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Ecology

Didactic Material nr. 1



Introduction

Ecology is a global phenomenon, and we all are part of the problem but also the solution. Every day we interact with the world: we buy, we eat, we use resources like water or electricity and we create trash. We actually are quite important, as we co-create the world we live in. And as one of the biggest challenges of the XXI century, ecology should definitely be something we all collaborate to solve.

If you want to learn more about what does it actually mean for humanity to be sustainable [watch this video](#).

How is ecology related to food consumption?

Nutritional behavior significantly impacts the environment in several ways. The types of food we choose to consume and the way we produce, transport, and dispose of food have far-reaching environmental consequences.

Resource Use: The production of different foods requires varying amounts of water, land, and energy. For example, producing meat, particularly beef, is resource-intensive, demanding large amounts of water and feed, and occupying significant land areas. In contrast, plant-based foods generally require fewer resources.

Watch a documentary ***Food, Inc.*** about how our food system affects health and the environment.

Click [here](#) to watch a trailer. Full film available on Amazon Prime, Apple TV, or school/educational streaming services.

Greenhouse Gas Emissions: Food production, especially livestock farming, is a major source of greenhouse gases such as methane and carbon dioxide. Meat and dairy production contribute significantly to emissions, while plant-based foods typically have a lower carbon footprint.

Deforestation and Habitat Loss: Expanding agricultural land to meet food demand often leads to deforestation and habitat destruction, impacting biodiversity.

If you want to learn more about why deforestation is occurring around the world, its harmful impact on ecosystems and climate, and how we can work to protect forests [watch this video](#).

We can also mention many more problems like: water usage, soil degradation, and food waste.

Why is it important?

Ecology is not only important because of the many problems that humanity faces nowadays: it's essential because it's the expression of the relation humanity has with nature. As we are part of nature and not separated from it, we must care for it as it deserves our gratitude, care, admiration and kindness.

To learn more about Ecology, you can [listen to the Ecology Academy Podcast](#), featuring interviews with professional ecologists, discussing real-world projects and ecological planning.

What are the benefits?

1. **Environmental Impact:** Food production affects land use, water resources, and ecosystems. Knowing how different farming practices impact the environment helps individuals make more sustainable food choices and advocate for practices that minimize ecological damage.
2. **Climate Change:** Food production contributes to greenhouse gas emissions through activities such as livestock raising and deforestation. Awareness of this relationship helps in supporting practices and policies aimed at reducing the carbon footprint of food systems.
3. **Biodiversity:** Different farming methods impact biodiversity. Sustainable practices can protect wildlife habitats and maintain a diverse range of plant and animal species, which is essential for ecosystem health and resilience.
4. **Health and Nutrition:** Ecological practices affect the nutritional quality of food. Sustainable agriculture can lead to healthier food options, which in turn can improve public health and well-being.
5. **Economic Implications:** Sustainable food systems can support local economies, create jobs, and reduce dependence on global supply chains, leading to more resilient and self-sufficient communities.
6. **Ethical Considerations:** Knowledge about the ecological impacts of food production helps consumers make ethical choices, such as supporting humane farming practices and reducing food waste. Overall, understanding the link between food and ecology fosters informed decision-making, promotes sustainability, and encourages practices that benefit both the environment and society.

What have I learnt?

- To value sustainability, support equity, understanding that humans are part of nature and act in coherence with those principals by consuming food in a responsible manner.
- To understand that ecology is an important but also complex reality, that must be considered from all sides in order to find concrete answers in order to anticipate, prevent, and solve problems.
- To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future, understanding that many different aspects or disciplines must be linked.
- Understanding and being motivated to act concretely, individually and with others, to protect the environment through responsible food consumption.

Ecological footprint calculator

Click [here](#) and do a short quiz to check what your ecological footprint is!

Reflect:

- 1. What was your footprint score?*
- 2. What surprised you most about the results?*
- 3. Name one habit you could change to reduce your impact..*

All is summerized in the [European approach of Microcredentials](#).

Micro-credential 1

“Embodying sustainability values”

- 1.1 Value sustainability by reflecting on personal values while critically evaluating how they align with sustainability values.
- 1.2 Supporting fairness to support equity and justice for current and future generations and learn from previous generations for sustainability.
- 1.3 Promoting nature to acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.

Micro-credential 2

“Embracing complexity in sustainability”

- 2.1 (Systems thinking), to approach a sustainability problem from all sides; to consider times, space and context in order to understand how elements interact within and between systems.
- 2.2 (Critical thinking) To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions.
- 2.3 (Problem framing) To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems.

Micro-credential 3

“Envisioning sustainable future”

- 3.1 (Futures literacy) to envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future.
- 3.2 (Adaptability) to manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk.
- 3.3 (Explorator thinking) to adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.

Micro-credential 4

“Acting for sustainability”

- 4.2 (Collective action) to act for change in collaboration with others.
- 4.3 (Individual initiative) to identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet.