

ISIS Sandro Pertini-Afragola

24-28 febbraio 2025

Erasmus Accreditation

CODICE ATTIVITA': 2024-1-IT02-KA121-SCH-000229067

**Multidisciplinary learning experience
for a sustainable future
Italy/Croatia**

*Exploring environmental sustainability and
ecosystem preservation*

Discovering Masseria Ferraioli



As part of the Erasmus+ project, Italian and Croatian students participated in a guided tour of **Masseria Antonio Esposito Ferraioli in Afragola**, a property confiscated from organized crime and now an example of sustainable agriculture and social commitment. During the visit, students explored organic farming practices, the importance of reusing natural resources, and the value of reclaiming common goods for the community. This experience encouraged reflection on topics such as environmental sustainability, the circular economy, and the role of social enterprises in protecting the environment and local territories.

OBJECTIVES

- Raising awareness on environmental sustainability
- Promoting social responsibility
- Enhancing critical thinking and debate skills
- Developing digital and creative skills
- Encouraging international and linguistic integration
- Fostering experiential and hands-on learning

A multidisciplinary learning experience: language, digital skills, and environmental awareness

This activity has been designed to integrate multiple learning objectives, combining multilingualism, digital skills, and environmental education in an engaging and interactive way.

- **Multilingualism and intercultural exchange**

By working in mixed Italian-Croatian groups, participants communicated in both English and Italian, fostering language acquisition and intercultural collaboration. This approach encouraged not only linguistic integration but also the ability to express complex ideas in a foreign language, particularly during debates on intensive vs. organic farming.

- **Digital competencies and technological innovation**

The activity promoted the use of digital tools such as Google My Maps, Canva, enabling participants to create interactive maps, visual presentations, and 3D models. These digital skills are essential in today's world, enhancing technological literacy while fostering creativity and innovation.

- **Environmental awareness and sustainability**

Through the guided visit to Masseria Ferraioli, participants gained hands-on knowledge about organic farming, resource reuse, and the circular economy. Discussions and reflections on sustainability challenges helped develop a deeper understanding of environmental responsibility and social agriculture.

- **STEM Connection: 3D printing and sustainable farm design**

Building on the themes explored during the visit, a follow-up STEM-based activity was conducted in the laboratory, where each group designed and created their own sustainable farm using 3D printing technology. This activity allowed participants to translate environmental concepts into tangible models, integrating engineering, design, and sustainability in a practical, hands-on learning experience.

By linking real-world sustainability practices with digital tools and STEM innovation, this multidisciplinary approach enriched the overall learning process, making it a dynamic and impactful educational experience.

Tools

Hand-drawn sketches, digital presentations, 3D modeling

STEP

- Visiting the Masseria
- Creating an interactive map
- Debating a sustainable agriculture and social economy
- Designing your own Masseria
- Printing your Masseria

Visiting the Masseria



The Antonio Esposito Ferraioli Masseria is a property confiscated from the Camorra. It is located in Afragola, on the outskirts of Naples, and spans 120,000 square meters, hosting over 300 urban gardens, an orchard with 3,000 trees, and a forest with 1,000 trees.

Assigned in 2017 to a network of associations and cooperatives, the confiscated property also includes a farmhouse, which is currently undergoing a redevelopment project funded by the PON Legalità program. Once the work is completed, it will become a shelter for women victims of violence.

Meanwhile, more than 300 local families take care of small gardens daily, while the forest and orchard, planted between 2018 and 2022, continue to grow, providing a small yet significant contribution to restoring the typical landscape of the Campania plain and combating climate change.



Objectives

- Document a real-life experience at a farm using digital tools.
- Visualize key concepts related to sustainable agriculture, biodiversity, and local economy.
- Develop digital, linguistic, and cross-curricular skills.

01.

Context

During the visit to the educational farm, students observed sustainable farming practices, circular economy models, and local food production. This activity involves creating an interactive map to digitally tell the story of what they experienced.

02.

Useful Tools

- Google My Maps
- Internet-connected devices (tablets, computers)
- Photos taken during the visit

