow teams to problem-solve independently.
- Adjust material complexity based on participant age and background.
- Keep energy high during the team-building game with enthusiasm and music (if appropriate).

Handouts Provided:

- Overview of aquaponics system components
- Diagram of nutrient cycle
- List of sustainable aquaponics practices
- Additional resources for learning at home

References:

- University of Hawaii Aquaponics
- FAO Aquaponics Guide
- SIREM Article on Youth and Environmental Learning

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TRAINING FORMAT - AGROECO MODULE 3.1

AGRO-ECOLOGY WORKSHOP

Designing a Synergistic Vegetable Garden

MINE VAGANTI NGO

The Synergistic Vegetable Garden as Agro-Ecology Workshop and NFE Education

The Synergistic Vegetable Garden represents one of the most innovative and sustainable forms of agriculture, based on ecological principles and cooperation between plants. This method stands out from traditional horticulture due to its integrated approach that respects the natural balance of the ground and the environment. Moreover, the implementation of a synergistic garden can be seen as a powerful New Form of Education (NFE), as it promotes experiential learning, environmental education, and the development of practical and transversal skills.

Beside of that, the Agro experience offers a unique opportunity to teach environmental education. Youth learn to respect nature, understanding the importance of biodiversity and practising sustainable cultivation techniques.

Taking part in the development and maintenance of a synergistic garden enables participants to acquire practical skills spendable in the future. As the matter of fact, through this module they learn cultivation techniques, soil management, composting and the use of natural resources thanks to creative tasks and engaging activities.

From the technical point of view, it is essential to follow a few key steps in order to build a sustainable garden, such as the designing part, the ground preparation, starting with a good base of compost and mulch to prepare the soil without tilling it and plants selection.

Furthermore, the synergistic garden provides several environmental and economic advantages. By reducing the need for chemicals and intensive tillage, this method lowers production costs and minimises environmental impact.

Along with the technical part, the proposed immersive workshop is a form of shared thinking and an eco-sustainable strategy that nurtures a passion for agriculture and outdoor activities among young people having a positive impact on their lives.

Learning Objectives

- Understand the basic principles of agro-ecology
- Develop creativity and problem-solving skills
- Foster teamwork and collaboration
- Acquire basic agro-technical skills
- Design a synergistic vegetable garden based on sustainable principles

Duration

- **Icebreaker Activity:** 15 minutes
- **Team Building:** 30 minutes
- **Main Activity:** 2 hours
- **Debriefing:** 15 minutes

Materials Needed

- **Icebreaker:** Timer or bell
- **Team Building:** Timer, sticky notes, recycled paper, markers, coloured pencils, drawing materials, brochures, prize (eco-friendly gardening tools)
- **Main Activity:** Projector, music player, guideline handouts, gardening tools (e.g. aprons, boots, gloves, props)
- **Debriefing:** None

Preparation

- Organize and set up all materials in advance
- Arrange presentation space with projector
- Prepare drawing areas and creative tools for group work
- Prepare handouts and guidelines on agroecology and synergistic gardens

Activity Descriptions

- **Icebreaker "Cross Presentations"**
- **Instructions:** Divide participants into pairs. Each person interviews their partner about interests, agroecology experience, and expectations.
- **Wrap-Up:** Each person introduces their partner to the group.
- **Objective:** Break the ice and build initial rapport while introducing agroecological

interests.

Team Building – "Building a Sustainable Agro Map"

- **Instructions:** Divide into 4 groups. Each group brainstorms and draws a map of their ideal sustainable garden, integrating principles like crop rotation, composting, irrigation, and biodiversity.
- **Presentation:** 5-minute pitch per group explaining design choices.
- **Wrap-Up:** Award a prize for the most creative, feasible, and sustainable project.
- **Objective:** Foster teamwork, creativity, and understanding of sustainable practices.

Main Activity – "Designing a Synergistic Vegetable Garden"

- **Introduction:** Explain synergistic gardening (intercropping, mulching, soil preservation).
- **Video:** Show a real-life example of a synergistic garden.
- **Design Session:** While music plays, groups design their garden section using provided tools and guidelines.
- **Presentation:** Each group shares their layout, explaining choices creatively (e.g. with a song or themed storytelling).
- **Wrap-Up:** Announce the winning team based on creativity, sustainability, and effort.
- **Objective:** Encourage applied agroecology knowledge, creativity, and teamwork in a fun, hands-on setting.

