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ABSTRACTS

**Sustainable Transformation
and Spatial Interaction of
People and Places**
Urban and Rural Landscapes for
mobility, migration and tourism

Title

32nd APDR Congress – *Sustainable Transformation and Spatial Interaction of People and Places: Urban and Rural Landscapes for mobility, migration and tourism: Abstracts*

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32nd APDR Congress

Sustainable Transformation and Spatial Interaction of People and Places: Urban and Rural Landscapes for mobility, migration and tourism

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Topics

Umbrella Topic

“Sustainable Transformation and Spatial Interaction of People and Places: Urban and Rural Landscapes for mobility, migration and tourism”

Sustainable transformation of urban and rural landscapes is reshaping spatial interactions between people and places, particularly in the context of mobility, migration, and tourism. Counter-urbanization, or the reverse migration from cities to rural areas, is driven by factors such as digital connectivity, improved infrastructure, and a desire for lifestyle changes. Rural areas are adapting to accommodate this influx, developing new forms of tourism like agritourism and eco-lodges, while also experiencing challenges such as rural gentrification and pressure on local resources. The interplay between urban and rural spaces is creating new opportunities for economic diversification, cultural exchange, and sustainable development, but also raises concerns about preserving natural and cultural heritage. In order to promote the long-term sustainability of both urban and rural environments, communities and policymakers must collaborate as this transition takes place to ensure that social equity, environmental preservation, and economic growth are balanced.

General Topics

- RS01 – Regional Innovation and Entrepreneurship Ecosystems
- RS02 – Territorial Sustainability Strategies
- RS03 – Natural environment, resources and rural development
- RS04 – Demographic Challenges, Migrations and Integration
- RS05 – Education, Skills, Labour Markets and Regional Development
- RS06 – Regions and Global Value Chains
- RS07 – Energy transition and Regional Development
- RS08 – Smart Cities, Digital Transition and AI
- RS09 – Social innovation, integration, poverty and exclusion
- RS10 – Territorial Cohesion and asymmetries
- RS11 – Governance, Leadership and Regional Development
- RS12 – Regional resilience, crises, and climate adaptation
- RS13 – Tourism, culture, sports and sustainable development
- RS14 – Territorial Responsible Marketing
- RS15 – Quantitative and qualitative methods in regional science

Special Sessions’ Topics

SS01 - Relationships between soil characteristics, land use, land cover and agroforestry practice

Vítor João Pereira Domingues Martinho

SS02 - Transforming Agribusiness: Spatial Dynamics of People, Places, and Sustainability

Ana Marta-Costa and Maria Raquel Lucas

SS03 - Desigualdades Regionais, Monitoramento e Avaliação da Política Nacional de Desenvolvimento Regional: Uma Abordagem Integrada

Bruno de Oliveira Cruz, Juliana Aguiar Melo, Flávio Oliveira Gonçalves, Luiz Abel Silva Filho and Luiz Carlos Ribeiro de Santana

SS04 - Post-2030 EU Cohesion Policy and Sustainable Territorial Planning in Portugal: Scientific Contributions to the Negotiation of European Policy Instruments

Paulo Neto and Maria Luísa Silva

SS05 - Collaborative Laboratories towards sustainability transitions responses

Joana Dias

SS06 - Industrial tourism as a sustainable alternative in urban and rural landscapes

Elaine Scalabrini and Paula Odete Fernandes

SS07 - Innovation and Sustainability in Public Administration: The Power of Knowledge Management

Ricardo Cunha Dias and Paulo Castro Seixas

SS08 - Reimagining Rural Futures: Conservation and Regeneration through the Torrão LAB Project

Frédéric Coustols and Simon Punter

SS09 - E-Governance and Regional Development

Joana Costa and Tiago Santos

SS10 - Tourism challenges for sustainable interaction of people and places

Maria do Rosário Borges, Joana Lima, Jaime Serra and Noemi Marujo

SS11 - Public places transformation for sustainable urban landscape

Rui Florentino, Gilberto Carlos and Isabel Vaz de Freitas

SS12 - New Rurality and the Future of Rural Territories

João Almeida, Diogo Pinto and Fernando Belezas

SS13 - The Spatial Dimensions of Decarbonisation: Challenges and Pathways for a Low-Carbon Future

André Alves, Sofia Simões and Nuno Marques da Costa

SS14 - The New Challenges and Strategies for Resilient Territories: Migration, Tourism and Wildfire Risk

Ana Gonçalves, Diogo Miguel Pinto, Sandra Oliveira and André Samora-Arvela

SS15 - Viticulture and Social Dynamics: Labor, Immigration, and Sustainability

Ana Marta-Costa and Alexander Cornejo

SS16 - Territorialization of Public Policies: Challenges and Opportunities in Low-Density Territories

Bernadete Bittencourt and Ana Rita Pereira

SS17 - Turismo & Promoção da Sustentabilidade de Áreas Rurais?

Maria Lúcia Pato and Ana Mafalda Matias

SS18 - Empreendedorismo e Inovação em Áreas Rurais – que Futuro?

Maria Lúcia Pato and Ana Mafalda Matias

SS19 - Enhancing Intangible Heritage in Cross-Border Territories: A Transdisciplinary Approach

Tiago Fernandes, Ana Sofia Coelho, Bernadete Bittencourt, Jean Mercereau and Márcio Ribeiro Martins

SS20 - Green Transition, Digitalization, and AI for Sustainable Transformation: Data-Driven Solutions for Mobility, Migration, and Tourism in Urban and Rural Landscapes

Simona Cafieri

SS21 - Tourism, Migration, and Social Sustainability

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Abstracts

Ordered by ID number

TERRITORIAL MARKETING AND CREATIVITY IN A LOCAL CONTEXT: THE CASE OF PALMELA**José Lúcio**

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nmoita@cm-palmela.pt**Abstract**

This communication aims to offer a “step forward” in the context of a work in progress related to territorial marketing strategies aimed to promote a multidimensional approach to local development issues, and using the Palmela municipality as a case study. In previous works, the authors presented a theoretical approach and a first perspective to what may be a prefiguring strategy, at the same time reflective and at the other time operational, of place marketing for the territory of the Municipality of Palmela. In the context of the present paper, we intend to focus more deeply on the matters included in the options and initiatives that seek to develop a territorial marketing strategy. This way, the main objectives for communication are, for one part, to promote an analysis of all the questionnaires that were launched into the local main stakeholders and, for another part, to define an operational framework, including a set of initiatives for the action, for a future multidimensional strategy, to promote the territory of the Municipality of Palmela. In terms of the structure of the paper, we will divide our work into three fundamental sections: at first, and using studies developed by foreign and national researchers, we will carry out theoretical research of concepts, objectives, and contents of territorial marketing analysis. In a second step, we will set up an analysis of the large set of questionnaires and enquiries that we launched into the main Palmela stakeholders. Finally, we will address, in the last part of our paper, a series of proposals for initiatives and actions to be included in the territorial marketing strategy. This way, we believe that this paper should allow a solid and diverse approach to a possible definition of Palmela's “Territorial Brand”.

Keywords | Territorial Marketing, Creativity, Palmela, Development.

PROPOSALS TO PROMOTE MORE SUSTAINABLE AGRICULTURAL PRACTICES WITHIN THE FRAMEWORK OF CARBON FARMING

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Abstract

Purpose | The role of agriculture in the socioeconomic context of each country has been subject to different interpretations, without a fair recognition of the real importance of the sector for the sustainability of societies. In some cases, less value has been given to those who dedicate their lives to maintaining agricultural structures in very difficult contexts, not only in terms of profitability, but mainly due to the physical, personal and family demands that their activities require. But the truth is that agroforestry activities make fundamental contributions, not only in food production, but also in providing ecosystem services, including carbon sequestration. Carbon farming approaches are an example of initiatives that can improve the potential of the agricultural and forestry sector to store organic carbon in soil. The question here is to identify new proposals (technical, technological, legislative, and policy instruments) that help promote carbon farming practices, particularly where the impacts of unsustainable practices are most visible. In any case, without real recognition by society of the importance of the agroforestry sector and without fair remuneration for the capital invested in associated activities, it becomes more difficult to implement sustainable practices, which, to be adopted, require that their importance be perceived in an adjusted way. To achieve this, it is necessary to have qualified farmers, capable of using new technologies and duly aware of the costs and benefits of the practices to be adopted to increase carbon sequestration in the soil.

Methodology/Approach | This research aims to bring more contributions to suggestions for proposals to promote more sustainable practices that increase carbon sequestration in agroforestry activities. To this end, several scientific documents were explored through bibliometric analyses and systematic reviews to highlight the insights from the research considered most relevant.

Expected Results | The results show the importance of finding proposals, some of them innovative, to promote more sustainable practices in the farming sector. In any case, for an effective implementation of activities more compatible with sustainability requirements, institutions (local, regional, European and international) have an important role. On the other hand, one of the focuses of the new strategies must be stakeholders, particularly in terms of training and awareness of the real potential of carbon farming approaches.

Keywords | Literature review, Bibliometric analysis, European Union strategies.

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SOIL ORGANIC CARBON STRATEGIES UNDER THE COMMON AGRICULTURAL POLICY: DISCUSSION AND RECOMMENDATIONS

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Abstract

Purpose | The creation of conditions to promote carbon sequestration in the soil has received the attention of various players (public, private, national, European and international) to develop strategies to help mitigate the environmental impacts that populations worldwide face. National and European policies play a fundamental role here in promoting soil quality. However, it is necessary to bring more information and knowledge related to these themes to make the different instruments and policy measures more effective. This is particularly important within the framework of the European Union's agricultural and regional development policies. These policies are in line with the European Union's strategies to make socioeconomic activity greener and decarbonised, but it is important to understand to what extent this policy and legislative framework are compatible with each other and will be able to promote what is intended for the coming times in Europe and worldwide. Agricultural and rural development must be seen from a more comprehensive perspective, namely from a regional viewpoint, where rural and urban interconnect in a more complementary way.

Methodology/Approach | Considering the context described above, this study aims to better understand the interconnections between soil organic carbon and European Union agricultural policies. To this end, considering bibliometric analysis and review approaches, several scientific documents and technical reports related to these topics were analyzed.

Expected Results | The results show that European policymakers' concern about more compatible land use and land cover has increased in recent decades. This has translated into policy instruments designed to promote soil quality, particularly regarding organic carbon, but the discussion on this subject is not exhausted. On the other hand, several suggestions were identified to improve the current legislative and policy context, namely, taking advantage of the digital transition.

Keywords | Literature review, European Union policies, Income and structural financial support.

Acknowledgments | This work is funded by National Funds through the FCT - Foundation for Science and Technology, I.P., within the scope of the project Ref^a UIDB/00681/2020 (<https://doi.org/10.54499/UIDP/00681/2020>). Furthermore, we would like to thank the CERNAS Research Centre and the Polytechnic Institute of Viseu for their support. This work was developed under the Science4Policy 2023 (S4P-23): annual science for policy project call, an initiative by PlanAPP – Competence Centre for Planning, Policy and Foresight in Public Administration in partnership with the Foundation for Science and Technology, financed by Portugal's Recovery and Resilience Plan.

ENHANCING SOIL CHARACTERIZATION AND INTERRELATIONSHIPS: CONTRIBUTIONS FROM THE HARMONIZED WORLD SOIL DATABASE OF THE FAO SOILS PORTAL

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Abstract

Purpose | Information and knowledge are essential for effective management, especially in intense market and supply chain competition. Soil quality monitoring, in turn, relies on readily available information to support accurate assessments, guide methodological choices, and enable sustainable decision-making. The availability of soil information is often limited and outdated, primarily due to ineffective data collection systems. Efforts by the scientific community, public institutions, and related organisations have been directed toward collecting and organising data on soil characteristics, land use, and land cover, resulting in national, European, and international databases (e.g., under the FAO framework). Some of these databases were built with information collected from satellites and other remote sensing approaches. Despite considering these approaches to obtain information through remote sensing, collecting information locally still has its importance, considering the diversity of soil characteristics that, in some circumstances, requires a more detailed analysis with laboratory methodologies to assess soil profiles. On the other hand, some of the databases created do not usually consider the climatic variables and socioeconomic indicators impacting soil quality. Additionally, the databases are, in some cases, unadjusted to the assessment approaches. This hinders the consideration of more sophisticated statistical models that can provide more accurate and robust findings.

Methodology/Approach | In this context, this study aims to highlight the importance of the Harmonised World Soil Database (FAO Soils Portal) for analysing soil characteristics in the Portuguese context. To this end, the database was expanded with new variables related to climate conditions and socioeconomic dynamics to improve the understanding of the interconnections between soil attributes and other indicators.

Expected Results | The results found show the potential of this database for the interpretation of soil dynamics and interconnections in the Portuguese framework. They also reveal that considering statistical information at the municipal level enables the interrelation with several other variables available in Portugal's official database. There is a set of knowledge obtained that can be considered as a basis for using science in defining public policies.

Keywords | Soil types, Climate data, Agroforestry statistics.

Acknowledgments | This work was developed under the Science4Policy 2023 (S4P-23): annual science for policy project call, an initiative by PlanAPP – Competence Centre for Planning, Policy and Foresight in Public Administration in partnership with the Foundation for Science and Technology, financed by Portugal's Recovery and Resilience Plan.

UNDERSTANDING EMERGING DYNAMICS IN PLANNING: URBAN FORM AS A BRIDGE BETWEEN RESEARCH AND PRACTICE

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Abstract

Purpose | As transitions between urban and rural intensify, planning researchers and practitioners search for efficient ways to understand and manage emerging dynamics. However, to improve knowledge on both urban and rural territory, research and practice must collaborate and strengthen their exchange pathways (Watson, 2002). This work proposes that, to promote co-learning and co-operation between research and practice, research must gain a better understanding of what practice is through a continuous and reciprocal relationship.

Methodology/Approach | Innovation in this research emerges through the continuous interaction between the knowledge of research and that of practice in different territories. We propose an innovative methodology, combining semi-structured interviews, a literature review and observation of planning practices in two different cities in Portugal – Porto and Vale de Cambra. Porto is very dense in comparison to Vale de Cambra, which has a large proportion of natural and rustic landscapes. To detail thought processes and tasks in practice, urban form was used as a point of focus in the interactions between researchers and practitioners. The topic of urban form can provide multiple perspectives of interest to this issue, as it has a well-established academic counterpart to planning practice – urban morphology – where the issue of the gap between research and practice has long been discussed (Oliveira, 2021a). Furthermore, the parallel between urban form and sustainability in mobility, socioeconomic standards (Oliveira, 2021b) and housing (Alawadi et al., 2018) has also been discussed.

Expected Results | Preliminary results highlight the differences in the understanding of urban form, as concepts used in research are often based on urban or highly dense areas, hindering the comparison with urban areas. Excess bureaucracy and a lack of contact between researchers and practitioners also emerge as barriers. However, interactions with multiple points of contact facilitated the development of a common understanding.

Keywords | Urban Form, Planning Practice, Planning Research, Observation, Collaboration.

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CHARTING THE TRIAD: A BIBLIOMETRIC ANALYSIS OF SUSTAINABLE TOURISM, WELL-BEING, AND SUSTAINABILITY**João Capucho**

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Abstract

This comprehensive Systematic Literature Review (SLR) provides a robust foundation for researchers, policymakers, and industry practitioners to advance sustainable tourism practices that enhance well-being and contribute to broader sustainable development objectives. Adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, a rigorous bibliometric analysis unveils four pivotal thematic clusters: 1. Tourism; 2. Sustainable tourism; 3. Well-being, and 4. Sustainable development. The research makes significant contributions to the field of sustainable tourism by meticulously mapping the interconnected research topics linking sustainable tourism, well-being, and sustainable development. Critical knowledge gaps are also identified, and future study topics are suggested. Important research topics include: (i) assessing the effectiveness and long-term effects of sustainable tourism initiatives; (ii) evaluating the complex effects of sustainable tourism practices on the well-being of individuals and communities; and (iii) investigating the role of sustainable tourism in accomplishing the Sustainable Development Goals (SDGs) of the United Nations.

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THE IMPACT OF URBAN-RURAL INTEGRATION ON LANDSCAPE SUSTAINABILITY. CASE OF EUROPE

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Abstract

Purpose | Landscape patterns imply complex interactions, both social and ecological. In this context, the urban-rural integration plays an important role. Nevertheless, the relationship between landscape sustainability and the integration between areas remains understudied. The main objective is to examine whether urban-rural integration significantly influences the landscape sustainability in the case of Europe.

Methodology/Approach | Thus, we analysed indicators reflecting urban-rural integration and Net greenhouse gas emissions of the Land use, Land use change and Forestry in order to reflect the landscape sustainability. The study area is represented by the European countries for the period of time between 2014 and 2022. The dependence between urban-rural integration and landscape sustainability was explored through a time-fixed effects model.

Expected Results | Our findings indicated that urban-rural integration exerts notable impacts on landscape sustainability, influencing migration, mobility and tourism.

Keywords | Urban-rural integration, landscape sustainability, net greenhouse emissions, panel regression, Europe.

ROUGH LIVES AND LOST HOPES IN MONTESINHO AND DOURO INTERNATIONAL NATURAL PARKS: WHO BENEFITS FROM NATURE CONSERVATION?

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Abstract

The growing awareness of the need for nature conservation has been one of the primary factors contributing to the expansion of Portugal's protected areas network. The classification of Natural Parks focuses on enhancing the most significant natural, landscape, socio-economic, and cultural features, aiming to conserve and promote natural heritage and ecological balance. This enhancement will be achieved through biodiversity preservation and sustainable use of species, habitats, and ecosystems. In Portugal, unlike many non-European countries, protected areas are characterised by sporadic human settlements subject to significant restrictions. The aim is to showcase the demographic, socio-economic, and land use evolution in two protected areas in Northern Portugal, the Montesinho Natural Park and the Douro International Natural Park, comparing them with other regions in Trás-os-Montes to understand the impacts of protected areas on local communities. The methodology is based on a literature review, statistical analysis with cartographic representation, within the framework of a research project conducted as part of a PhD thesis in Geography.

REGIONAL INSIGHTS OF UNEMPLOYMENT IN THE PORTUGUESE CONSTRUCTION SECTOR: RETURNING OR MOVING ON?

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Abstract

Purpose | The construction sector plays a significant role in the Portuguese economy, contributing 4.3% to Total Value Added in 2023 and employing approximately 7% of the workforce. Industry representatives report a widespread labor shortage, further exacerbated by the urgency in implementing major projects under Portugal's Recovery and Resilience Plan. However, data from the Portuguese Institute of Employment and Training (IEFP) indicate a sizable pool of unemployed individuals from this sector: more than 35.000 new registers between September 2022 and August 2023. Additionally, there are notable regional disparities in the sector's share of total unemployment. Thus, the paper pursues two main objectives: to characterise construction unemployment, differentiating across Portuguese regions, and to identify the factors that drive these individuals either to switch into different sectors or to shift occupations within construction.

Methodology/Approach | This study employs a multisource database that integrates individual-level data from IEFP, regional economic indicators from Statistics Portugal, and occupation-specific information from Quadros de Pessoal. It includes all unemployed people from the construction sector registered in the IEFP between September 2022 and August 2023. A multi-probit model is applied to estimate individuals' intentions to: continue in the same occupation, change occupation within the construction sector, or change to another sector, based on unique information on personnel characteristics, disruption motives, county/regional characteristics, and characteristics related to previous and desired occupations.

Expected Results | The preliminary analysis reveals key regional insights. The North region stands out for the higher share of the construction employment in total employment, higher percentages of permanent work-contracts and higher average hourly wages among the construction occupations, and the higher percentage of qualified unemployed individuals (the last one is also common in the Centre region). The highest rate of voluntary disruption is observed in the Centre and involuntary disruption in the North region, but with the end of temporary jobs explaining a major part of the unemployment. The estimation results suggest that overqualified and younger individuals are more prone to shift to other occupations. Women intended to transit to non-construction occupations, whereas men were more willing to change occupations within the sector. Graduates seemed to be more willing to continue working in construction. Voluntary disruption has a positive effect on the intention to move, suggesting that this decision was made before the disruption. Higher intentions to quit construction are observed in Centre and Alentejo, while unemployed individuals in the North are more prone to continue in the same occupation. Finally, movers more frequently worked in occupations with lower percentages of permanent work-contracts and are searching for more secure occupations. Work security seems more important in explaining the intention to leave construction than wages or hours worked. These preliminary findings may provide valuable input for policymakers and industry stakeholders, informing strategies to address labor market mismatches and support workforce mobility within the sector.

Keywords | Construction sector, Portuguese regions, Job Lost, Job Search, Job insecurity, Overqualification.

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REGIONAL AGING AT THE COUNTY-LEVEL: A SPATIAL ECONOMETRIC APPROACH**Andree Ehlert**

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Regional population ageing is a pressing issue in Western societies, characterised by significant sub-national heterogeneity that poses challenges for regional economic development. Traditional demographic models, designed primarily for macro-level projections, fail to capture the localised, spatially heterogeneous processes driving aging at the sub-national level. Understanding the determinants of regional aging is crucial for effective policy interventions; however, research at the county level remains limited.

This paper addresses the gap by analyzing a county-level panel dataset (2002–2022) for Germany, employing spatial econometric techniques—specifically the Spatial Durbin Model (SDM)—to account for unobserved heterogeneity and spatial spillover effects. By addressing endogeneity using a comprehensive set of socioeconomic covariates and rigorous robustness checks, our analysis suggests key drivers of regional aging, including new housing construction and educational attainment. Our findings reveal significant spatial spillover effects, suggesting that regional aging is influenced not only by local factors but also by conditions in neighboring areas. This underscores the importance of incorporating inter-regional dependencies into policy design. Furthermore, the observed clustering of regions with similar aging patterns highlights the potential for tailored, region-specific policy approaches.

ASSIMETRIAS REGIONAIS E URBANAS NAS INFRAESTRUTURAS DE ÁGUA E ESGOTO NO SÉCULO XXI NO BRASIL**Mauro Kleiman**

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Finalidade | O trabalho busca examinar a implantação e expansão da infraestrutura de água e esgoto no território brasileiro, no século XXI, para apontar as assimetrias regionais e urbanas no país com permanências e alterações do quadro ao longo do período.

Metodologia/ Abordagem | Tomando como base teórica a infraestrutura por sua dimensão social em sua relação com o território (Dupuy, 1985), e utilizando metodologia de análise das estatísticas dos Censos Demográficos de 2001, 2011 e 2022, e dados do Rio de Janeiro sobre as favelas (tomado como caso exemplar das assimetrias urbanas), formamos um quadro da problemática de a água e esgoto no país no século XXI. Este processo tem se desenrolado através de um padrão de privilégio da alocação, expansão e sofisticação técnica de infraestrutura na Região Sudeste a mais desenvolvida do país, em detrimento das mais atrasadas do Norte e Nordeste.

Resultados esperados | No período examinado, se apresentem avanços em abastecimento de água, ainda que a maior parcela de domicílios tem problemas de coleta de esgoto, e permanece a prioridade de implantação de água e esgoto na Região Sudeste, com avanços nas regiões Sul, e Centro-Oeste, e se mantem quadro de carências nas regiões Norte e Nordeste, embora se note nestas avanços no abastecimento de água, mas com baixo atendimento de coleta de esgoto. Já na escala urbana a assimetria entre as áreas formais e favelas segue fortemente acentuada, pois enquanto aos lugares de maior renda se tem um caminho de quase universalização do abastecimento de água, e de coleta de esgoto avançando, nas favelas permanece um quadro de ausência e/ou precariedade de acesso a água e coleta de esgoto, com apenas algumas partes delas sendo alvo de programas de implantação de infraestrutura, ainda assim com problemas de operação e manutenção. Se configura, a partir dos dados e análises, um território brasileiro sem equilíbrio de infraestrutura básica de água e esgoto entre suas regiões e no urbano, com desigual na alocação e apropriação dos seus benefícios.

Palavras-chave | Água e Esgoto, Assimetrias regionais e urbanas, Brasil, Século XXI.

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CASSAVA VALUE CHAIN ANALYSIS: A CASE STUDY IN MALANJE PROVINCE (ANGOLA)

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Abstract

The value chain is a sequence of interrelated activities carried out by the different links that make it up, with the purpose of adding value to the product and/or service, as well as to the consumer. Chains play a fundamental role in the management of organizations, as they make it possible to analyze their internal and external environment and reformulate cost and price strategies. Angola produces around 11 million tons of cassava annually, a number that reflects its economic importance. Therefore, to promote its value chain is essential, a sustainable development approach that seeks to take advantage of and strengthen local potential and assist in the integration of productive, commercial and institutional activities. The cassava value chain needs to be studied and analyzed, regarding the participants in production, processing, transportation, distribution and sale to final consumers the processes, to understand the distribution of added values ??at the different stages of the chain. The general objective of the work is to analyze the ideal operating model of the value chain, in order to guarantee the profitability and sustainability of those involved in it, considering the context and contribution of government policies and strategies. The research uses a mixed methodology (quantitative and qualitative) and the questionnaire and interview as data collection instruments, which were applied to two convenience samples. One, made up of farmers, greengrocers, truck drivers and end consumers from six municipalities in the province of Malanje. The subjects of the interviews were GEPE Technicians from MINGRIF and from Malanje, six Municipal Administrators, Managers of Agricultural Companies and local Traditional Authorities. The result of the study serves as a basis for devising and outlining a model capable of solving the current problems of the cassava value chain, allowing it to make better profits and sustain all activities, guarantee an equitable distribution of costs and risks, facilitate access to innovative production techniques and technologies, training, information and credits and agricultural insurance. In this way, it constitutes a contribution to reducing poverty and unemployment, developing rural areas and improving the quality of life of rural populations.

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IMPACT OF GEOGRAPHICAL LOCATION ON FINANCIAL PERFORMANCE: A COMPARATIVE STUDY BETWEEN BAIXO ALENTEJO AND GREATER LISBON

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Abstract

Purpose | Low population density areas, such as Baixo Alentejo, encounter structural challenges in attracting and retaining businesses, thereby compromising their economic and social sustainability. Geographical location plays a pivotal role in determining business competitiveness and regional development, influencing firms' capacity for innovation, growth, and employment generation. The concentration of economic activities in urban centres results from economies of scale, facilitated access to resources, consumer markets, and knowledge networks, thereby intensifying inequalities between central and peripheral regions. Consequently, it is essential to examine the impact of geographical location on corporate financial performance and how such insights can inform the formulation of effective public policies.

Methodology/Approach | This study seeks to assess the influence of geographical location on the financial performance of companies by comparing financial indicators of organisations based in Baixo Alentejo and Greater Lisbon. Variables including industry sector, company age, ownership structure, and firm size were analysed. A quantitative methodological approach was adopted, using data sourced from the SABI database covering the period from 2018 to 2023. The statistical analysis comprised both descriptive and inferential techniques, including t-tests, ANOVA, and multiple regression analysis, to identify patterns of profitability and the factors that influence business performance.

Expected Results | The findings are anticipated to reveal significant disparities in profitability between the two regions, with companies located in Greater Lisbon expected to demonstrate superior financial performance. Factors such as industry sector, firm age, and company size are likely to emerge as key determinants of profitability. In practical terms, these results are expected to provide empirical evidence to support the design of more effective public policies aimed at fostering entrepreneurship and mitigating regional disparities. From a theoretical perspective, the study aims to enhance understanding of the influence of geographical location on business performance, highlighting the significance of territorial factors in shaping economic dynamics.

Keywords | Regional development, Financial performance, Territorial inequalities, Geographical location, Profitability, Low-Density Territories.

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PROJECTED NET CARBON EMISSION LIMIT (PNCEL): A DYNAMIC MODEL FOR CARBON MANAGEMENT IN AGROFORESTRY SYSTEMS**Eduardo Felipe de Amorim**

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edufamorim@hotmail.com**Rui Gonalo Ferreira de Almeida Santos**

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Purpose | Agricultural and agroforestry systems have been shown to have a significant impact on greenhouse gas (GHG) emissions, whilst simultaneously presenting considerable opportunities for carbon sequestration. Nevertheless, the quantification and projection of their net carbon balance continue to represent a considerable challenge. This study introduces the Projected Net Carbon Emission Limit (PNCEL), a new metric applied in a dynamic model designed to measure and project the carbon footprint in agroforestry systems by integrating direct emissions, soil carbon sequestration, and net carbon balance. The model aims to support sustainable business management, inform public policy formulation, and facilitate academic research on soil management's impact on emission reductions.

Methodology/Approach | The PNCEL model integrates advanced temporal monitoring with carbon management metrics for agricultural and agroforestry production chains, enabling the assessment of the net effectiveness of mitigation strategies and providing evidence-based operational recommendations. The model incorporates data from GHG inventories, aligning with international standards such as the GHG Protocol and ISO 14064. The model employs dynamic equations to calculate Absolute GHG Emissions, Net Carbon Balance (NCB), and the Projected Net Carbon Emission Limit (PNCEL), allowing the net effectiveness of mitigation strategies to be assessed and providing operational recommendations for long-term scenarios. Although initially applied in viticulture, the model's flexibility allows for its adaptation to other sectors, including olive cultivation, fruit production, and integrated agroforestry systems. Beyond its application in sustainable business management, the model can be utilised by regulatory bodies for public policy formulation and by academic institutions to study the impact of soil management on emission reductions.

Expected Results | Future projections indicate that the PNCEL can be enhanced through integration with machine learning and artificial intelligence, expanding its applicability to a broader range of agricultural activities and evolving into a standardised carbon neutrality index. The model's dynamic and flexible approach supports the creation of tailored decarbonisation strategies, contributing to the sustainable transition of agroforestry systems and the achievement of global climate goals, such as those outlined in the Paris Agreement.

Keywords | Sustainable agroecosystems, Climate Neutrality, Sustainable Transition, Regional development, Environmental policies.

Acknowledgments | This work was developed under the Science4Policy 2023 (S4P-23): annual science for policy project call, an initiative by PlanAPP – Competence Centre for Planning, Policy and Foresight in Public Administration in partnership with the Foundation for Science and Technology, financed by Portugal's Recovery and Resilience Plan.

THE VALORISATION OF PINE CONE PRODUCTION WASTE INTO NATURAL TEXTILE DYES AND THEIR ROLE IN THE CARBON ECONOMY.

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Abstract

Purpose | The growing preoccupation with sustainability and reducing the carbon footprint is driving the search for eco-efficient alternatives in industry. One such alternative is the valorisation of pine cone production waste as a source of natural dyes, representing a viable and environmentally favourable solution (Shams et al., 2024). This approach replaces synthetic chemicals often derived from petrochemical processes, which contributed 27.4% of carbon dioxide equivalent (CO₂ eq) in Europe in 2022 (European Parliament, 2024).

Methodology/Approach | To evaluate the potential for carbon savings, this study quantifies the use of pine cone production waste in the production of natural dyes. The carbon content of the waste was calculated using laboratory analyses. CO₂ emissions from burning or decomposition were determined according to the guidelines of the Intergovernmental Panel on Climate Change (IPCC) (Liu et al., 2023). This data was compared with the emissions from the recovery of waste in the production of natural dyes, using Life Cycle Analysis (LCA) and carbon balance methodologies (Ahsan, 2024). The net carbon saving was estimated as the difference between the emissions avoided and those generated by waste recovery.

Expected Results | The results show that the use of natural dyes from pine cones reduces the carbon footprint and promotes the circular economy by reusing previously discarded materials. Replacing synthetic dyes with natural ones not only minimises the environmental impact of the chemical industry, but also promotes more sustainable practices in the production sector (Patil & Athalye, 2024). The study estimates that the recovery of pine cone waste instead of burning or decomposition can avoid up to 734 kg of CO₂ per tonne of waste, and according to the 'Bioeconomy 2030' report, the average annual production of pine cones in Portugal is around 10 thousand tonnes, and it is estimated that approximately 9.6 thousand tonnes will result in residual biomass (Avillez, et. al, 2021). As 20% of the carbon was fixed in the natural textile dyes of the pine cone waste, it is estimated that 146.4 kg of CO₂ would be avoided per tonne of waste. This study supports public policies and business strategies aimed at sustainability, encouraging improved management of forestry and industrial waste. In this way, the valorisation of pine cone waste emerges as an efficient alternative in the transition to greener production processes in line with global carbon emission reduction targets.

Keywords | Waste recovery, Natural dyes, Emissions reduction, Carbon economy, Regional development.

Acknowledgments | This work was developed under the Science4Policy 2023 (S4P-23): annual science for policy project call, an initiative by PlanAPP – Competence Centre for Planning, Policy and Foresight in Public Administration in partnership with the Foundation for Science and Technology, financed by Portugal's Recovery and Resilience Plan."

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WATER, MEMORY AND FUTURE: PARTICIPATORY ACTIONS FOR THE LOCAL GREEN INFRASTRUCTURE STRATEGY OF PAREDES DE COURA

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Abstract

This abstract aims to explore the role of water-based green infrastructure in climate change adaptation through participatory actions in Paredes de Coura, Portugal, focusing on the revitalization of traditional irrigation systems. These have historically been central to the region's agricultural productivity and cultural identity, yet their decline has led to both ecological and cultural degradation. Since 2004, there were 100 local agricultural cooperatives, or juntas de agricultores, managing these systems, but today only 49 remain in the region. This session will focus on how local communities contribute to the design of Paredes de Coura's Green Infrastructure & Climate Change Adaptation Strategy. By emphasizing the integral role of water and memory in shaping the local cultural landscape, this study demonstrates how the collective reflection on the revitalization of the traditional irrigation systems contributes to the local ecological resilience, community identity, and sustainable development.

A participatory methodology was employed in different workshops that aimed to co-create Paredes de Coura's Green Infrastructure and Climate Change Adaptation Strategy. Envisioning the revitalization of traditional irrigation systems, these actions incorporate both scientific and local knowledge in a transdisciplinary framework, focusing on the ecological, spatial and cultural significance of water systems in the region. Workshop participants engage in interactive mapping exercises with a physical model of the territory. Discussions explore the role of these systems in the cultural landscape, emphasizing their significance not only for agricultural productivity but also for heritage reinvention in the context of climate resilience. The workshops provided a platform for empirical knowledge to be shared, ensuring that the final strategy reflects both scientific expertise, the respect for the collective memory of water and the dreams for the future of the community.

Since the sessions are expected to enhance participants' understanding of the historical, ecological, and cultural significance of Paredes de Coura (agri)cultural landscape it will to empower local communities to contribute directly to the development of a broader green infrastructure that promotes climate change adaptation and sustainable land management. The expected results include concrete proposals for the restoration and integration of the traditional irrigation systems into Paredes de Coura's wider ecological network, that were incorporated into the Local Strategy for Green Infrastructure and Climate Change Adaptation, ensuring that the revitalized systems contribute to ecological resilience while reinforcing the

community's sense of identity and belonging. These outcomes align with the broader goals of the GreenGap Project across the Euroregion of Galicia-North Portugal.

SYSTEMIC AND TEMPORAL ASSESSMENT OF THE OIL AND GAS SECTOR IN SERGIPE, BRAZIL**Luiz Carlos de Santana Ribeiro**

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Purpose | Oil and gas (O&G) production in Brazil has its origins in the state of Sergipe, located in the country's Northeast region. The state's production began in 1963 in the municipality of Carmópolis, which also hosted Brazil's first offshore production. O&G exploration has become one of the main drivers of economic development in Sergipe, with Petrobras playing a central role in generating income and employment in the state's economy. Recently, Petrobras has restructured its operations in the region, selling onshore exploration assets. In the offshore segment, the company announced a divestment plan for shallow-water fields, with projected investments of USD 2.0 billion, alongside the commencement of deepwater exploration, with expected investments of USD 5.0 billion. This paper aims to conduct a systemic and temporal assessment of Sergipe's O&G sector.

Methodology/Approach | We will use input-output indicators and structural decomposition analysis, based on two compatible interregional matrices for the years 2011 and 2018. These matrices comprise 67 sectors and two regions: Sergipe and the rest of Brazil.

Expected Results | This study will provide a novel contribution by using these input-output matrices in a comparative framework, enabling the identification of the O&G sector's role within Sergipe's production chain and assessing whether significant structural changes have occurred over the period analyzed. The findings are expected to inform sectoral policies by identifying intersectoral characteristics and specificities of Sergipe's O&G sector, thereby enhancing public and private investment strategies considering the state's evolving economic landscape.

Keywords | Oil and gas sector, input-output, structural changes, linkages, Sergipe.

PERSPECTIVES ON THE SOCIO-URBAN IMPACTS OF THE MEXICO-PACHUCA TRAIN LINE, MEXICO**Karla Rojas Moreno**

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This study aims to demonstrate the impact of the Mexican federal government's proposal for the Mexico-Pachuca train on urban-regional polarization through the formation of economic nodes and hubs along the route. To achieve this, trends in population growth and economic activities in the municipalities along the route are considered, along with GDP (Gross Domestic Product), accessibility to stations, and land use. Data sources include population and economic censuses from INEGI (National Institute of Statistics and Geography), Proyectos México, and local urban development programs. Additionally, walkable routes are calculated using isochrones. The information is captured and processed in a geographic information systems (GIS) environment, and a multicriteria model, the Analytic Hierarchy Process (AHP), is used to estimate the influence of each variable on the changes and impacts observed, based on the location of each municipality along the train route. The expected outcome is to identify areas along the train route that may experience worsening poverty due to limited mobility of their production factors, potentially leading to migratory processes toward more attractive areas and a weakening of their economic activities.

MARKET ACCESS, THE SKILL PREMIUM AND HUMAN CAPITAL IN SPAIN (1860-1930)

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Abstract

Purpose | The existence of notable differences between regions is one of the most striking elements of the economic growth processes in developed and developing economies. The NEG is a conceptual framework that has made it possible to obtain a well-founded explanation for the generation of regional inequalities in parallel with the advance of technological change and market integration, which are the drivers of economic development in societies. However, making the connection between the generation of regional inequalities in the early stages of the economic development processes and their persistence over time requires us to establish links between NEG literature and economic growth theory.

Redding and Schott (2003) show that, because of the higher trade costs its companies have to bear, countries on the periphery of the world economy cannot adequately remunerate the domestic factors of production, in particular skilled workers. The result is that countries with lower market access have lower levels of educational attainment, and this hinders the economic development of peripheral countries.

In order to advance in the study of this hypothesis, this paper explores the relationship between market access and human capital in the context of an industrializing economy, in this case Spain between the late nineteenth and early twentieth centuries. Specifically, we examine whether differences in regional accumulations of human capital could be related to market access.

Methodology/Approach | We have assembled a provincial (NUTS3) dataset that includes a measure of market access, a series of basic human capital indicators (literacy, numeracy) and wages for different levels of skill for five benchmark years (1860, 1900, 1910, 1920 and 1930). In a first stage, using panel fixed effects models and instrumental variables, we test the existence of a relationship between provincial market potential and our human capital indicators (Redding and Schott, 2003). Then, in a second stage, a mechanism that would mediate such a relationship is also identified, this being regional differences in the wage levels of qualified industrial workers compared to those of untrained industrial or agricultural workers (Fallah et al., 2011). Next, we explore whether provinces with a higher skill premium experienced higher literacy growth rates in the early twentieth century using panel fixed effects models and instrumental variables. Finally, we analyse possible nonlinearities in the relationships between market potential, human capital indicators, and skill premium using semiparametric regressions.

Expected Results | The results obtained allow us to confirm not only the hypothesis put forward by Redding and Schott (2003) but also the presence of a mechanism that – along the lines proposed by Fallah et al. (2010) – relates the provinces' market size to their production specialization and human capital accumulation, this mechanism being regional differences in the returns on investment in education. Thus our findings show that in the case of Spain between 1860 and 1930, those provinces with the greatest market potential would have recorded greater specialization in those production sectors that call for more intensive use of human capital. In a context of reduced worker mobility between regions, they would also have offered greater remuneration

to qualified workers, thus enabling a higher skill premium. Given these conditions, the presence of increasing returns on economic activities requiring intensive use of human capital in their production processes would make it possible to connect market access and the unequal distribution of activity in territories (as suggested by the NEG) to the appearance of significant gaps in human capital accumulation rates and in the growth trajectories of the Spanish regions (as suggested by endogenous growth theory).

Keywords | Market access, human capital, wages, skill premium, Spain.

