Abstract

Although they often face problems that threaten survival, villages in marginal areas are usually genuine biological and cultural diversity reserves. They have resources that remind us of the sense of integration and harmony that links places to the people living there, giving life to an inextricable whole, consolidated in a long, co-evolutionary process. At a time when we are questioning the sustainability of development models and rules of coexistence that are inadequate to contain and repair the damage caused by past and current crises (starting with the ecological and pandemic crises), villages in marginal areas can be privileged places to promote innovative development models based on the centrality of the human person in their relationship with the environmental components.

In line with this consideration and the most recent policies issued by the European Parliament to promote the sustainable revitalisation of the inner areas, the research REACT focuses on the Casentino Valley addresses this relevant topic according to a strongly interdisciplinary approach that, thanks to the concept of the cultural landscape, welds the different dimensions of the problem into a comprehensive vision: settlements and architectural emergencies, cultivated landscapes and natural systems, community practices and experiences. Accordingly, the research aims to enhance the available heritage and human resources and define strategies and actions to generate ecologically and environmentally compatible, socially inclusive, and economically sustainable territorial development processes based on local communities’ active and conscious participation.

Among the various activities developed by REACT, the four University Departments involved in the research group (Architecture, Economics, Education and Industrial Engineering) organised a dedicated interdisciplinary Thematic Seminar between July and November 2023 to develop innovative regeneration models for the historical village and rural territories. The Seminar followed an interdisciplinary approach and analysed specific case studies in Casentino in light of the tangible and intangible resources available. This educational activity allowed university students and local communities to investigate the concept of cultural landscape, enhancing heritage elements linked to forest culture, including tourism development.

The paper will show the interdisciplinary educational methodology adopted in the Seminar Experience and present the results achieved to promote the Tuscan marginal areas’ innovative social, environmental, and economic development. The objective is to develop a replicable educational strategy based on participating in design activities to regenerate similar European urban settlements.

Keywords: Active Learning, Interdisciplinary workshop, cultural heritage, marginal areas, sustainable development.

1 INTRODUCTION

The Italian Inner Areas represent a particularly significant and complex territorial reality. These territories are significant for socio-economic characteristics that give them marginal and fragile status. In detail, the Inner Areas are defined by considering a space-time distance from the main urban centres where essential services are concentrated. This means that they lack services related to education, health, and transport [1], leading to abandonment by the resident population, who prefer to move to urban centres to find infrastructure and social support.
Inner Areas cover about 60% of Italy and 52% of related municipalities, with a resident population of 22% of the national total [1]. Despite the disadvantages previously identified, Inner Areas play a fundamental role in promoting a balanced and sustainable development of the country, as they are crucial for cultural and economic identity, safeguarding traditions, natural resources, and cultural heritage of outstanding value [2]. For this reason, numerous national and European programs and policies have been launched in recent years on the regeneration of these territories, favouring development and territorial cohesion and counteracting the demographic decline. This is the case of the National Strategy for Inner Areas launched by the Italian Government in 2014, which promoted numerous initiatives. However, the challenge is not easy and requires the development of new place-based and human-centred ideas, approaches, practices, and perspectives [3].

The REACT research project, “Regenerate the cultural landscapes of the inner areas in a people-centred perspective. Historic villages and rural areas of Casentino as a laboratory of creativity and innovation”, is conducted by the University of Florence and is funded by the European program NextGenerationEu and the PNR, the National Research Programme. The research addresses the theme of Inner Areas in a strongly interdisciplinary approach based on the concept of cultural landscape as the tangible and intangible manifestations of human interaction with the environment. It encompasses various elements, including built environments, cultural heritage sites, cultivated landscapes and natural systems, community practices, and experiences [4]. The concept's meaning is strictly connected to the holistic dimension of landscape, a dynamic and evolving resource that contributes to the well-being and identity of societies [5].

In particular, the REACT research, starting from the Casentino (a valley in the Tuscany region), aims to develop a theoretical-practical model with a holistic and interdisciplinary matrix. The prospective aim is to create the conditions for revitalising the local economy through the direct involvement of its inhabitants using natural, estate, and human resources, thus stemming the territory's depopulation.

To achieve this goal, the REACT research group comprises researchers from four departments of the University of Florence (Architecture, Economics, Education, and Industrial Engineering). These departments have launched a series of joint actions to involve public administrations, associations, and small and medium enterprises by organising dedicated training sessions (such as thematic seminars, workshops, conferences, etc.).