Learn Check / Debriefing

- Reflect on key takeaways after each activity
- Ask participants how they could apply these practices in real-life scenarios
- Clarify any confusion or deepen understanding on agroecological topics

Tips for the Trainer

- Ensure materials are prepped and organized
- Encourage full participation, regardless of prior gardening experience

Be ready to assist with technical skills the participants during the activities providing more information if needed

Handouts

Provide reference materials and handouts on Agro-Ecology and Synergistic Garden, such as technical guideline and gardening tools (rake, gardening gloves, boots, measuring tape

References:

Cos'è in breve l'Agricoltura Sinergica

Permacultura e orti sinergici: un capolavoro di sostenibilità

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TRAINING FORMAT - AGROECO MODULE 3.2

AGRO-ECOLOGY WORKSHOP FOR YOUTH

Implementing a Synergistic Vegetable Garden

MINE VAGANTI NGO

Agro-Ecology Workshop for Youth

Activite1: Implementing a Synergistic Vegetable Garden

Learning Objectives

- Gain hands-on experience in creating a synergistic vegetable garden
- Foster creativity and the synergy between people and nature
- Strengthen teamwork and collaboration
- Apply agroecological principles through real garden implementation

Duration

- **Icebreaker Activity:** 15 minutes
- **Team Building Activity:** 30 minutes
- **Main Activity:** 2 hours
- **Debriefing:** 15 minutes

Materials Needed

- **Icebreaker:** Timer or bell, snacks, pirate-style bandanas
- **Team Building:** Timer, various seeds, large mandala drawing paper
- **Main Activity:** Timer, gardening tools (rake, gloves, boots), planting supplies (e.g., mulch/hay), plant labels, colored markers, prizes (eco-bags, bio-colored pencil cases)
- **Debriefing:** None specific

Preparation

- Organize tools and materials ahead of time
- Arrange garden zones and activity spaces
- Prepare handouts or visual guides (e.g., mandala samples, planting steps)
- Set up for games, music, and contests

Activity Descriptions

- **Icebreaker – "Green Treasure Hunt"**
- **Instructions:** In small groups, participants wear bandanas and find specific plants or natural elements hidden in the garden using a treasure list.
- **Goal:** Identify and connect with nature while building group energy.
- **Wrap-Up:** Share fun facts or surprises found during the hunt.
- **Objective:** Encourage cooperation, observation, and environmental awareness.

Team Building – "Mandala Seeds"

- **Instructions:** Groups use seeds and natural materials to create a symbolic mandala on large paper or directly on the ground. Each member adds their piece, symbolizing collaboration and diversity.
- **Wrap-Up:** Reflect on the value of working harmoniously like elements in a garden.
- **Objective:** Strengthen creative expression and reinforce the principle of synergy.

Main Activity – "Implementing a Synergistic Vegetable Garden"

- **Warm-Up:** "Garden Dance-Off" – quick energizing performance by groups with gardening themes.
- **Implementation Phases:**
    1. **Planting Relay Race (20 min):** Groups race to plant chosen crops in their assigned section, following the synergistic garden model. Winning team gets an eco-bag.
    2. **Mulching & Soil Protection:** Trainers demonstrate proper mulching. Groups apply hay/mulch to their planted area.
    3. **Label Design Contest:** Teams create fun, decorative plant labels. Most artistic set wins a bio-colored pencil case.
    4. **Mini Garden Tours:** Each group presents their garden bed, explaining choices and techniques.
- **Wrap-Up Discussion:** How they felt about creating the garden and what they learned.
- **Objective:** Apply agroecological theory to practice, enhance team collaboration, and build sustainable mindsets.