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ENTREPRENEURIAL, INNOVATIVE, AND SUSTAINABLE ECOSYSTEM: PROPOSING A NOVEL REGIONAL OCTAGONAL HELIX

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Abstract

Purpose | Groups of actors and elements cooperating to promote entrepreneurship and innovation in a particular region are known as entrepreneurial ecosystems. They encourage and facilitate the success of new enterprises and are committed to creating long-lasting business development. Real and potential knowledge, investors, human resources, culture, infrastructure, institutions, regulations and taxes, social and environmental quality, and the capacity to generate new ideas are some of these elements. Together, these elements paint a broad picture of an ecosystem that is innovative, entrepreneurial, and sustainable. This demonstrates how entrepreneurship, innovation, and sustainability are interrelated and incorporate a variety of academic disciplines. The Regional Octagonal Helix, which encompasses a variety of actors including academia, business, government, institutions, communities, knowledge, innovation, and entrepreneurial, innovative, and sustainable ecosystems, is the name of the novel approach used in this study to analyse this relationship. Each of these mensurate success differently. This study attempts to address the following research topic from this angle, using the logic of an ecosystem: How do the various actors of the Regional Octagonal Helix—university, industry, government, institutions, community, knowledge, and innovation—contribute to the development of an innovative, entrepreneurial, and sustainable ecosystem?

Methodology/Approach | To answer the research question, an econometric approach in two stages is used, the first one concerns to the analysis of the conceptual model under analysis. Then, with the analysis of the tests carried out, six different models are developed to assess the statistical significance of the different actors (three static models and three dynamic models) in European regions.

Expected Results | Three factors make this novel study a valuable addition to the literature: To measure efficiency, it (i) suggests a new model with eight actors that is more comprehensive and disaggregated, along with the corresponding measurement indicators; (ii) tests this model empirically in European regions; and (iii) attempts to determine whether each actor has an impact on the entrepreneurial, innovative, and sustainable ecosystem. It is hoped that, as a more comprehensive and disaggregated model for measuring efficiency, it will help gather new empirical data on the function of the various helices in the ecosystem of innovation, entrepreneurship, and sustainability, as well as the regulation of the relationships formed within the parameters of the Regional Octagonal Helix actors. Because no model has been proposed to date that incorporates eight helices—universities, industry, government, institutions, community, knowledge, innovation and entrepreneurial, innovative, and sustainable ecosystem—and simultaneously presents the corresponding measurement indicators for each of these helices, this type of association has never been studied before.

Keywords | Ecosystems, Entrepreneurship, Innovation, Helix, Regional development.

Acknowledgments | The Authors gratefully acknowledge funding received from NECE – Research Center for Business Sciences and FCT - Fundação para a Ciência e a Tecnologia, Grant: UIDB/04630/2020, DOI: 10.54499/UIDP/04630/2020. Eugénia Pedro acknowledge funding received from FCT - Fundação para a Ciência e a Tecnologia and Universidade da Beira Interior, CEECINST/00016/2021/CP2828/CT0005, CEEC Institutional 2021, DOI: 10.54499/CEECINST/00016/2021/CP2828/CT0005; and a Ph.D. fellowship (2023.00312.BD).

DIGITAL NOMADS, THEIR IMPACTS AND CONTRIBUTIONS TO LISBON'S GENTRIFICATION PROCESSES**Beatriz Cardoso**

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The COVID-19 pandemic has been one of the most impactful periods in recent history; in addition to its impact on global health, one of the most important outcomes was the consolidation of teleworking. This led to remote work elsewhere – allowing the emergence of digital nomads, who take not only their salaries but also their standard of living to less prosperous regions. At the same time as they can be classified as tourists and immigrants, they don't express themselves entirely in either group, being a mix between them. Since digital nomads are looking for destinations where they can enjoy better living conditions than back home, they go to places that offer them cultural enrichment and lower costs. At this intersection are several former tourist destinations. Cities like Barcelona and Bangkok are classic examples, such as Lisbon, in Portugal. To reach the needs of the incoming group, many of these destinations began to develop urban regeneration projects aimed at making them more attractive, consequently facilitating the creation of coworking and coliving spaces. These ended up replacing local's places in these cities, smothering local identity in the process. This whole process ends up causing a series of problems: increased living costs and rents, strengthened ongoing gentrification processes, which were already present due to touristification, and displacing the local population, creating a chasm that hinders interactions and integration between digital nomads and locals. The main objectives of this research are to understand the location preferences of digital nomads, how they move through the city and their social networks, their interactions with locals, and their perceptions about their contribution to gentrification. For this purpose, a web-based survey is distributed through digital nomads' networks. The obtained digital nomads' locations are cross-referenced with secondary data about housing prices and urban regeneration projects implemented in Lisbon. This will allow an understanding of digital nomads' role in the variation of housing prices and the contributions of the existing policies in either amplifying or reducing the role of these non-permanent residents. These results are then discussed, resulting in guidelines for future planning policies to reinforce local resilience. It is necessary to take the lead in urban policies, to ensure that they can not only attract tourists and nomads but also preserve the community identity and guarantee the permanence of the residents, providing a sustainable interaction between the different parties.

**THE IMPACT OF NEXT-GENERATION BROADBAND: MARRIAGE RATES
AND ASSORTATIVE MATING****Miriam Marcén**

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This work examines the effect of next-generation broadband on marriage rates among opposite- and same-sex couples in Spain. Given that the decision to sustain a relationship and enter into marriage is influenced by a broad spectrum of opportunities, high-speed broadband access can play a pivotal role in reducing search frictions, enhancing communication, and influencing cultural norms, thereby exerting a positive impact on marriage rates for both homosexual and heterosexual individuals. However, it is not clear whether the magnitude of the impact is the same for both groups. To explore this issue, we exploit plausible exogenous geographic and temporal variations in next-generation broadband coverage. We merge microdata on all Spanish marriages from 2013 to 2022 with the annual proportion of households with access to next-generation broadband via Fiber-to-the-Home (FTTH) at the municipal level. Our findings indicate that an increase in local FTTH coverage is associated with a higher crude marriage rate, controlling for municipality and time fixed effects. The response of same-sex marriages is twice as large as that of heterosexual marriages, relative to their respective average marriage rates. Empirical evidence does not support improved positive assortative mating as an explanation for the differing response observed among same-sex couples. High-speed internet access reinforces positive assortative mating by education and occupation for opposite-sex couples. Supplementary analysis, using data on public funding, shows that government support for expanding FTTH through the Next Generation Broadband Expansion Programme translates into an increase in the crude marriage rate, highlighting the appeal of areas with high-speed internet in addressing depopulation.

Keywords | Next-generation broadband, Fiber-to-the-Home, Marriage rates, Same-sex couples, Public Policies.

DESENVOLVIMENTO DE TRAJETÓRIAS ECONÔMICAS EM REGIÕES DEPENDENTES DA MINERAÇÃO: PERSPECTIVAS DOS ATORES-CHAVE NOS MUNICÍPIOS DE ITABIRA E PARACATU, MINAS GERAIS, BRASIL

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Resumo

Contexto | Diversas regiões no mundo enfrentam desafios significativos para revitalizar suas economias à medida que as trajetórias tradicionais de crescimento desaceleram. Em áreas em que a atividade econômica está predominantemente centrada em um único setor - comumente designado de aprisionamento econômico - como as regiões dependentes da atividade extrativa mineral, torna-se imperativo traçar estratégias para promover a diversificação econômica e o desenvolvimento sustentável. Com base nos contributos da Geografia Econômica Evolucionária (GEE), esta pesquisa identifica oportunidades para promover a diversificação econômica em regiões de mineração. Essa diversificação pode ocorrer dentro do escopo das atividades relacionadas à mineração ou por meio do desenvolvimento de setores econômicos totalmente novos.

Metodologia | O estudo emprega uma abordagem de estudos de caso, com foco em duas cidades mineradoras do estado de Minas Gerais, Brasil: Itabira e Paracatu. A metodologia de pesquisa envolveu 30 entrevistas semiestruturadas com representantes de diversos setores, incluindo da sociedade civil, de instituições acadêmicas e de pesquisa, órgãos governamentais e empresas privadas. As entrevistas foram complementadas por uma extensa pesquisa documental, tais como: atas de reuniões públicas, lei federal mineral e estatutos sociais, relatórios/anuários do setor mineral, políticas de mineração federal, plano diretor municipal, decretos de política mineral, artigos de jornais e websites.

Resultados | A partir da compreensão de como diferentes tipos de agências, de atores individuais e coletivos, se inter-relacionam sugerem-se caminhos para a promoção de novas trajetórias econômicas, sejam elas diretamente ligadas à extração mineral ou não identificando aspetos essenciais para a reconversão econômica.

Palavras-chave | Geografia econômica evolutiva (GEE), regiões de mineração, agência local, desenvolvimento regional.

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CRITICAL ANALYSIS OF PORTUGUESE AND EUROPEAN UNION SOIL LEGISLATION BASED ON INFORMATION AVAILABLE IN THE SOILEX DATABASE

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Abstract

The European Green Deal pursues to make Europe the world's first carbon-neutral continent, and United Nations Sustainable Development Goal 15 seeks neutrality towards land degradation. Soil requires adequate protection and preservation, being a depletable natural resource, which, is relevant to move its management to an environmentally conscious framework. Soil supplies food, regulates water and nutrient cycles, and healthy soils store carbon. Its ecosystem services are under pressure, making it difficult to maintain its health and preserve biodiversity. Despite existing legal instruments, soil degradation is on ascent and mostly addressed indirectly in the EU governance measures, without yet one harmonized soil legislation. The aim of this study is to carry out a critical analysis of Portuguese and European Union soil legislation, based on the information available in the SoiLEX database. In this way, it proposes to verify the contributions of that legislation to the soil, regarding, particularly, soils threats that are listed at this database. Subsequently, a SWOT analysis was carried out for each soil legislation, and it was found that there are more Portuguese legislative acts that make indirect reference to the threats of soil, and none reference to soil acidification or, in vague mode, to soil salinization. European Union legislative acts, makes more direct reference to the SoiLEX database threats of soil, but it still does indirect reference to some soil threats. There aren't any direct or indirect reference to salinization, compaction and acidification of soil. All those "invisible threats" should be directly referred at the new soil directive to be done.

Keywords | Soil threats, SWOT analysis, Suggestions and proposals.

Acknowledgments | This work was developed under the Science4Policy 2023 (S4P-23): annual science for policy project call, an initiative by PlanAPP – Competence Centre for Planning, Policy and Foresight in Public Administration in partnership with the Foundation for Science and Technology, financed by Portugal's Recovery and Resilience Plan.

REIMAGINING RURAL FUTURES: CONSERVATION AND REGENERATION THROUGH THE TORRÃO LAB PROJECT

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Abstract

Purpose | The Torrão LAB Project is an ambitious initiative spearheaded by the Foundation DaST to create a replicable model for rural regeneration, focusing on sustainability, cultural preservation, and community resilience. Rooted in the foundation's broader mission of revitalizing neglected communities and landscapes, this initiative seeks to integrate ecological restoration, cultural preservation, and economic sustainability into a cohesive strategy. Located in the historic village of Torrão, Portugal, the project aims to demonstrate how post-growth economic principles, environmental conservation, and regenerative urban and rural development can transform rural areas. By fostering synergies between local communities, academic institutions, and specialists, Torrão LAB will create a living laboratory for sustainable practices, strengthening local identity and setting a precedent for similar initiatives worldwide. As a starting point, the initiative's 2025 activities will focus on four key conservation areas - Water and Soil Conservation, Religious Heritage, Village Revitalisation, and Carbon Metrics and Biodiversity Conservation - to establish a sustainable rural development model.

Methodology/Approach | The project employs a multidisciplinary and participatory approach, leveraging expertise from universities, NGOs, and local stakeholders. The methodology integrates ecological restoration, conservation of tangible and intangible heritage, and alternative economic frameworks such as circular economy and regenerative agriculture. Key focus areas include sustainable water management, soil restoration, conservation of historic and religious sites, urban revitalization, and biodiversity conservation. The project is structured in two phases: an initial three-year research and community co-design phase (2025-2027), followed by a long-term implementation phase (2028-2035) that scales successful interventions. Collaboration with research institutions and the active involvement of local knowledge will ensure scientifically grounded, community-driven solutions.

Expected Results | The Torrão LAB Project anticipates generating measurable environmental, economic, and social impacts. These include biodiversity restoration, strengthened cultural identity, community-led conservation efforts, and the establishment of a resilient economic model that prioritizes sustainability over traditional growth metrics. The initiative aims to provide a replicable framework for revitalizing depopulated rural regions, offering policy recommendations and best practices that can be adapted to similar contexts globally. By fostering responsible tourism, sustainable entrepreneurship, and active community participation, the project seeks to improve quality of life for residents while attracting stakeholders committed to rural regeneration. Through its holistic approach, Torrão LAB aligns with the Foundation DaST's broader mission of creating a long-term legacy of responsibility, innovation, and environmental and cultural sustainability.

Keywords | Rural regeneration, sustainability, post-growth economy, cultural heritage, community resilience.

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FROM RAIL TO ROAD: TRANSPORT ACCESSIBILITY AND REGIONAL DEVELOPMENT IN PORTUGAL, 1970–2021

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Abstract

Purpose | This work investigates how changes in transport accessibility have affected long term patterns of economic performance across continental Portugal municipalities, over the period between 1970 and 2021. Investment in transport infrastructure in Portugal in this period can be characterized by a significant expansion of the road network, particularly motorways, and a simultaneous disinvestment in railways (e.g. a reduction of 34% in the length of the rail network in operation and 38% in the number of stations with service). These changes mean that while there has been a massive improvement in road accessibility, rail connectivity has worsened with only a few exceptions. Building on recent work carried out as part of two FCT-funded projects TiTuSS¹ and TASSEL², the main purpose of the work is to provide new evidence on the interplay between changes in road- and rail-based accessibility and regional development at the level of municipalities. A central contribution of this work is the creation of two bespoke transport databases, providing both spatial and temporal detail on transport accessibility for all municipalities in continental Portugal, and enabling the tracking of shifts in connectivity, accessibility and market potential over five decades.

Methodology/Approach | Drawing on bespoke databases produced as part of the projects mentioned, and previous research on the topic (Rocha et., 2023a,b), we develop exploratory panel data econometrics to measure the relative importance of changes in road- and rail-accessibility on spatio-temporal patterns of economic performance and regional trajectories in population, employment and job, firms, urban growth, and commuting patterns across municipalities for the period 1970 – 2021.

Expected Results | The study provides new evidence for Portugal on how transformations in transport accessibility have shaped the spatial economy, making direct connections to the spatio-temporal dynamics of regional disparities. The results contribute to the broader literature on transport infrastructure as a driver of regional development and inequalities and offer critical insights for policymakers regarding the long-term economic, social, and spatial consequences of accessibility improvements.

Keywords | Rail disinvestment, motorway expansion, spatial economy, regional disparities.

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PROMOTING EXTENDED REALITY TOOLS IN VET FOR SUSTAINABLE TOURISM

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Abstract

Purpose | The tourism industry plays a crucial role in Portugal's economy, making it key to invest in the training of future professionals who can lead the transition towards a more sustainable sector (OCDE, 2021). TourXpeRience is a European project aimed at equipping Vocational Education and Training (VET) students with the necessary skills to become future leaders in the green tourism industry, by using Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR) to enhance their technical and entrepreneurial abilities, improve teachers' digital competencies, and foster innovation in sustainable tourism. In Portugal, integrating Extended reality (XR) into VET curricula presents a relevant opportunity to modernise teaching methods, making learning more immersive, engaging, and effective.

Methodology/Approach | TourXpeRience adopts a mixed-methods approach, combining qualitative and quantitative analysis to assess the potential of XR in VET for sustainable tourism education in the participating countries, including Portugal. The project methods include a review of existing literature, surveys, and interviews with VET teachers, students, and industry stakeholders. Additionally, pilot XR learning experiences will be designed and tested within the VET partner institutions, evaluating their effectiveness in enhancing digital competencies and sustainability-related knowledge. The study also examines the accessibility and affordability of XR tools to determine their feasibility for widespread adoption in the VET sector. The project is anticipated to integrate XR technology within the VET curriculum, providing immersive, hands-on modules that focus on sustainable tourism practices, green skill enhancement, and the cultivation of an entrepreneurial mindset. Moreover, targeted professional development programmes will equip teachers with enhanced digital competencies and insights into sustainable practices. Additionally, international mobility initiatives will broaden perspectives by exposing both students and educators to diverse sustainable tourism methodologies, collectively fostering an entrepreneurial approach for a greener tourism industry.

Expected Results | The findings are expected to demonstrate that the integration of XR technologies in VET significantly enhances both students' and teachers' digital competencies (Rutten & Brouwer-Truijen, 2025) while fostering a deeper understanding of sustainable tourism principles. XR-based learning experiences are anticipated to improve engagement, knowledge retention, and practical skill acquisition, thus better preparing students for leadership roles (Stanney et al., 2023) in the green tourism industry. Furthermore, the project is likely to highlight key challenges such as infrastructure limitations, cost barriers, and the need for tailored

teacher training programs. By addressing these challenges, the research will provide recommendations for the effective implementation of XR in VET, ensuring that students and educators can fully leverage its potential to drive sustainability and innovation in the tourism sector.

Keywords | Extended Reality, sustainable tourism, green tourism, digital skills, Vocational Education and Training.

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FOSTERING INNOVATION AND THE TWIN TRANSITION IN THE HABITAT SECTOR

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Abstract

Purpose | In several regions in Europe, particularly in Portugal, Spain and Sicily, the habitat sector faces key challenges to align with the European Union's twin transition goals (green and digital), as it is reflected in the Smart Specialisation Strategies (S3) of these countries' regions (Comissão de Coordenação e Desenvolvimento Regional do Norte (CCDR), 2023; RIS4 – Estrategia de Investigación e Innovación Para Una Especialización Inteligente, 2022; Strategia S3 Sicilia, 2023). Sustainability emerges as a main concern, urging a shift towards circular economic practices, more innovative products, eco-friendly materials, and reduced environmental impact. Adoption of sustainable practices remains a pressing need to ensure compliance with evolving global standards and consumer demands for environmentally conscious products. Moreover, innovation, namely design innovation, appears as an essential asset to enhance competitiveness (Distanont & Khongmalai, 2018). The need for socially responsive cutting-edge design methodologies, coupled with technological advancements, stresses the urgency for innovation in manufacturing processes and product development. However, bridging the skills gap in the workforce presents a significant challenge (Braun et al., 2024), with the need for tailored capacity-building programs to equip the industry with the necessary expertise aligned with technological advancements.

Methodology/Approach | The FITT-NESS project aims to support SMEs in the furniture sector by strengthening innovation intermediaries (clusters) in less developed regions (Northern Portugal and Murcia, Spain) to identify investment opportunities in areas such as smart homes, age-friendly environments and green homes, promoting the dual transition. It also includes Sicily, as an outermost region of the EU, to learn and multiply results, and Lombardy in Italy as a model of advanced innovation. Through co-creation with quadruple-helix stakeholders, FITT-NESS is identifying and testing new approaches, including through a "train the trainer" program to build the capacity of enablers in the furniture sector and the provision of training activities for SMEs and innovation intermediaries, both online and on-site.

Expected Results | To build the capacity of the interregional stakeholders, FITT-NESS is: a) promoting the engagement of 250 SMEs and identification of a pipeline of investment projects; b) increasing investment readiness and capacity to build interregional business and investment plans; c) connecting less developed regions with other ecosystems and integrating them in EU value chains. All four regions represented in FITT-NESS - Portugal, Spain, Sicily, and Lombardy - share common needs in what concerns sustainability,

technologies and skills (CCDR, 2023; RIS4 – Estrategia de Investigación e Innovación Para Una Especialización Inteligente, 2022; S3 - Smart Specialisation Strategy Lombardia, n.d.; Strategia S3 Sicilia, 2023). For the North Region of Portugal, the main needs relate to: a) Investment in technological innovation (e.g., robotics, digitalisation) for manufacturing processes; b) Sustainable supply chain management focusing on waste reduction and recycling in the furniture industry; c) Skills development in green technologies, advanced manufacturing, and design innovation CCDR, 2023).

Keywords | Circular economy, capacity-building, Smart Specialisation Strategy, twin transition, sustainability.

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ALGARVE'S SOCIAL INNOVATION LABORATORY: OPPORTUNITIES AND CHALLENGES FOR SCALING OUT AND UP

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Abstract

Algarve region, southern Portugal, has been affected by a series of forest fires in recent decades, which have become more frequent and severe, leading to high social, economic and environmental impacts. Currently, this region has extensive areas of its forest territories classified as high risk of fires between 2020-2030.

The limited local capacity, a lack of associativism among forest owners to effectively manage forests, and low engagement of local communities in decision-making processes related to forest policies, led to a gap of a participatory approach that gives voice to and foster the active role of local communities in collaborative forest management.

Motivated to respond to this huge challenge, a Social Innovation Laboratory (InnoLab) approach was implemented within the context of the Bridge Project (Bridging Science and Local Communities to wildfire risk reduction), in Monchique.

The InnoLab, a participatory and collaborative approach, represents a collective and novel space aiming to engage a set of multiple actors in dialogue and sharing of different types of knowledge, visions and experiences. It has been contributing to the process of social learning and co-creation of new knowledge and practices focused on key aspects of forest fires risk reduction and sustainable forest management.

Between 2022 and 2024, the InnoLab involved representatives of forest-related public agencies, local governments, entities and associations, forest producers' organizations, companies, private forest owners and residents in a set of participatory sessions. It's worth noting that, before the 1st participatory session of the InnoLab, a Participatory Mapping method was developed involving a range of forest landowners in Monchique, enabling to identify and recognise the diversity of local knowledge, experiences and practices, and most importantly, stimulated the mobilisation and involvement of the community of forest owners, placing them in an active role in the debate on forest fire risk management in their territory (Partidário et al, 2022).

Another strategy adopted throughout the InnoLab process was the development of several socio-educational activities involving the school community and different dissemination actions to spread the InnoLab through Monchique's community, to enhance local debate on forest fires and to stimulate the participation of that community and their local representatives.

Based on Strategic Thinking for Sustainability approach – ST4S (Partidário, 2021), the InnoLab was designed and implemented through a sequence of participatory sessions, with a set of sequential purposes: Vision, Priorities and Capacities, Roles and Responsibilities, Strategies for Action and, lastly, development of an Action Plan tailored to the context and local expectations of the forest community, built by the local group, which is now known as the Monchique Local Action Group (Dias et al, 2024). Once the Local Action Plan was defined, the InnoLab team continued to support the local group in their journey to be committed and autonomous towards their Action Plan implementation.

The main results achieved by InnoLab Bridge contributed significantly to addressing two major challenges in reducing the fire risk and promoting a sustainable and resilient development in Monchique's forest territories: the need to strengthen an actors' network (Saad, 2022) and the need to increase the adaptive capacity of the local community (Soares, 2023).

This process led to the replication of the InnoLab in a different territory of Algarve (Serra do Caldeirão) and this communication aims to share the main results obtained so far, namely on the opportunities led by the scaling out of the social innovation laboratory of Monchique and on the future challenges to scale up this towards a higher system and to different contexts.

Keywords | Social Innovation; Collaborative Laboratories; Forest territories; Portugal.

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INSTITUTIONAL BARRIERS TO REFORM IN REGIONAL SPATIAL PLANNING: AN ANALYSIS OF THE RESISTANCE NETWORKS OF ACTORS AND STAKEHOLDERS

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Abstract

Purpose | Regional spatial planning faces significant challenges amid evolving roles of cities and rural areas. While EU member states employ diverse planning solutions, external factors like climate change, urbanization, and demographic shifts necessitate reforms (Weinig, et al, 2024). Poland is implementing unprecedented reforms that may eliminate regional-level planning without national alternatives. Any reform to existing institutions generates resistance, particularly in spatial planning which is both important yet contested. This study aims to systematically identify resistance mechanisms against planning at the regional level through analysis of: anti-reform coalitions, resistance legitimization strategies, and interactions between institutional and non-institutional actors (Granqvist, et al, 2021; Lee, 2020; Permana, 2023). The research addresses a gap in empirical verification of how interest coalitions shape institutional changes at the regional level, providing an empirical model of resistance coalitions under systemic transformation conditions.

Methodology/Approach | The research employs focus group research (3 groups in 2024.12) and group interviews (3 groups in 2025.01) with specialists in spatial planning, government and local administration officials, and researchers. The study utilizes the Mitchell-Agle-Wood model to classify actors according to power-legitimacy-urgency criteria, while frame analysis reveals significant aspects considered as arguments for rejecting regional planning. Two theoretical frameworks guide the analysis: institutional lock-in framework analyzes mechanisms negating the need for regional planning, while ANT theory reconstructs actions aimed at replacing spatial planning with quasi-planning elements in regional development strategies.

Expected Results | This research identifies the main mechanisms of resistance to strengthening spatial planning at the regional level by examining networks of resistance through both theoretical and empirical perspectives. The study maps the structure of anti-reform coalitions and reveals their resistance legitimization strategies, developing Dabrowski's concept (2022) by providing an empirical model of resistance coalitions under systemic transformation conditions. Results offer critical insights into institutional barriers preventing effective reform in regional spatial planning systems and clarify how stakeholder coalitions impede institutional change. Findings from the Polish case, where potential fundamental legal changes may result in the disappearance of regional planning, provide valuable lessons for other European contexts facing similar challenges. The research contributes to understanding how strategic actors interact to obstruct planning reforms and identifies patterns in stakeholder resistance that could inform future reform efforts.

Keywords | Regional planning, spatial planning, institutional change, stakeholder resistance.

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CURRENT TRENDS AND CHALLENGES FACING POLICIES TO STRENGTHEN THE TERRITORIAL RESILIENCE OF THE EUROPEAN UNION

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Abstract

The concept of improving resilience to a range of threats was popularized into scholarly circulation in the 1970s by Canadian ecologist Crawford Stanley Hoolling who defined it as the ability of ecosystems to survive in a disturbed state and to recover rapidly (Hoolling 1973). The idea of resilience soon aroused the interest of representatives of the social sciences to develop theories of the equilibrium of socio-economic systems.

The concept of resilience has been incorporated into EU policies in phases and with varying intensity. The beginnings of the policy of strengthening territorial resilience in the EU can be traced back to the 1990s. The turn of the first and second decades of the 21st century was marked by a period of dynamic integration of the resilience concept into EU policy. At that time, resilience has been gradually mainstreamed in Europe as a result of various social, economic, environmental, and geopolitical concerns. It attracted special attention during crises that exposed vulnerabilities within EU governance systems. Indeed, preventing and overcoming emergencies requires better institutions and public policies that can enhance the EU's resilience and adaptability in various sectors and problem areas. The COVID-19 pandemic, recurring refugee crises, war in Ukraine, economic and financial crises, terrorist attacks, Brexit, the climate crisis, hazardous weather events, and a variety of environmental threats were among the most extreme adverse events faced by the EU in recent years, hastening the implementation of the concept of resilience into European policy.

Improving the resilience of the EU, its member states, regions, cities, and rural areas emerged as a European policy priority by the mid-2020s. This objective is being pursued through various intertwined policy areas rather than as a discrete, independent EU strategy. There are several sectors that pursue policies that strongly emphasise the need to bolster resilience: digital, economic, environmental and climate, geopolitical, health, infrastructure and energy, research and innovation resilience, as well as territorial and urban resilience.