Among these activities, a University Thematic Seminar was organised in July 2023. The institution of this educational format, as a focused event or workshop centred around a specific theme or topic, derives from an Italian Ministerial Order [6]. It states that addressing contemporary challenges related to profound social, environmental, and economic crises requires developing new educational paths based on the adoption of a systematic and interdisciplinary educational approach that contributes to the cognitive growth of the student who can choose free courses according to their curriculum and personal scientific inclinations. Accordingly, starting in 2010, the Departments of Architecture can enrich the institutional teaching offer by organising Thematic Seminars as a coordinated set of training activities and transmitting knowledge on a specific topic, preferably linked to the research activities developed by the proposers. The general objective of the Thematic Seminar is to enhance and develop the skills present in the Departments and the University and, at the same time, to increase the liveliness and intensity of scientific and cultural activities, combining research and teaching.

The REACT Thematic Seminar stems from this educational need. It aims to involve students in the last years of the degree courses in Architecture, Economics, and Education at the University of Florence in the research activities of the REACT project. Furthermore, it offered participants an immersive experience to explore some aspects of the cultural landscape of Casentino through the comparison of knowledge (Architecture, Economics, Education, Industrial Engineering), which rarely has the opportunity to dialogue and confront each other. Innovative practices were used to stimulate the growth of the educational and creative process and enrich the contribution to the topic [8].

The REACT Interdisciplinary Thematic Seminar was held from July to October 2023, partly in Florence and partly in Casentino. It was divided into lectures (taught by teachers and local actors), on-site inspections, stakeholder meetings, and workshops. In the Seminar, PhD students from different departments worked as a single study group, which fostered the exchange and enrichment of skills. The objective was to develop regenerative projects for an area in Casentino and to demonstrate how it could change combining social, environmental, and economic fields.
2 METHODOLOGY

2.1 Learning objective

The REACT Interdisciplinary Thematic Seminar is a learning project that involved 18 students from the undergraduate and postgraduate programs belonging to the joint research partner departments of the REACT research. The learning/training project was developed from June to November 2023, with activities carried out partly in Florence and partly in Casentino. It was divided into various activities.

- Lectures were held by teachers and tutors of the three scientific disciplines involved. The aim was to provide a common starting point for knowledge of the themes investigated and the geographical context. Students were given a glossary developed in the previous research stage, which collected proper keywords for systematising the fundamental themes.

- Meetings and round tables with local actors (representatives of associations, entrepreneurs, politicians, etc.) were organised. These meetings, properly coordinated by moderators, helped to collect and exchange different views and perspectives on the themes and the geographical area chosen.

- On-site visits and inspections were held by environmental experts and local actors chosen for their deep understanding of the territory (art historian, president of association, inhabitants, etc.).

- Project workshops, in which students, divided into interdisciplinary groups led by tutors and professors from the various scientific disciplines, developed proposals for the themes chosen.

- The presentation of the results was discussed at a conference with the local community.

- Video interviews with all the involved parties, including students and stakeholders, helped to enlarge the discussion regarding the regeneration of the Inner Areas and the effectiveness of the ongoing experience.

The Thematic Seminar aspired to offer its participants an immersive experience to explore some aspects of the cultural landscape of Casentino through the comparison of knowledge (Architecture, Economics, and Education), which rarely has the opportunity to dialogue. In the Seminar, university students and PhD students from different departments were invited to collaborate as a single study group, collaborating creatively to draft the final projects. The learning course aimed at exploring, through an interdisciplinary approach based on theoretical and practical experiences, the opportunities to enhance heritage elements linked to the culture of the Casentino forest, including tourism development and active involvement of local communities. To achieve these objectives, the training sessions were aimed at:

1. Knowing the territory in its anthropic and physical aspects
2. Understand past, ongoing, and planned initiatives
3. Interpret dynamics and strategies, identifying strengths and areas of intervention
4. Develop and propose improvements and changes.

2.2 The study context

The study context was identified in the village of Raggiolo and the Valteggina Valley. They were detected as privileged sites of the Casentino where innovative participatory design models could start from previous educational and entrepreneurial political experiences.

Among the elements of value that characterise the settings, there are:
• The presence of the Chestnut and Transhumance Ecomuseum¹;
• The creation of a Community Map² (one of the first in Italy);
• The urban quality of the settlement (Raggiolo is among the "Most beautiful villages in Italy") and the presence of testimonies related to the cultural landscape of the chestnut;
• The presence of a consortium of chestnut flour producers, which was recently involved in a project for the recovery of chestnut groves;
• The presence of a network of small local producers organised around the Association of Valteggina producers and recognised as "Earth Market" Slow Food;
• The award by the Municipality of Ortignano Raggiolo (where Raggiolo is located) of a grant under the Italian National Recovery and Resilience Plan regarding the regeneration of villages (which included the reactivation of a water mill);
• The activation of a document of intent for the enhancement of the transhumance route between the Casentino and the Maremma (two subregions in Tuscany);
• The existence of a "Albergo diffuso"³;
• The presence of a dynamic and proactive association, "La Brigata di Raggiolo";
• The launch of two initiatives related to heritage communities dedicated to water mills and transhumance.

To allow the students involved to know through direct experiences the territory and its inhabitants, the Thematic Seminar was aimed at deepening the following context:

• The physical context, intended as the vast network of ancestral paths that cross the territory near the municipality of Raggiolo. It was studied through organised visits to the village of Raggiolo, a chestnut grove, and a hiking trail in the mountains of Pratomagno.
• The anthropogenic context involves, at various levels, local actors: administrations and public institutions operating in the territory, local associations, associations of producers, local companies interested in enhancing traditional food products, training institutes, and other relevant stakeholders of Raggiolo, Valteggina, and the Casentino. The aim was to identify networks, collaborations, activities, initiatives, and projects directly and indirectly linked to the theme of the seminar.

As part of the chosen case study, the main topics of specific research related to the ecosystem of the forest and the ecosystem of the village were the following:

• T.1 Promotion of the chestnut sector;
• T.2 Enhancement of Pratomagno paths (through the construction of reversible equipment) and existing architectural buildings;
• T.3 Development of the village of Raggiolo.

¹ An ecomuseum is a community-based museum that focuses on the cultural and environmental heritage of a specific area, fostering sustainable development and local participation.
² A community map is a visual representation made by the community highlighting key features, resources, and relationships within a specific area and community.
³ An "albergo diffuso" is a scattered hotel, typically located in a historic village, where accommodations are spread across multiple restored buildings, offering guests an immersive experience in the local culture and heritage.
The training activity was articulated through moments of in-depth study and group work implemented following transversal focuses: social sustainability, environmental sustainability, economic sustainability, continuing training, and participation.

The Thematic Seminar's didactic and cognitive activities involved researchers of the University of Florence and representatives of local administrative, associative, and productive realities. The following topics were addressed:

- Methods by which traditional, informal, tacit knowledge feeds the enhancement of the territory and the landscape, also through the detection or design of widespread educational actions, informal, non-formal, and formal (analysed with the contribution of researchers in education);
- Individual and collective initiatives (past, ongoing, planned, or possible) to enhance the value of forest products, with particular attention to chestnuts (analysed with the contribution of researchers in economics);
- Methods (current and future) of tourist use of the village of raggiolo and the surrounding area, the ridge paths (analysed with the help of researchers in economics);
- Cooperative community management assumptions of planned activities (analysed with the contribution of researchers in economics);
- Slow forms of mobility for knowledge of the forest (hiking, cycling and e-bike, horseback riding) (analysed with the contribution of researchers in architecture);
- Reversible reception facilities (bivouacs) along the trail (analysed with the contribution of researchers in architecture);
• Reversible structures for the enhancement of the forest, such as belvederes, observatories, or bird-watching huts (analysed with the help of researchers in architecture).

2.3 The work methodology

The Thematic Seminar included training activities divided into lectures, project workshops, and visits to Raggiolo's territory, chosen as a case study. The final results were processed and returned to the local community.

An initial deepening phase concerned the organisation of a series of introductory lessons to the Seminar's theme, which involved speakers, teachers, researchers of the Departments, administrators, and representatives of local authorities and associations working in the area. The topics dealt with general and specific issues. In this phase, the concepts of cultural landscape, sustainable territorial development, mobility, participation, and community development were introduced. A particular study focused on the initiative path accompanying the communities of Casentino in recognising themselves in a common intangible heritage and identity. Others addressed issues and strategies aimed at enhancing collective goods and their governance and possible actions for the sustainable enhancement of products of origin. The context of the study and the ongoing initiatives to enhance Casentino's cultural landscape were then presented.