Learn Check / Debriefing

- After each activity, discuss what was learned or experienced
- Encourage sharing of feelings, surprises, and difficulties
- Final discussion on how they can apply these practices in home or community garden

Tips for the Trainer

- Prepare materials well in advance and label all supplies
- Monitor participation to ensure inclusion and support shy individuals
- Be prepared to assist with technical gardening tasks
- Encourage fun, music, and creativity to maintain high energy and engagement

Handouts

- Provide take-home handouts on:
    - Basic synergistic garden design
    - Seed types and planting tips
    - Maintenance and care guidelines
- Supply garden tools as part of the activity or prize kits (e.g., gloves, trowels, mandala templates)

References

- Permaculture - an overview | ScienceDirect Topics
- Julius Krebs & Sonja Bach, *Permaculture—Scientific Evidence of Principles for the Agroecological Design of Farming Systems*

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TRAINING FORMAT - AGROECO MODULE 4.1

ECO-ENGAGEMENT IN NON-FORMAL EDUCATION

MINE VAGANTI NGO

Non-Formal Education

The concept of non-formal education (NFE) has emerged in the 1960s, when new types of learning methodologies were being introduced, as a response to the evolving societal conditions.

To this day, there is no univocal definition of NFE. In broad terms it can be seen as a negation of formal education, therefore any type of learning outside of the strict concept of planned teaching in educational institutions. Not having to follow a rigid curriculum, implies that NFE gives the opportunity to the teacher to easily adjust to learners' interests and better reflect the reality of the moment.

As far as learning methodologies are concerned, NFE is characterised by an experience-based approach rather than standard teaching. In this sense, group activities are often organised, to allow interactions among participants, promoting thus not only knowledge, but also the development of communication and social skills. In this context, it is essential for teachers to create a positive environment in which participants can engage and feel motivated. NFE relies, in fact, in great part on the willingness of learners to acquire knowledge and on their interests. This is what differentiates it from informal education, in which the learning process is not intended.

Interactive methods of teaching are essential for creating an inclusive space in which learners will have an active role in the learning process. These techniques are based on a simultaneous acquisition of knowledge through interaction, collaboration and decision making. They are methodology that challenge static and hierarchic education which does not belong to NFE.

References

Johnson, M., and Majewska, D. (2022). *Formal, non-formal, and informal learning: What are they, and how can we research them?* Cambridge University Press & Assessment Research Report. Retrieved from:

Non-formal education

STEPs 4 LIFE

Eco-Engagement in Non-Formal Education

A Creative Upcycling and Environmental Awareness Workshop

Learning Objectives

- Stimulate **creativity** and **problem-solving**
- Enhance **teamwork** and **collaboration**
- Promote **social interaction** in inclusive settings
- Build **environmental awareness** and **practical eco-skills**

Duration

- **Icebreaker:** 15 minutes
- **Team Building:** 30 minutes
- **Main Activity:** 2 hours
- **Debriefing & Reflection:** 15 minutes

Materials Needed

- **Icebreaker:** None
- **Team Building:** Puzzles (with mixed pieces)
- **Main Activity:** Recyclable and upcyclable materials such as:
    - Plant pots
    - Wooden pallets
    - Glass jars

- Old tools
- Wood scraps

- **Debriefing:** Pen and paper (for reflection/survey)

Preparation for Trainer

- Familiarize with **recycling/upcycling** techniques and inspirational examples
- Prepare inclusive, engaging **Non-Formal Education (NFE)** activities
- Pre-distribute puzzle pieces across teams (remove some to give to others)
- Sort and lay out upcycling materials safely and accessibly
- Prepare a **final survey or reflection activity**

Workshop Description

 Icebreaker: "Fact or Fiction"

- **Instructions:** In a circle, each participant shares 3 statements (2 true, 1 false). The group guesses which is the false one.
- **Goal:** Encourage curiosity and bonding
- **Wrap-Up:** After all have shared, reflect on new things discovered about each other.

Team Building: "Puzzle Challenge"

- **Instructions:**
  - Divide into equal groups
  - Each group gets a puzzle with some pieces missing (those are with other teams)

- Without being told, teams must realize they need to **negotiate and collaborate** with others to complete the puzzle

- **Goal:** Build problem-solving, communication, and cooperative spirit
- **Wrap-Up:** Discuss what helped or hindered teamwork and discovery.

Main Activity: "Upcycling Farm Items"

- **Instructions:**
  - In small groups, participants receive various materials.
  - Using creativity, they **transform waste/farm items** into useful or decorative eco-products (e.g., planters, signage, storage).
  - The trainer provides gentle guidance and ideas but promotes autonomy.
- **Presentation:** Each group showcases their upcycled item and explains its **purpose**, **process**, and **environmental impact**.
- **Goal:** Apply creativity to sustainability, reinforce teamwork, learn practical eco-skills.