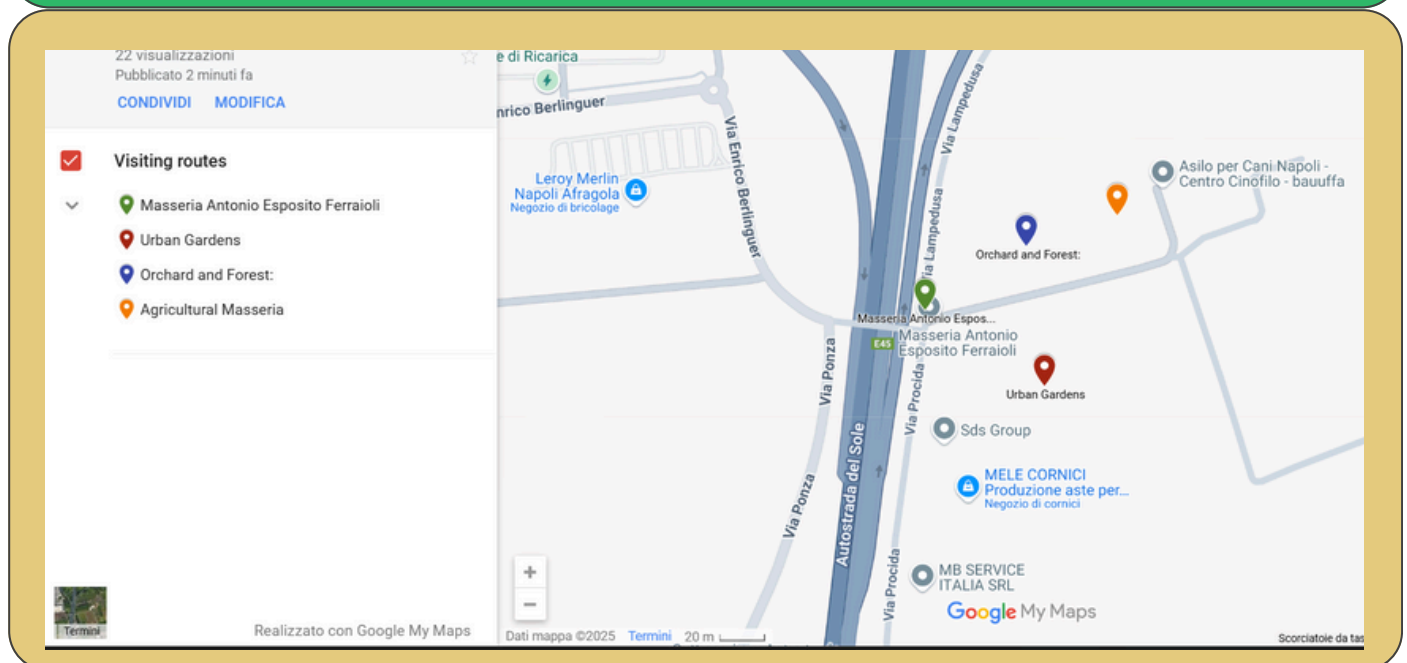
03.

Activity Steps

1. Map Setup
2. Content Creation (40 minutes)
Add at least 5 meaningful markers (points) with title, description, and pictures if available.
3. Map Presentation (15–20 minutes)
Each group or student briefly presents their map points.

04.

A digital exploration



Creating an interactive map involves designing a digital map that allows users to engage with geographical data through features like clickable markers, zooming, and layered information. These maps are used in fields like education, tourism, and urban planning, offering a dynamic way to explore data. Tools like Google Maps are used to add interactive elements and real-time updates, making the map a useful tool for navigation, storytelling, and data analysis.

Objectives

- Encourage critical thinking and collaborative discussion.
- Explore the link between sustainable agricultural practices and social well-being.
- Foster awareness of global challenges related to food systems, ecology and economy.

01.

Context

This activity engages students in a structured debate on the topic of 'Sustainable agriculture and social economy'. The aim is to analyze how eco-friendly farming methods can coexist with economic models that prioritize both environmental health and social equity

02.

Key Concepts to Explore

- Organic farming and crop rotation
- Reducing chemical use and preserving biodiversity
- Social economy: fair trade, local markets, cooperative systems
- Food security and sustainability

03.

Activity Steps

1. Introduction (10 minutes)
Present the debate topic and divide students into two or more groups. Each group prepares arguments and examples related to the theme.
2. Debate (30–35 minutes)
Groups take turns presenting their viewpoints and responding to opposing arguments.
3. Debriefing and reflection (15–20 minutes)

04.

Reflection questions

1. -What solutions can support both sustainable agriculture and social justice?
2. -How can local communities benefit from alternative agricultural systems?
3. -What role can young people play in shaping future food systems?

05.

Students debating



The students engaged in a debate on "Sustainable agriculture and social economy", exploring the crucial intersection between environmentally-friendly farming practices and economic systems that prioritize both ecological health and social well-being. Through their discussions, they examined sustainable agricultural methods such as organic farming, crop rotation, and reducing chemical use, while also focusing on how these practices can benefit local communities and contribute to food security. Students critically analyzed the potential for creating agricultural systems that are both environmentally sustainable and socially just. This debate allowed them to explore innovative solutions to pressing global challenges, highlighting the need for integrated approaches to agriculture and society.

What students said

1. *"I learned that sustainability is not just about the environment, but also about helping people and local communities."*
2. *"It was interesting to see how farming methods can impact both nature and society. I had never thought about the social side of agriculture before."*
3. *"The debate helped me understand that there's no single solution. We need to combine technology, tradition, and social values."*
4. *"Talking about food production made me think about where our food comes from and how important it is to support ethical farming."*
5. *"I felt more involved because the topic is connected to real global issues. It made me want to learn more about how we can make change."*
6. *"Working in groups and hearing different opinions gave me a more complete picture of the problem. Everyone had different ideas, and that made it more interesting."*
7. *"It was a challenge to express my opinion in English, but I felt proud to contribute and understand others."*

Objectives

Collaborate to create a sustainable and functional design for a masseria.
Integrate sustainable farming practices with modern green technologies.
Understand the role of local materials, waste management, and community in eco-friendly design.