In the second part of the Seminar, a specific activity on the case study was organised, and four days were spent in Casentino. During this time, educational and cognitive activities involved researchers and representatives of local administrative, associative, and productive organisations.

Students, tutors, and teachers conducted on-site study visits during the field analysis. They learned from local actors' experiences and the initiatives in place in the field to enhance the territory. The visits consisted of two exploratory walks, the first in the area of the village of Raggiolo and the second along the path of Pratomagno. These visits were an opportunity to deepen through direct experience the knowledge of rural and mountain landscapes in transformation, listen to the voice of representatives and experts who deal with the enhancement of the landscape heritage, and meet the community living in the territory.
At the same time, talks were organised with local actors on the following specific topics:

- Methods by which traditional, informal, tacit knowledge feeds the enhancement of the territory and the landscape, also through the detection or design of widespread educational actions (informal, non-formal, and formal);
- Presence of individual and collective initiatives to enhance the products of the forest, with particular attention to the chestnut sector;
- Reflections on current and prospects of tourist use of the village of Raggiolo and the surrounding area and the paths of the ridge of Pratomagno;
- Elaboration of hypotheses of cooperative community management of the commercial and social activities characterising the area;
- Development of slow mobility for the knowledge of the forest (hiking, cycling and e-bike, horseback riding) and the territory surrounding the town of Raggiolo;
- Realisation of reversible and unmanned reception facilities (bivouacs) to be placed along the path of Pratomagno and enhancement of the forest (belvederes/observers, birdwatching huts).

The training approach included a process of relational proximity between local actors and researchers through talks aimed at highlighting the potential and problems existing in the area and highlighting shared visions between communities, institutions, and academia. In this phase, videos and interviews with the actors involved were also produced to synthesise the analyses that emerged in the sharing moments and create a historical memory of the ongoing educational activity.

In addition, the Seminar included a proposal phase of project development initiated in Casentino. It continued at the Department of Architecture of the University of Florence, which was able to benefit from the organisation of moments of confrontation with the community, experimenting with a collaborative approach of proximity between students, researchers, and local actors to activate, through the promotion of new forms of collective learning, a path of community growth.

The participants of the Thematic Seminar were divided into three interdisciplinary groups (at least four students from different degree courses), who developed the shared hypotheses of valorisation of the following specific project themes, identified as a priority, after comparison with the community:
• The enhancement of the Village of Raggiolo through the design of a modular technological unit that can be used as a mobile small store to enhance the short-chain commercial activities present in the territory;

• The physical and functional redevelopment of an abandoned public building in the Pratomagno area, providing for its conversion into a permanent education centre on climate change issues;

• The creation of a path of knowledge of the landscape in the section from Raggiolo to Pratomagno in memory of the streets of transhumance passed over the years in this part of Tuscany.

This operational phase required students to confront the needs of the territory, adopting an approach that goes beyond their specific knowledge and effectively allows the development of proposals for regeneration from the social, environmental, and economic points of view. With this aim in mind, in the design phase, moments of discussion and review were organised in the classroom, in which students and researchers could verify the project proposals while reflecting on the validity of the solutions found.

3 RESULTS

The three working groups, composed of students from the 3-degree courses involved in the research activity, worked together from July to November, developing the following projects:

• "CUB.LABORA. A small store 2.0 for Raggiolo". The proposal stems from some context analysis data highlighting how the village of Raggiolo suffers from the lack of essential services, aggravated by geographical isolation. The economy based on agriculture and seasonal tourism, coupled with the need for job opportunities, contributes to the problem. To improve residents' quality of life, it is therefore necessary to attract investment and develop tourism services by exploiting the landscape and cultural potential of the Casentino geographical context. To meet these needs, the working group decided to design a temporary device that would offer essential services and promote local products. It is a module entirely realised with platform frame technology used to host a store, facilities for cultural events, and a mobile clinic for health care. Within the mobile structure, training events can also be organised to promote knowledge of local production chains from a perspective of food, economic, and environmental sustainability; increase knowledge and enhancement of local natural and cultural material and intangible heritage; offer knowledge and educational support to strengthen traditional local supply chains in a perspective of eco-sustainable innovation; promote co-empowerment of the territory in the preservation of legacies to be maintained in connection with the management of the environment, the objectives of sustainable economy and the creation of coherent educational actions.