Debriefing / Learn Check

- **Group Reflection:** What was fun, new, or challenging?
- **Written Feedback:** Participants answer 3 short questions:
  1. What did I learn today?
  2. What skill did I use or improve?
  3. How can I apply this in daily life?

- **Trainer Assessment:** Use reflections and a final **mini-survey** to check impact.

Tips for the Trainer

- Ensure **inclusive participation**—everyone is engaged and heard
- Facilitate reflection regularly, not only at the end
- Be attentive to **group dynamics**, support shy or less active members
- Celebrate **effort and ideas** more than output quality

Handouts

The activity implies the usage of puzzles. Each puzzle needs to be handed out to a group, but before some pieces need to be taken out and given to another team, so that no one can complete the puzzle without consulting the other groups, promoting thus socialisation and collaboration

References

- **A catalogue on NFE**
- *Revolutionizing Agriculture: The Transformative Power of Upcycling in Farming*

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TRAINING FORMAT - AGROECO MODULE 4.2

NON-FORMAL EDUCATION ACTIVITIES: AGRO-TOURISM AND ORGANIC FARMING

MINE VAGANTI NGO

Non-Formal Education Workshop: Agro-Tourism and Organic Farming

Learning Objectives

- Improve knowledge of **organic farming** and **agritourism**
- Develop **team collaboration** and **communication skills**
- Promote **creativity** in eco-agricultural settings
- Enhance **critical thinking** and **problem-solving** abilities

Duration

- **Ice Breaker** – 15 minutes
- **Team Building** – 30 minutes
- **Main Activity** – 2 hours
- **Debriefing & Learn Check** – 15 minutes

Materials Needed

- **Ice Breaker:** Chairs
- **Team Building:** Paper slips with quiz questions, pens
- **Main Activity:** Organic vegetables, food prep items (knives, cutting boards, bowls), aprons, utensils
- **Debriefing:** Pens and paper for reflection

Trainer Preparation

- Review basic **organic farming** principles and **agrotourism** models
- Prepare **quiz questions** (agriculture, ecology, local food, sustainability)
- Ensure food safety protocols are met for the snack prep
- Prepare each activity area in advance and organize materials

Workshop Flow

Ice Breaker: "Fruit Shuffle"

- **Setup:** Place chairs in a circle; assign each participant a fruit (e.g., apple, banana, pear), with several people per fruit. One person stands in the middle.
- **Instructions:**
    - The person in the middle calls a fruit.
    - All participants with that fruit must change seats.
    - If they call "fruit salad," everyone must switch seats, but **cannot** move to chairs immediately beside them.
    - The person left without a seat becomes the new caller.
- **Wrap-Up:** Discuss what participants enjoyed and what qualities were needed (focus, observation, agility).
- **Objective:** Energize the group, promote alertness, and introduce movement and cooperation.

Team Building: "Farm Quiz"

- **Setup:** Divide participants into teams of 4–5. Provide each team with paper and pens.
- **Instructions:**
    - The trainer reads out quiz questions related to organic farming, sustainability, farm life, animals, or food traditions.
    - Teams write their answers together within a time limit (30 seconds to 1 minute).
    - Award points per correct answer.
- **Optional Twist:** Include one round with riddles or image-based questions.
- **Wrap-Up:** Tally scores, celebrate the winning team, and discuss interesting facts learned.
- **Objective:** Build teamwork, reinforce knowledge, and add a competitive fun element.
- **Preparation:** Divide the groups into an equal number of participants, if possible, and prepare quizzes related to agrotourism and organic farming. Give each group a piece of paper in which they will have to write the correct answer.
- **Instructions:** Pose a question to all groups simultaneously. Allow time for group discussion. After collecting answers, read the correct answer aloud and update each group's score based on the number of correct responses.
- **Wrap-up:** Reveal the winning group.
- **Objectives:** Improve knowledge on agrotourism and organic farming.