Some theorists still debate whether resilience is a component of sustainability or the other way around, or whether resilience and sustainability are separate yet related concepts after all (Rega, Bonifazzi 2020; Marchese et al., 2018; Roostaie et al., 2019). Despite these theoretical uncertainties, we should rather have no doubts that policies to enhance the territorial resilience of the EU, countries, regions, cities and rural areas need further improvement. Based on past experience, we propose the following principles which should serve as the foundation for any policy aimed at improving the capacity of EU member states, regions, and cities to deal with, adjust to, and recover from a variety of challenges and disruptions: (1) problem situations and threats to territories should be identified and anticipated; (2) policies should be tailored to the unique needs and characteristics of each territory; (3) they should be based on a coordinated cross-sectoral approach to enable a comprehensive response to challenges identified across sectors; (4) they should reflect sustainable and stable development over the long term and draw on solutions that are compatible with the natural environment; (5) they should involve local communities in decision-making; and (6) they should be flexible and innovative, acknowledging the possibility of ongoing adaptation and change.

GESTÃO COLABORATIVA E SUSTENTABILIDADE TERRITORIAL: O CASO DAS SESSÕES PARTICIPATIVAS DO PLANO DE COGESTÃO DO PARQUE NATURAL DE MONTESINHO

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Resumo

A cogestão é reconhecida como fundamental para a gestão sustentável dos recursos naturais, enfatizando a colaboração entre os stakeholders envolvidos nas áreas protegidas (AP). No entanto, as habituais abordagens top-down excluem as preocupações da população, levantando questões sobre a verdadeira extensão do envolvimento e satisfação da comunidade local, o que poderá conduzir à ineficiência da gestão das AP. Em oposição a esta realidade, o Plano de Cogestão do Parque Natural de Montesinho (PNM) resultou de um processo participativo, com o objetivo de promover a sustentabilidade do território, através da valorização ambiental, social e económica dos recursos em presença, aplicando uma estratégia bottom-up, baseada num modelo de gestão que envolve a população, os municípios, as entidades responsáveis pela conservação da natureza e outros stakeholders. O referido processo consistiu na implementação de dinâmicas de participação pública, estruturadas em sessões, divididas em duas fases, totalizando 226 participantes. Na primeira fase, foram organizadas sete sessões participativas para identificar as potencialidades, constrangimentos e necessidades do território, sob os temas da conservação da natureza, identidade cultural, sustentabilidade económica, inovação e capacitação da população. Estas sessões foram complementadas, com mais duas sessões, para apresentação dos resultados obtidos e recolha de novos contributos. A metodologia incluiu a realização de uma dinâmica facilitadora inicial, seguindo-se a realização de sessões participativas temáticas, com posterior análise de conteúdo dos dados recolhidos, segmentando-os em categorias, para melhor compreensão dos desafios e oportunidades. A abordagem adotada considerou a análise qualitativa das perceções dos participantes e a elaboração de propostas de ação concretas e exequíveis. Os resultados alcançados foram múltiplos. Em primeiro lugar, foi fortalecida a participação ativa da população nas decisões relativas à gestão do território e, em segundo lugar, foram integradas propostas inovadoras, especialmente nas áreas de turismo, agricultura, monitorização da biodiversidade e educação ambiental, com claros contributos para a criação de oportunidades de negócio, preservando, simultaneamente, o património natural e cultural da região. Em suma, a estratégia bottom-up, através da participação ativa da população na elaboração do Plano de Cogestão do PNM, foi crucial na construção de soluções territoriais sustentáveis que garantam a eficácia das políticas públicas locais. A aplicação das propostas de ação, resultantes do envolvimento dos principais stakeholders nas sessões participativas, poderá servir como modelo para outras AP que valorizem a integração das necessidades locais nas suas estratégias e políticas de desenvolvimento sustentável.

Palavras-chave | Sessões participativas, Plano de Cogestão, Parque Natural de Montesinho, Participação pública.

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GESTÃO DE PROXIMIDADE DO PARQUE NATURAL DE MONTESINHO: DESAFIOS, OPORTUNIDADES E PROPOSTAS DE MELHORIA.

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Resumo

O presente trabalho visa compreender a perceção da população e de entidades dos concelhos de Bragança e Vinhais sobre o Parque Natural de Montesinho (PNM) e as suas dinâmicas, com a finalidade de contribuir para uma gestão mais eficaz e sustentável da área protegida. Os resultados foram obtidos através de dois instrumentos: questionários temáticos online dirigidos à população e entrevistas/reuniões com personalidades e entidades locais, sobre os seguintes cinco temas: comunicação, conservação da natureza e identidade cultural, potencial económico, capacitação da população e inovação no território. A abordagem metodológica consistiu na aplicação simultânea dos questionários e entrevistas, com o objetivo de captar diferentes perspetivas sobre os temas centrais referidos. Os questionários foram disponibilizados no site do Município de Bragança, tendo respondido, voluntariamente, 24 participantes, enquanto que as entrevistas e reuniões foram realizadas, presencialmente, a 21 atores-chave do território. Os dados foram recolhidos e analisados de forma integrada, garantindo uma visão holística das perceções e sugestões dos inquiridos. Os resultados obtidos indicam uma necessidade de melhoria significativa nas infraestruturas e na promoção do PNM. A maioria dos inquiridos considera a comunicação e a promoção do território como essenciais, mas identifica deficiências na sua implementação. A conservação da natureza é vista como crucial, com muitos participantes a propor uma maior sensibilização sobre o papel do PNM, na proteção ecológica e na preservação das tradições locais. Na vertente económica, destacam-se as oportunidades no turismo de natureza e na agricultura sustentável. Por último, a inovação, particularmente nas áreas do turismo e agropecuária, são identificadas como tendo elevado potencial para o desenvolvimento do território. Este trabalho revela uma forte consciencialização da população sobre a importância do PNM, como um valioso recurso natural e cultural. Embora tenham sido detetados desafios na comunicação, nas infraestruturas e na promoção do território, os resultados apontam para uma disposição dos envolvidos em contribuir para a melhoria da gestão do Parque. A inovação e a capacitação da população local são vistas como caminhos essenciais para equilibrar a conservação ambiental com o desenvolvimento económico sustentável, reforçando a necessidade de políticas públicas que integrem esses aspetos de forma estratégica e colaborativa.

Palavras-chave | Questionários, Entrevistas, Plano de Cogestão, Parque Natural de Montesinho, Participação pública.

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MANAGING THE SOCIO-ECONOMIC AND SPATIAL DEVELOPMENT OF FUNCTIONAL AREAS UNDER THE NEW MODEL OF THE REGIONAL PLANNING SYSTEM FOR POLAND

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Abstract

The socio-economic and spatial development management system in Poland is ineffective and dysfunctional. Problems are particularly evident at the interface between cities and rural areas that form functional areas. Therefore, further attempts are being made to reform the planning system, one of the key issues of which is to strengthen socio-economic and spatial planning in functional (supra-local) areas. Insights gained from planning initiatives in functional areas to date led to the formulation of the following theses, serving as directives for the reform of the regional planning system in Poland:

- One of the principal challenges in the design of a new model of regional planning is to create forms of supra-local cooperation and incorporate them into the mechanisms of integrated planning;
- Functional urban areas and subregional connections are some of the most important dimensions of reform in regional spatial planning;
- Subregional areas indicate the need to consider the type of spatial connections between municipalities that are not taken into account by the delimitation of urban functional areas. Planning at this level should be one of the dimensions of regional spatial planning carried out by the region in cooperation with the local government units of the area.

The presentation will address the most important socio-economic and spatial development management challenges in functional areas. Development policy instruments that enable planning and coordination of development interventions in spatial structures beyond the administrative borders of cities will be characterised. Particular attention will be paid to the supra-local development strategy, the territorial agreement, the areas of strategic intervention, and the model of functional-spatial structure. These tools are intended to strengthen the protective and coordinating role of regional planning and provide solutions to increase the coherence of supra-local policies and implement public investments on the scale of the region and functional areas.

In addition, the presentation will highlight conclusions from in-depth interviews conducted with scientists, urban planners, and regional planning experts relating to planning at the regional and functional scale. The interviews were carried out in 2024 as part of the project entitled 'New Model of Regional and Local Spatial Planning for Resilience and Security of Poland's Spatial Structure in the Context of Contemporary Development Challenges', which aims to develop model solutions to increase the resilience and security of Poland's space in the context of key development challenges, regional and sub local planning and the implementation of public investments in the spatial planning system.

POWERING PLACES: SPATIAL JUSTICE IN RURAL ENERGY TRANSFORMATION**Agata Lewandowska**Nicolaus Copernicus University in Toruń (Poland)
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The transition to renewable energy is crucial for addressing climate change, yet its impact on rural communities remains underexplored. Presented research focuses on the social and spatial dimensions of a just energy transition in rural areas, through a comparative analysis of Poland and Scotland. The project bridges a gap in the literature, which has predominantly examined coal regions, by analyzing how rural communities perceive and experience the energy transition, considering its implications for spatial interactions. Based on the framework of good governance, the research assesses the role of local authorities in ensuring fairness, inclusivity, and responsiveness in the transition process. It analyzes dimensions of justice – social, environmental, and systemic – to determine how policies and governance structures can facilitate an equitable energy transformation and contribute to regional resilience in the face of climate change. The methodology combines quantitative analysis (of statistical data on energy transitions and their impact on spatial patterns) with qualitative approaches (interviews with decision-makers, NGOs, activists). Case studies in rural areas of northeast Scotland (Aberdeenshire) and central-western Poland (Wielkopolskie) offer insights into contrasting socio-political and historical contexts. This comparison enables the identification of best practices to inform policy recommendations across different governance models and enhance regional adaptive capacity. Findings will contribute to understanding how rural areas can navigate energy transitions without exacerbating socio-economic inequalities. The study aims to provide actionable insights for policymakers, ensuring rural communities are actively involved in shaping their sustainable futures and fostering resilient rural landscapes. Furthermore, the research will explore the potential impact of the energy transition on local mobility patterns and the attractiveness of rural areas for residents and potentially tourism. Aligning with the conference theme, this research underscores the need for innovative governance approaches that empower local communities and support equitable regional development in the context of climate action, contributing to sustainable spatial transformation.

DIGITALISATION IN PUBLIC ADMINISTRATION IN LOW-DENSITY TERRITORIES: CHALLENGES AND OPPORTUNITIES

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Abstract

Purpose | This research analyzes the challenges and opportunities associated with implementing digital solutions in Public Administration (PA) in low-density territories, with a focus on promoting inclusion and digital literacy through place-based strategies in the CIM of the Douro.

Integrating digital solutions into national strategies is key to territorial cohesion, especially in regions with low population density. The evolution of Information and Communication Technologies (ICT) has contributed to improving internet access, bringing benefits to PA services, allowing procedures to be carried out remotely, reducing costs and travel, and enhancing the attractiveness of these territories. However, structural challenges persist that hinder the universal uptake of ICT, especially in remote areas, where a lack of infrastructure and poor digital coverage continue to limit use. Also, the absence of training compromises the full integration of citizens. In this context, digital literacy is essential to counteract the digital divide. In Portugal, efforts have been made to empower PA and individuals. The Portugal Digital Government Program is an example of this. The Digital Transition Action Plan has generated progress, such as 41% of PA agencies adhering to cloud computing services and raising basic digital skills by 67% of the population. However, regarding internet coverage in CIM Douro, ANACOM indicates that only 39% of parishes benefit from coverage in more than half of homes. These data highlight territorial disparities in the digital offer.

Methodology/Approach | In this research, a mixed methodology was used, using content analysis of national, regional, and sub-regional strategic documents. The choice of CIM Douro is justified by: (i) all the municipalities that make it up are of low population density; (ii) it is the sub-region in the North with the least online public resources. In quantitative terms, indicators from INE and municipal websites were collected.

Expected Results | At the level of AP Digital, there is widespread adoption of virtual counters for the dematerialization of administrative processes, with the integration of tools such as BUPI, D2Gov, and CityHub.pt, in Carrazeda de Ansiães. Regarding digital literacy programs, the municipality of Alijó stands out with the "Educational and Innovative Environments Room" and the "Pannonias Digital Old Lands" project with Murça. Lamego, Moimenta da Beira, and Penedono participate in e-commerce programs. Finally, the municipality of Vila Nova de Foz Côa stands out for promoting digital literacy in the service of the Citizen's Spaces. Digital Social Innovation mobilizes technological solutions to respond to social problems and assumes a strategic role in the elimination of digital inequalities. In this context, none of the municipalities has digital inclusion initiatives under the Portugal Social Innovation initiative. However, the Entrepreneur Support Office in Mesão Frio, Peso da Régua and Santa Marta de Penaguião is contacted.

Keywords | Digitalization, Public Administration; Low-Density Territories; CIM Douro; Social Innovation.

Acknowledgments | This work was supported by FCT – Fundação para a Ciência e a Tecnologia, I.P. under the Project UIDB/05777/2020 (<https://doi.org/10.54499/UIDB/05777/2020>).

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ARE SOLAR PV ENERGY PLANTS TARGETING SENSITIVE LAND? MAPPING PORTUGAL'S PLANNED UTILITY-SCALE SOLAR DEVELOPMENTS

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Purpose | Transitioning to a renewable electricity system demands the expansion of large-scale electricity production facilities, such as photovoltaic (PV) solar power plants. To accelerate the decarbonisation of the electricity sector, the Renewable Energy Directive III urges Member States to identify renewable acceleration areas, based on low environmental sensitivity, where permitting processes are expedited and environmental impact assessments are not required. In Portugal, the decarbonisation challenge is substantial, with the National Energy and Climate Plan aiming for more than 15 GW of utility-scale PV energy which places considerable pressure on the territory. Meanwhile, concerns have been raised regarding impacts of utility-scale PV projects on environment and heritage (Brás et al., 2024; Silva, 2023), alongside conversion of agricultural areas (Barral et al., 2023). Consequently, selecting project locations that align with sustainable land use planning has become an increasingly pressing challenge. This study examines the spatial distribution of planned utility-scale PV plants in continental Portugal, aiming to assess whether future facilities will be located in areas considered of low sensitivity.