• "L’ELICA DEL PRATOMAGNO. Learning ecosystem on the environment and climate change". This project proposal aims to create a community cooperative that manages a new permanent training centre on environmental issues realised inside the abandoned public building of Pratomagno. The objective was to increase the initiatives related to sustainable tourism and ecological education on the territory, promoting employment and social cohesion. Particular attention has been paid to issues of energy redevelopment, providing that the new educational structure can become a polyvalent centre NZEB (Nearly Zero Energy Building, a building with very high energy performance and almost zero energy consumption). The building could host a meteorological base and spaces to consume and sell local products to promote an innovative social meeting and scientific dissemination.

• "TRANS+HUMUS. Through the landscape between Raggiolo and Pratomagno". This project proposal starts from the identification of some problems: the lack of enhancement of the existing paths as an integrated system at local and regional scale, the loss of the landscape mosaic and biodiversity due to the lack of management of forests and pastures, some conflicts within the community of Raggiolo linked to the lack of reception services and tourist flows concentrated only in summer. Starting from the etymological analysis of the term 'transhumance', whose origin derives from the union of the two words 'trans' (through) and 'humus' (earth), the project is aimed at promoting; the crossing of the landscape as a founding practice for the reappropriation of the territory; the enhancement of the land, as a fertile place to be preserved and in which to root new good reception practices. The objective is to regenerate the hiking infrastructures sustainably, encouraging the return or arrival of inhabitants to activate entrepreneurial knowledge by promoting innovative forms of learning of knowledge and practices of the local community, which thus becomes active and responsible for its development.
Fig. 4 Poster of the three projects

All three projects were found in line with the overall objectives of REACT research, promoting the achievement of the 2030 Agenda for Sustainable Development objectives, in particular about the possibility of: i) empowering the community to create resilient territories, ii) ensuring the development of potential and sustainable management, iii) implementing strategies for sustainable forest management and biodiversity protection, iv) fostering innovative forms of collaboration for the development of entrepreneurship.

It's interesting to remember that one objective of the Seminar was to transfer the knowledge gained during the training by the students and all the actors involved. That is why the Thematic Seminar ended with a day of presentations shared with the local inhabitants at the Chestnut Ecomuseum of Raggiolo, in which representatives of local public and productive institutions as well as a large group of citizens. During this moment, after an introduction in which a video of the synthesis of the experience was presented, each group was called to present its project proposal, answering questions and requests from the community.

The positive feedback at this final event, as well as during all the activities carried out within the Thematic Seminar, underlines the success of the training experience that has succeeded in promoting an innovative model of interdisciplinary learning in which it was possible to increase the cultural background of all the participants. The excellent results inherent in developing the project proposals show how the direct interaction between students and teachers from different scientific disciplines increased the critical and operational capacity of university students. In fact, they were called to experiment with new forms of knowledge and with direct comparison with local realities, looking for viable operational solutions for revitalising the Italian Inner areas.

4 CONCLUSIONS

The Thematic Seminar has proved to be an effective tool for stimulating ideas, creativity, participation, and awareness. The success of the experience is detectable on several fronts and for the benefit of more recipients.

It has increased the educational and experiential offer for university students, offering them an interdisciplinary practical mode with concrete experimentation, far from the canonical offer of Italian universities. The experience allowed them to develop soft skills, problem-solving skills, critical thinking, and teamwork attitudes (unusual for students in Economics and Education).

Moreover, the professors and tutors acquired new methods of work and approaches to teaching as a result of many meetings and comparisons to integrate their strategies into a joint teaching offer.

In addition, the Seminar expanded the impact of REACT research by encouraging the integration of skills between disciplines and promoting research on the territory in a concrete experience that collected innovative and integrated project proposals. This approach made it possible to analyse problems from
multiple points of view and develop solutions that integrate various factors: design, economics, society, environment, and culture.

Finally, it encouraged the engagement and involvement of the local Casentino community of several levels and sectors: administrative, associative, professionals, and the inhabitants. The experimentation also encouraged the community to become aware of its needs and experience co-designing solutions that have fostered a sense of belonging and responsibility.

REFERENCES