Main activity "Organic food creations"

- **Preparation:** Divide the participants into two main groups and provide kitchen utensils.
- **Instructions:** Explain how organic farming influences food quality and sustainability and make each group prepare two simple no- cook meals with organic vegetables within a set period.
- **Wrap-up:** Reflect on how the use of local, sustainably grown food can impact agrotourism.

Objectives: Learn about organic farming and its benefits.

Debriefing:
After each activity, participants will discuss what they have learnt and share their opinions.
A quiz will check the knowledge of participants during the team building activity

Tips for the Trainer:
The trainer should encourage active participation, reflection and collaboration.

Handouts

- Provide kitchen utensils and organic food for the main activity.

Reference:

- Petroman, I., & Varga, M., & Constantin, E.C., & Petroman, C., & Momir, B., & Turc, B., & Merce, I. (2016). *Agritourism: An Educational Tool for the Students with Agro-food Profile. Procedia* Economics and Finance.
- Organic farming

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TRAINING FORMAT - AGROECO MODULE 5

AGROECOLOGICAL ENTREPRENEURSHIP CHALLENGE

MOROCCO'S FRIENDS FOUNDATION

مؤسسة أصدقاء المغرب
Fondation des Amis du Maroc
Morocco's Friends Foundation

Puntland Community ry

Mine Vaganti NGO

مؤسسة أصدقاء المغرب
Fondation des Amis du Maroc
Morocco's Friends Foundation

TRAINING WITHOUT BORDERS

Activity 1 –Agroecological Entrepreneurship Challenge

Learning Objectives:

Participants will :

- Understand the principles of agroecology and sustainable farming.
- Explore how ecological methods can be applied in agriculture to create profitable and sustainable businesses.
- Develop critical thinking and problem-solving skills related to agroecological challenges.

Learn about green business models and their importance in rural development.

Duration: 2hours

Materials needed:

- Flipcharts or whiteboards
- Markers
- Projector or screen (for presenting concepts and showing examples)
- Printed handouts of basic agroecological principles and example business models
- Sticky notes

Notebooks and pens for each participant.

Preparation

- Research Preparation: The trainer should gather basic information on agroecology, sustainable agriculture practices, and examples of green businesses, specifically in rural or agricultural settings.
- Materials Setup: Prepare handouts summarizing key concepts of agroecology and examples of successful agroecological business models.

Space Arrangement: Arrange the room to facilitate group work, ideally with tables for small groups of 3-5 participants.

Descriptions:

Step 1: Introduction to Agroecology and Green Business (20 minutes):

- Start with a brief presentation on agroecology, highlighting its environmental and social benefits.
- Explain the importance of green businesses, especially in rural areas, using real-life examples where possible.

Briefly introduce the concept of entrepreneurship within the agroecology context

Step 2: Group Brainstorming on Rural Challenges (20 minutes):

- Divide participants into small groups and ask them to identify key challenges that rural areas face in their regions (e.g., limited job opportunities, environmental degradation, or lack of resources).

- Each group writes their identified challenges on sticky notes and posts them on a wall for everyone to see.

Step 3: Designing an Agroecological Business Idea (40 minutes)

- In the same groups, ask participants to choose one of the posted challenges and brainstorm an agroecological business idea to address it.
- Encourage them to think about:
  - What kind of product or service they could offer?
  - How will it benefit the environment and local community?
  - What resources or skills would they need?
  - Who their target customers would be.
- Each group should prepare a quick outline of their business idea on flipchart paper.

Step 4: Presentation of Ideas and Feedback (30 minutes)

- Each group presents their business idea to the rest of the participants.
- After each presentation, the trainer and other participants provide constructive feedback, emphasizing the ecological and social impacts of each idea.

Step 5: Wrap-up and Key Takeaways (10 minutes)

- Summarize the main concepts covered in the session.
- Encourage participants to think about how they could further develop their ideas, possibly with local support or resources.

Debriefing

- Conduct a brief debriefing by asking participants to reflect on what they learned and how they can apply it in their communities.
- Use questions such as:
  - "What was the most challenging part of creating your business idea?"
  - "How do you see agroecological entrepreneurship benefiting your community?"

Refereces

- Food and Agriculture Organization (FAO). (2021). "Agroecology Knowledge Hub." [Link to FAO Agroecology]
- International Labor Organization (ILO). (2019). "Green Jobs in Agriculture."