Methodology/Approach | Using geographic information systems, the assessment is based on the five scenarios of potential renewable energy acceleration areas in continental Portugal developed by GTAER (2024). Through spatial analysis techniques, the distribution of projects within these potential acceleration areas was examined, and their locations evaluated in relation to various relevant factors, including designated areas, national reserves, and land use.

Expected Results | The findings reveal that, between 93% and 97% of the planned project areas are proposed outside the low-sensitivity zoning. This is largely attributable to their location in areas with current land occupation that would be controversial to convert, in biodiversity-sensitive areas, agricultural and ecological reserves, or nature protected areas. Furthermore, over half of the projects overlap with two or more location constraints. Results underscore the need to examine the spatial factors influencing site selection for photovoltaic projects and to ensure that land allocation strategies are aligned with sustainability goals.

Keywords | Solar PV energy; energy transition; renewable energy; land-use; land conflicts.

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THE INFLUENCE OF TERRITORY ON GOVERNMENT DIGITALIZATION: DISPARITIES BETWEEN RURAL AND URBAN MUNICIPALITIES

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Abstract

Purpose | Smart government has recently emerged as a key topic, gaining significant relevance with the advancement of digital technologies, the widespread adoption of social networks, and the massive proliferation of mobile devices. The digitalization of public administration presents itself as an opportunity to increase the efficiency of public services, improve transparency, and promote citizen participation. However, local governments' degree of digital maturity is not homogeneous across countries and varies according to territorial and structural factors. This study aims to understand how rurality and urbanization influence smart government maturity at the local level.

Methodology/Approach | This study first presents a literature review to identify the main dimensions of smart government, making it possible to list the necessary steps for its implementation in the local sphere. Based on these dimensions, a smart government index was developed to measure Portuguese municipalities' digitalization level. This index maps the evolution of the digital maturity of Portugal's 308 municipalities between 2018 and 2023, providing a temporal analysis of the evolution of digitalization in local government. A quantitative approach was adopted to understand the territorial differences in the implementation and development of smart government. The data will be analyzed in two stages: the first presents a mapping of the Portuguese territory in terms of smart government, and the second stage uses econometric regressions, correlations, and cluster analysis to discuss the relationship between the maturity of smart government and the territorial typology (rural, semi-urban, or urban).

Expected Results | The results show a delay in the digital maturity of Portuguese municipalities, particularly in rural regions. In addition, there is a growing trend of urban influence in digitalization, where the more urbanized municipalities show faster progress, accentuating the digital disparity with rural regions. The results also show that, over the years, the digital divide between urban and rural areas has widened, reinforcing inequalities in access to and use of digital public services. Based on the conclusions reached, policy recommendations are presented for implementing strategies that promote a more equitable digital transition between the different territories, ensuring that the benefits of digitalization are accessible to all citizens. This work contributes to the academic literature on digital governance and territorial development and to the practice of public managers, providing a tool to support decision-making in planning more efficient and sustainable digital public policies.

Keywords | Smart government, digital maturity, municipalities, regional inequalities, governance.

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POLÍTICAS PÚBLICAS E A COESÃO TERRITORIAL - MODELO LÓGICO DE INTERVENÇÃO COMO FERRAMENTA DE AVALIAÇÃO DE POLÍTICAS**Carla de Jesus Godinho Godinho**Carla.P.Jesus@gmail.com**Resumo**

A mobilidade profissional e geográfica de recursos humanos qualificados e com perfil empreendedor tem ganho centralidade no debate público enquanto uma visão holística do mercado de trabalho (Antunes, 2022) e no desenho de políticas públicas voltadas para a capacitação dos territórios do interior, com a criação dum conjunto de medidas e incentivos financeiros para a fixação de novos residentes a partir de diversas modalidades de prestação de trabalho. Será analisada a medida ativa de emprego, «Emprego Interior MAIS – Mobilidade Apoiada para um Interior Sustentável» criada pela Portaria nº 174/2020 de 17 de julho, enquadrada no Programa «Trabalhar no Interior» regulamentado pela Resolução do Conselho de Ministros no 16/2020 de 27 de março em que Estado e Mercado se conciliam numa perspetiva articulada e integrada de promoção do emprego e dos territórios – Mobilidade Apoiada para um Interior Sustentável». Um debate contemporâneo sobre as questões do emprego e da estruturação das economias locais como um projeto de aprendizagem (Monteiro, 2019) e a necessidade de uma mudança de paradigma na formulação, implementação e avaliação de políticas públicas de base territorial (Barca *et al.*, 2012) com proposta de um Modelo Lógico de Intervenção simplificado. Esta ferramenta de preparação do planeamento e preparação para avaliação dos resultados e dos impactos consiste num processo de análise crítica sobre as políticas públicas e de que forma podemos aperfeiçoá-las (Barki, *et. al.*, 2023). Será apresentado um modelo lógico de intervenção simplificado, da cadeia de relações causais que ligam a intervenção aos resultados da medida refletindo a lógica causal da intervenção, com uma abordagem baseada na teoria (ABT).

A construção inicial da cadeia de relações de causa e de efeitos das políticas públicas, no ato da sua formulação, é um exercício eficaz de planeamento estratégico que aliado a uma análise swot, permitiria a articulação entre políticas públicas nacionais e locais e reconhecer os efeitos a curto, médio e longo prazo das medidas, alavancando e ajustando para isso, os recursos necessários para a promoção da utilidade das políticas como motor para o desenvolvimento local.

Numa abordagem exploratória, foram definidas várias questões-chave pelos seguintes critérios de avaliação: coerência interna, coerência externa, eficácia, eficiência, sustentabilidade e impacto. Foi adotada a definição dos critérios de avaliação do guia da OECD/DAC *Network on Development Evaluation*, “*Better Criteria for Better Evaluation*”, 2019.

TRANSFORMATIVE RELIGIOUS HERITAGE. REUSING FOR TERRITORIAL AND LOCAL WELL-BEING: INSIGHTS FROM TORRÃO

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Abstract

Religious built heritage has long shaped social, economic, environmental, and cultural values, playing an essential role in local communities. However, in contemporary Europe, this heritage faces multiple challenges, in terms of dwindling communities (e.g., less worshipers and priests), and due to the demographic shifts and the reduced number of parishes that results from this.

The project “Transformative Religious Heritage. Bridging Northern and Southern European Approaches (transHERITAGE)” represents an interdisciplinary collaboration to explore the transformative role of religious heritage and how it can benefit territorial and local well-being. transHERITAGE addresses the challenges identified above, by rethinking the sustainability of underused religious sites, focusing on two largely rural regions in Europe with an Atlantic outlook: Alentejo (southern-hinterland Portugal) and Vestland (western Norway). In this way, heritage sustainable preservation, reuse, and management are theorized towards more resilient rural territories.

By moving away from the paradigmatic conversion of religious buildings into touristic accommodations (as is common in Portugal) and the vacancy or underutilization (in Norway), transHERITAGE has worked towards the strengthening of social cohesion and the promotion of local pride and well-being in rural communities. The initiative specifically targeted Torrão in the municipality of Alcácer do Sal, and Fana, engaging local communities to reflect on the the past, envision the present, and co-create a future for their religious heritage.

The project revolved around three main steps:

1. Knowledge creation and sharing, involving rigorous fieldwork, mapping, and interdisciplinary research to provide evidence-based insights for sustainable conservation and adaptive reuse of religious sites.
2. Heritage Community Engagement, empowering locals through open cloister visits, guided tours, and co-creation workshops, reinforcing collective memory and social cohesion.
3. Projection of New Possibilities, translating research and community input into creative workshops, public events, and a final conference that showcased transformative outcomes and set new pathways for cultural regeneration.

The collaboration among national and local partners underpinned the project’s success. The combined expertise of ISCTE-University Institute of Lisbon and the University of Bergen/University Museum of Bergen, along with the practical insights provided by local organizations – TARS (Association for Earth Resilience and Sustainability), the Civil Parish of Torrão, and the Church of Norway/Bjorgvin Diocese – created a robust, multidimensional approach to heritage transformation. This dynamic network not only enabled the implementation of innovative reuse strategies but also lays a solid foundation for future initiatives, paving the way for enduring, heritage-driven sustainable development in rural communities.

RURAL FIRE RISK IN PORTUGAL: BETWEEN TERRITORIAL MANAGEMENT INSTRUMENTS AND LOCAL COMMUNITY PERCEPTIONS**Tiago Santos**

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Abstract

Rural fires represent one of the main pressures on the Portuguese territory, posing significant challenges within the context of spatial planning. Following the recognition of the limitations of territorial management instruments during the 2017 rural fire events, in addition to the National Plan for Integrated Rural Fire Management (PNGIFR), a specific set of tools was developed under the Landscape Transformation Programme (PTP), which is still in the implementation phase. In this context, the Fire-B-Aware research project aimed to capture community perceptions regarding the different forms of intervention, the application of territorial instruments, and their operational mechanisms.

Based on the spatial definition of rural fire risk levels combined with the areas affected by rural fires over the past five years (2017–2022), a sample was defined. The intersection of these variables allowed the identification of three distinct groups of municipalities, categorized according to their level of exposure to risk and history of rural fires. Empirical data was collected through the application of a structured questionnaire, distributed within local communities through schools and sent to parents via their children. A total of 674 valid responses were obtained across 27 municipalities.

The results provide a critical foundation for reflecting on community perceptions and needs concerning the prevention and mitigation measures outlined in the PNGIFR. Furthermore, they allow for the assessment of the degree of alignment between sectoral policies and their territorial implementation, highlighting potential discrepancies between strategic guidelines and local realities. This study thus contributes to a more in-depth debate on the role of territorial management instruments in reducing rural fire risk.

Keywords | Spatial Planning and Territorial Management, Rural Fire Risk, Perception.

DESAFIOS DA AGRICULTURA INTENSIVA NO ALENTEJO: O CASO DOS EFEITOS DO OLIVAL NAS COMUNIDADES, NA PAISAGEM E NA BIODIVERSIDADE**Isabel Joaquina Ramos**

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A paisagem é um sistema dinâmico e contínuo onde ocorrem interações espaciais entre diferentes sistemas naturais (relevo, água, solo, topoclima, vegetação e fauna), sistemas culturais (memória construída, imaterial e arqueológica) e comunidades humanas. Esta interacção produz territórios distintos, que se consolidam ao longo do tempo, pela prevalência de práticas reiteradas e rotinas transmitidas de geração em geração. A produção agrícola depende das características da paisagem e da biodiversidade, bem como dos ecossistemas e da forma como são geridos. A interação entre sistemas naturais e culturais distintos determina dinâmicas complexas, e a agricultura pode levar a alterações muito simplificadoras e perturbadoras desses sistemas. Além disso, a análise da sustentabilidade social e do desenvolvimento regional tem subjacente a compreensão das relações com a comunidade envolvente devido à proximidade inerente à coexistência, no mesmo espaço físico, das empresas em análise – e dos locais onde decorrem as diversas etapas do processo produtivo -, dos proprietários, trabalhadores, outras entidades locais e regionais, outras empresas correlacionadas, habitantes e visitantes.

O olival, e a produção de azeite, são elementos fundamentais que integram as paisagens rurais desde a antiguidade. No caso português, estas atividades encontram-se ao longo de todo o território sendo predominantes em algumas regiões do interior norte e sul. A sua existência trouxe até à atualidade marcas que se revelam, entre outras, na história, na arqueologia, na economia e nas características sociais das áreas envolventes. Enquanto o passado nos mostra a relevância social e cultural do olival e do azeite, na atualidade destacam-se os contributos económicos, designadamente pela capacidade de produzir rendimento, internacionalizar a atividade produtiva e promover dinâmicas diversas nas áreas rurais.

Os principais desafios que se colocam a este sector de atividade, e que vão moldar a sua competitividade, são a capacidade das empresas, das regiões e dos países em se adaptarem à permanente evolução dos mercados globais, à incorporação da digitalização nas diversas fases da cadeia produtiva e à minoração das externalidades ambientais negativas.

Esta apresentação tem como objetivo refletir acerca de alguns dos efeitos da intensificação das práticas agrícolas, em particular no caso do olival, e partilhar o conhecimento adquirido com a elaboração de diversos os critérios de sustentabilidade desenvolvidos no âmbito do Programa de Sustentabilidade do Azeite do Alentejo (PSAA), relacionados com as Comunidades Humanas, a Gestão da Paisagem, e a Biodiversidade, no contexto dos desafios contemporâneos. No âmbito deste Programa foram desenvolvidos critérios tanto para o planeamento e implementação de novos olivais como para a gestão dos olivais existentes. O objetivo foi avaliar os elementos dos diversos sistemas constituintes da cadeia produtiva associada com o olival e o azeite, em particular os que são desenvolvidos em regime intensivo e semi-intensivo. Estes critérios são organizados através de níveis incrementais de sustentabilidade, relacionados com os níveis de resposta dos agricultores, com o objetivo de aumentar a biodiversidade, conseguir uma gestão mais adequada das paisagens e dos ecossistemas, promover uma maior retenção local e regional do valor económico criado, bem como um relacionamento frutífero com as comunidades envolventes, num processo de melhoria contínua.