01.

Context

The activity "Designing a sustainable *Masseria*" involved students collaborating to create a blueprint for an eco-friendly *Masseria*. students collaborated in small groups to design a sustainable and functional *Masseria*, combining traditional elements with modern green technologies.

02.

Tools and Materials

Drawing materials (e.g., paper, pencils, rulers, colored markers)
Access to research on sustainable farming and green technologies
Examples of sustainable architecture and masseria designs

03.

Activity Steps

1. Introduction to sustainable architecture and agriculture
 - Introduce key concepts in sustainable design, focusing on energy efficiency, water management, and waste reduction.
2. Collaborative design
 - Students work in groups to sketch the layout of their sustainable masseria, integrating elements like solar panels, water conservation systems, and organic farming areas.
3. Final presentation
 - Each group presents their masseria design, explaining the sustainable practices and technologies they incorporated, as well as how their design supports the local community and environment.

04.

Reflection questions

How did you integrate local materials and sustainable farming practices into your design?

In what ways can modern green technologies improve the sustainability of agricultural estates?

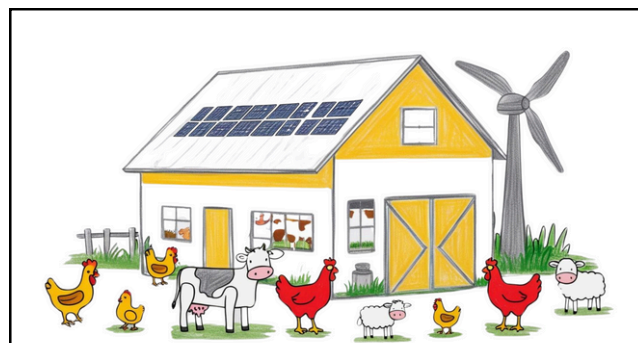
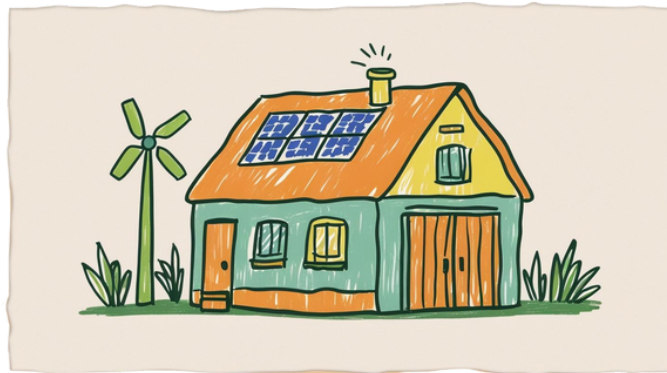
What role does community engagement play in the success of sustainable farming?

05.

Students in action: designing the Masseria



The activity "*Designing a sustainable Masseria*" involved students collaborating to create a blueprint for an eco-friendly masseria. They focused on integrating sustainable agricultural practices with modern green technologies, such as renewable energy, water conservation, and organic farming. The project emphasized the use of local materials, waste management systems, and community engagement to design a masseria that not only preserves the environment but also supports local economies. Students applied these concepts to design a functional and sustainable agricultural estate that aligns with both tradition and innovation.



Objectives

- Apply STEM knowledge to real-world sustainability and architectural challenges.
- Understand the use of green technologies and local resources in sustainable building.
- Develop skills in 3D modeling, digital design, and additive manufacturing.

01.

Context

Using digital tools and 3D printing technology, students transformed their designs into tangible models, exploring the practical aspects of architectural planning and sustainability.

02.

Tools and Materials

- 3D modeling software (Tinkercad, SketchUp)
- 3D printer and filament (PLA or eco-friendly material)
- Laptops or tablets with internet connection
- Reference images or drawings of a Masseria

03.

Activity Steps

1. Introduction to sustainable architecture

Discuss elements of sustainability in architecture, such as green roofs, solar panels, and water conservation.

2. Designing the Masseria

Using 3D modeling software, students design a small-scale model of a Masseria incorporating sustainable features.

3. Printing the Model

Students print their models using a 3D printer and observe the transformation from digital to physical design.

04.

Reflection Questions

- What sustainable features did you include in your design and why?
- What challenges did you face in translating your idea into a 3D model?
- How can 3D printing contribute to sustainable development in real-world construction?

05.

3D Modeling & STEM

Printing your Masseria was an activity conducted in the STEM workshop, where students applied their knowledge of science, technology, engineering, and mathematics to design and create a 3D model of a sustainable masseria. Using digital tools and 3D printing technology, students transformed their sustainable masseria designs into tangible models, allowing them to explore the practical aspects of architectural planning and sustainability. This hands-on activity helped them better understand the integration of green technologies, local materials, and efficient farming practices in a real-world context, enhancing both their technical and creative skills.