[Link to ILO Green Jobs]

Case studies from the European Network for Rural Development (ENRD) on sustainable rural businesses.

Understanding Ecological Agriculture

Ecological agriculture, also known as agroecology, is a farming approach that integrates principles of ecology into agricultural practices. It emphasizes sustainable and regenerative methods to maintain and enhance the health of the environment, ecosystems, and communities. The focus is on creating agricultural systems that are both productive and sustainable, minimizing negative impacts on the environment while promoting biodiversity, soil health, and ecological balance[5].

Ecological Farming ensures healthy farming and healthy food for today and tomorrow, by protecting soil, water and climate, and does not contaminate the environment with chemical inputs or genetic engineering[6].

SOME BENEFITS OF AGROECOLOGY:

- Biodiversity: Ecological agriculture encourages the use of diverse plant and animal species to create resilient and productive farming systems. Crop diversity contributes to pest control, nutrient cycling and soil health.

- Soil health: Maintaining and improving soil fertility is a fundamental principle. Practices such as composting, cover crops, reduced tillage and crop rotation improve soil structure, nutrient content and microbial activity.

- Community involvement and knowledge sharing: Engaging local communities and integrating traditional knowledge into farming practices strengthens the social fabric and promotes collective learning and innovation.

- Conservation of natural resources: Protect and restore natural habitats, wetlands, forests and other ecosystems adjacent to farmland to maintain ecological balance and biodiversity.

5 https://www.fao.org/agroecology/home/en/

6 Defining Ecological Farming: https://www.greenpeace.org/static/planet4-international- stateless/2011/05/2970dfa6-defining-ecological-farming-2009.pdf

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TRAINING FORMAT - AGROECO MODULE 6

CULTIVATING SUSTAINABLE FUTURES: AGROECOLOGY FOR RURAL

MOROCCO'S FRIENDS FOUNDATION

مؤسسة أصدقاء المغرب
Fondation des Amis du Maroc
Morocco's Friends Foundation

Puntland Community ry

Mine Vaganti NGO

مؤسسة أصدقاء المغرب
Fondation des Amis du Maroc
Morocco's Friends Foundation

TRAINING WITHOUT BORDERS

Activity 2 – Cultivating Sustainable Futures: Agroecology for Rural

Participants will:

- Gain knowledge of agroecological principles relevant to agricultural landscape.
- Understand the impact of sustainable agriculture on soil health, water conservation, and biodiversity.
- Learn how to apply agroecological practices in their own communities to promote sustainable development.

Develop an initial business concept that incorporates these principles.

2 hours

Materials needed

- Flipcharts or chalkboards
- Markers or chalk
- Projector or laptop (for showcasing examples if available)
- Printed handouts with local agroecological principles and examples of sustainable farming techniques
- Sticky notes

Notebooks and pens for participants

Preparation

- Content Preparation: Prepare handouts with key information about agroecology and sustainable farming practices specifically adapted to climate and resources, including techniques like crop rotation, drip irrigation, and composting.
- Examples: Gather examples of successful agroecological projects or businesses or similar regions to inspire participants.

Space Setup: Arrange the room for small group collaboration, ideally in circles or around tables for 3-5 participants each

Descriptions:

<u>Step 1: Introduction to Agroecology in Morocco (20 minutes)</u>

- Begin with a brief presentation on agroecology, focusing on practices beneficial to rural areas, like soil preservation, water- efficient irrigation, and the use of local seeds.
- Share a few examples of small-scale farms or cooperatives implementing these methods, such as Argan cooperatives (ex: Morocco) or organic vegetable farms.

<u>Step 2: Identifying Local Agricultural Challenges (20 minutes)</u>

- Divide participants into small groups and ask them to identify specific challenges that farmers or communities face in their regions. Examples might include water scarcity, soil erosion, limited market access, or low employment opportunities.
- Each group writes their identified challenges on sticky notes and posts them on a shared

wall or board.

Step 3: Designing a Community Agroecology Project (40 minutes)

- Ask each group to select one challenge from the wall and brainstorm a small-scale agroecological project that could address it.
- They should consider:
  - What sustainable agricultural methods they would implement (e.g., water-saving techniques, organic composting).
  - How the project would benefit both the environment and the community (e.g., job creation, improved soil health).
  - Who in the community could support or participate in the project.
  - Possible market opportunities for selling eco-friendly or organic products.
- Each group records their ideas on a flipchart.

Step 4: Presenting Ideas and Gathering Feedback (30 minutes)

- Each group presents their community project idea to the rest of the participants.
- After each presentation, encourage participants and the trainer to provide constructive feedback, focusing on cultural relevance, environmental impact, and feasibility.

Step 5: Wrap-up and Reflections (10 minutes)

- Summarize key takeaways on agroecology and its relevance for rural areas.

Encourage participants to think about how they could turn their ideas into real projects, possibly with local or NGO support

Debriefing:

- Conduct a brief debrief by asking participants reflective questions such as:
  - "What did you learn about the connection between agriculture and sustainability?"
  - "How might these ideas benefit your community specifically?"

End by quizzing participants with a few key questions on agroecological practices to reinforce learning.

References:

- Moroccan Ministry of Agriculture reports on sustainable practices and local agroecology.

International Cooperative Alliance (ICA) Morocco reports on rural agricultural cooperatives and sustainable development

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TRAINING FORMAT - AGROECO MODULE 7

ECO-SOLUTIONS LAB: INNOVATING FOR SUSTAINABLE AGRICULTURE

TRAINING WITHOUT BORDERS

TRAINING
WITHOUT BORDERS

Eco-Solutions Lab: Innovating for Sustainable Agriculture

Learning Objectives

Foster innovation and problem-solving skills in sustainable agriculture. Promote eco-friendly solutions to address agricultural challenges.

Duration

1.5 hours

Materials needed:

Flip charts, markers, sticky notes, sets of cards (company types, agricultural challenges, product categories)

Preparation:

- Prepare sets of cards with combinations of company types (e.g., farm co- op, agricultural startup), agricultural challenges (e.g., soil degradation, water scarcity), and product categories (e.g., organic fertilizers, efficient irrigation systems).

Arrange tables with flip charts, markers, and sticky notes.

Description:

1. Introduction (15 minutes): Discuss the importance of sustainable practices in agriculture and introduce the concept of eco-innovation.
2. Group Activity (45 minutes): Divide participants into groups, distributing card sets to each. Using the cards, groups brainstorm innovative solutions to address their challenge, describing how it promotes sustainability.

Presentation & Discussion (30 minutes): Each group presents their solution, focusing on its ecological and economic benefits for sustainable agriculture

Learn check/ Debriefing:

- Facilitate a discussion on the feasibility and potential impact of each solution.

Encourage participants to reflect on the role of innovation in creating sustainable agricultural practices.

References:

LTP 7 Unit 5: City of Future, Sustainable Entrepreneurship Education (pg. 2- 5)

TRAINING FORMAT - AGROECO MODULE 8

FROM WASTE TO WEALTH: TURNING AGRICULTURAL WASTE INTO GREEN BUSINESS OPPORTUNITIES

TRAINING WITHOUT BORDERS

From Waste to Wealth: Turning Agricultural Waste into Green Business Opportunities

Learning Objectives

Encourage sustainable resource management by repurposing agricultural waste.

Develop entrepreneurial thinking focused on green business opportunities.

Durations: 1.5 hours

Materials needed:

Flip charts, markers, sticky notes, list of common waste materials (e.g., crop residues, organic matter)

Preparation:

- Prepare a list of typical waste materials in agriculture, focusing on those that can be repurposed.

Set up tables with flip charts, markers, and sticky notes.

Description:

Introduction (15 minutes): Introduce the concept of viewing waste as a resource, discussing examples where waste has been transformed into valuable products.

Brainstorming Session (45 minutes): In small groups, participants select a waste material and brainstorm ideas to repurpose it into a sustainable, marketable product.

Presentation & Feedback (30 minutes): Each group presents their green business idea, receiving constructive feedback on its feasibility and sustainability

Learn check/ Debriefing:

Discuss the environmental and economic benefits of waste repurposing. Encourage participants to share ideas on how to implement similar practices in their local communities

References

Non-formal Education for Sustainable Entrepreneurship (pg. 18)

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