POSSIBLE RURAL FUTURES FOR YOUTH AND WOMEN IN COLOMBIA: CONTRIBUTIONS OF UNIVERSITY DEVELOPMENT COOPERATION

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Abstract

This paper presents two experiences of University Development Cooperation, which seek to contribute to rural transformation in Colombia, through the intervention of structural factors that limit access to education and employability, particularly for women and young people in rural territories. Although the Colombian economy grew three times faster than the OECD average between 2000 and 2021, the urban-rural inequality gap remains one of the highest in the region (OECD, 2022). Considering that 42.1% of the Colombian population lives in rural areas and 16.9% of the rural population lives in remote areas, inequality deepens. The labor participation of rural women continues to be low; 90% have informal jobs with low pay; this situation is more visible in rural and indigenous women's communities. Concerning rural youth between 18 and 22, 45% have not completed their secondary education, which reduces their employability.

Based on the collaborative work between Latin American and European universities and other actors of the International Cooperation ecosystem, two projects were built to strengthen the capacities of indigenous and rural women in Caldas, and young people in rural areas of Antioquia and Huila, in Colombia. These projects were submitted to the calls for grants from the European Commission (ERASMUS +: Capacity Building in Higher Education) in 2025 and the IV Master Plan for Development Cooperation of Bizkaia of the Basque Country, in 2024. Funding was obtained from the latter.

The synergy between Development Cooperation actors led by universities, allowed the consolidation of international networking for the construction of rural transformation initiatives with a multi-stakeholder approach, related to innovative training programs aimed at young people to ensure employability and support for entrepreneurship initiatives for women's associations, contributing to the closing of economic gaps in rural areas. The management of resources for this type of initiatives where universities and communities work in an articulated manner, overcomes the welfare approach of Cooperation (Malacalza, 2020) and allows more participatory dynamics oriented to the exchange of experiences and the collective construction of local development. In this way, rurality begins to be built from the bottom up, transcending the agricultural vision (Liu & Han, 2025) and positioning itself as an intelligent, innovative, and resilient territory, where women and youth communities can find possible futures.

Keywords | International Cooperation, University, Rurality, Women, Youth, Colombia.

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A PROTEÇÃO AOS DENUNCIANTES EM PORTUGAL À LUZ DA TEORIA NEOINSTITUCIONAL: COMPROMISSO REAL OU RETÓRICA INSTITUCIONAL?

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Resumo

Objetivo | Analisar a implementação da Diretiva 2019/1937 em Portugal à luz da teoria do decoupling institucional, com foco na desconexão entre os meios legais adotados e os fins de proteção efetiva aos denunciante.

Método: Emprega-se abordagem qualitativa, com análise documental da Lei n.º 93/2021 e do relatório da Transparência Internacional (2023). O estudo é orientado a partir do conceito de means-ends decoupling da teoria institucional neoinstitucionalista.

Resultados | Embora Portugal tenha adotado os dispositivos formais que aparentam conformidade com a Diretiva principal, como canais internos de denúncia e anonimato, ainda persistem limitações importantes, como: restrições ao relato externo direto, ausência de apoio jurídico robusto e fragilidades nos mecanismos de compensação. Tais limitações apresentam evidências de decoupling institucional (Means-ends) entre a norma e sua aplicação efetiva.

Implicações Práticas: O decoupling institucional compromete a confiança no sistema e desestimula denúncias, enfraquecendo políticas de integridade pública. O estudo sugere uma revisão legislativa e ações institucionais que alinhem os instrumentos normativos aos resultados desejados.

Conclusão | A efetiva proteção aos denunciante em Portugal demanda superar/mitigar o decoupling institucional entre meios legais e fins práticos. A teoria institucional oferece um referencial valioso para compreender e reverter essa lacuna jurídica.

Palavras-chave | Proteção aos denunciante, Diretiva 2019/1937, Decoupling institucional, Canais de denúncia. Integridade pública.

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GROWING TOMORROW'S RURAL SPACES: LOCAL VOICES ON INNOVATION AND SUSTAINABILITY

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Abstract

This study investigates how local stakeholders perceive the interplay of sustainable development and innovation in Portuguese rural contexts, emphasising the Douro Demarcated Region. Data were collected through a structured questionnaire (featuring closed-ended, Likert-scale items) administered at regional events and the University of Porto, resulting in 246 responses from experts, researchers, policymakers, students, and other local stakeholders. The findings revealed a broad consensus regarding the importance of fostering sustainable development strategies that respond to evolving rural needs and contexts. However, participants diverged on the adequacy of current policy measures. Many underscored that genuine long-term vitality in rural spaces hinges on policies encouraging technological, social, and economic innovations while considering region-specific characteristics.

To enrich these insights, a focus group of 30 rural geography students provided additional perspectives on the future of rural areas, envisioning intensified development (marked by tourism and advanced infrastructure) or ongoing depopulation if effective interventions are not implemented. Their ideas for promoting resilience and growth included financial incentives for families and businesses, increased education and capacity-building investments, improved telecommunication services to facilitate remote working, and youth-oriented projects that harness local resources for entrepreneurial ventures. These emergent themes underscore the need to balance targeted top-down policy support with bottom-up initiatives tailored to the distinctive needs of rural communities.

Overall, this study's combined findings signal that context-sensitive, inclusive strategies will be crucial for shaping rural areas as vibrant spaces capable of confronting contemporary challenges. This approach aligns with broader visions for stronger, connected, and resilient rural communities over the coming decades (European Commission, 2021; European Commission, 2024). In line with scholarly work on rural development, the results call for integrated frameworks that enable local innovation, participatory governance, and carefully crafted policy interventions (OECD, 2022). By addressing the pressing social, economic, and infrastructural issues that hinder rural progress, policymakers and community leaders can help rural regions thrive and remain sustainable well into the future.

Keywords | Rural Development, Innovation, Sustainability, Local Stakeholders, Participatory Governance.

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CORPORATE GOVERNANCE AND WHISTLEBLOWER PROTECTION: THE PITFALLS OF SYMBOLIC COMPLIANCE IN THE BRAZILIAN “COMPLY OR EXPLAIN” MECHANISM

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Abstract

Context | Despite the growing emphasis on integrity within Brazilian corporations, the country still lacks specific and effective legislation to protect whistleblowers in the private sector. Under the “comply or explain” regulatory model adopted by the Brazilian Securities and Exchange Commission (BSE), many companies provide formal justifications regarding the existence of whistleblowing channels without demonstrating their effective implementation. This institutional weakness undermines the reliability of governance mechanisms and the protection of whistleblowers.

Purpose | This study aims to analyze, through the lens of institutional decoupling theory, how the absence of a robust national legal framework and the weaknesses in whistleblowing policies affect corporate governance practices in Brazilian companies listed on the BSE.

Method | A qualitative analysis was conducted on 174 public justifications disclosed by companies to the Brazilian Securities and Exchange Commission in 2024. The justifications were coded based on international best practices for whistleblowing systems—particularly those outlined in ISO 37002—and on the academic literature regarding *policy-practice decoupling*, following the neoinstitutional theoretical approach.

Findings | The study revealed clear evidence of institutional decoupling: 92% of the analyzed justifications reflect *policy-practice decoupling*. Additionally, none of the companies referenced ISO 37002 (Whistleblowing Management Systems), and the Brazilian Institute of Corporate Governance (IBGC) Code of Best Practices provides no specific guidance on whistleblower protection. These findings highlight a scenario of symbolic compliance and regulatory fragility that compromises the effectiveness of governance mechanisms in Brazil.

Keywords | Corporate governance, Institutional decoupling, Whistleblower protection, Symbolic compliance, Means-ends decoupling.

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HOUSING ACCESSIBILITY THROUGH THE EYES OF DIASPORA COMMUNITIES: INITIATIVES, RECOMMENDATIONS AND CHALLENGES

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Abstract

In the framework of the AMIF European project H:ouse (Housing to Overcome Unstable Situations in Europe), which aims to develop innovative housing solutions for refugees and migrants through the community sponsorship model, a cross-dimensional study was undertaken, that captured the contributions of diaspora communities in access to housing. Starting from the premise that housing is a fundamental right and plays a key role in the integration process (Brown, P., Gill, S., & Halsall, J. P., 2022), and considering the emerging evidence provided by both the International Centre for Migration Policy Development (Coulibaly, A., 2021) and by the European Parliamentary Research Service (Radjenovic, A., 2025) on the possibilities of community sponsorship, the latter, in conjunction with the perspectives and intervention of diasporic communities through bottom-up approach, is considered as a pathway to improve housing accessibility. To this end, 25 participatory research activities have been carried out in 5 European countries, namely Slovenia, Greece, Italy, Ireland and Hungary. The methodology was based on the “stakeholder onion model” (Alexander & Robertson, 2004) and a SWOT (Strengths-Weaknesses-Opportunities-Threats) analysis (Glaister & Falshaw, 1999), focused on the housing situation of refugees. It involved representatives from migrant groups, asylum seekers, refugees, social workers, community leaders, and cultural mediators, engaging a total of 113 participants to share their experiences on housing accessibility. Based on the data collected, this presentation gathers the main challenges, initiatives and recommendations that were identified in the study. Among the challenges highlighted there are insecurities caused by precariousness, language barriers, discrimination and lack of political interest, all of which become particularly severe in the context of a housing crisis. In terms of initiatives led by diaspora communities, the study highlights the importance of factors such as word of mouth, networking and community engagement through social gatherings, as well as landlord confidence building, legal support and NGO mediation. Furthermore, Community sponsorship (CS) initiatives, government housing policies and migrant-specific programmes were also identified as important to facilitate access to housing. Finally, some opportunities were found that could improve housing affordability, including the reuse of empty properties, the implementation of awareness-raising campaigns for landlords, and the strengthening of legal and social networks.

Recognising the importance of community-driven solutions, the study underlines the need to integrate community-sponsored schemes and grassroots initiatives led by diaspora communities, as important for the sustainable integration of newcomers, by means of housing accessibility, in both urban and rural areas, as stressed also by Haugen & Hallström (2022).

Keywords | Diaspora Communities; Housing Accessibility; Community Sponsorship; Migrants; Integration.

THE ROLE OF MOBILITY WITHIN AND ACROSS LOCAL LABOR MARKETS IN TIMES OF TRANSFORMATION

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Abstract

Motivation | Local effects of transformational pressure Digitization, decarbonization, globalization, and demographic change affect labor markets worldwide. The declining economic situation hits regions very differently: existing jobs in some industries need to be restructured and new jobs are introduced under conditions of uncertainty. This leads to several challenges for regional labor markets in Germany and changes the spatial distribution of jobs and people.

The challenge of the reshaping of the labor market because of digitization and decarbonization affects the Germany industries in particular. Transformation processes towards new and green jobs often come with specialization into rising industries. On the labor demand side, the introduction of novel processes is often associated with restructuring and thus changes of the demand for workforce. For example, the greatest potential for substituting workers and employees due to automation can be found in manufacturing jobs, even if the proportion of certain services that can be automated has recently risen more sharply. The extent, to which this puts regions under pressure varies based on regional composition of workforce and industries (Vetterer and Haas 2024). On the labor supply side, workers can react to structural change of the work environment by realigning their career or switching jobs. The decision to switch to another firm is contingent on the availability of employment opportunities offered by firms located within a manageable commuting distance. Regional heterogeneity lets individuals chose the firm and sector that best aligns with their skills and experience within a specific local labor market.

Data and Empirical Approach | We use administrative panel data of the universe of the German workforce subject to social security, covering about 82% of workers in the years 2011 to 2023. The data stem from the Integrated Employment Biographies (IEB) of the Institute for Employment Research (IAB). We aggregate the data based on commuting zones and sort all workers into 141 local labor markets. Local labor markets are characterized by close commuter links within the labor market and a high degree of independence from other regional labor markets, hence they have the advantage that they are more likely to represent self-contained labor markets. We further cluster the data within each local labor market into 37 economic sectors. Being able to track individuals in their changes of workplaces, we have information on the in- and outflow of labor markets and industries as well as on the stability of industries within regions.

Literature shows that a large initial employment share of declining industries has been associated with more subsequent industry turnover and lower growth (Heblich et al. 2023). We enhance this literature by examining whether local changes in industries and specialization influence the change of mobility patterns of workers within and across regions. To disentangle worker responses to industry development, we will examine within and across labor market switches as well as within and across industry switches separately.

In a first step, we establish the concentration and industry specialization of regions and examine their development. To do so, we measure the distribution of workers in each of the 37 industry classifications in the beginning and end of our observation period. Then, we rank regions according to their share of growing or shrinking industries. In a second step, we examine the job changes of workers within regions based on the ranking of industry development. However, when a region grows to be unattractive for certain workers, they may also move to another local labor market. Consequently, we examine across labor market job switches in

a third step. The rate at which workers change sectors or regions or both, will depend on what jobs are currently available in the region. That is, they will depend on the local mix of industries.

DIGITAL NOMADISM AND DESTINATION CHOICE: MOTIVATIONS, PROFILES, AND ACCOMMODATION PREFERENCES

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Abstract

Purpose | This study explores the phenomenon of digital nomadism, focusing on the profiles of digital nomads, the factors influencing their choice of tourist destinations, and their accommodation preferences. The primary objectives are to identify the main characteristics of digital nomads, understand the key determinants guiding their mobility, and analyze the specific attributes of accommodations that appeal to this segment.

Methodology/Approach | The research adopts a qualitative methodology, based on semi-structured interviews with digital nomads. The collected data provides insights into their motivations, travel behaviors, and expectations regarding destinations and lodging options. The study examines how factors such as connectivity, cost of living, community engagement, and work-friendly environments shape their decisions.

Results | Findings reveal that digital nomads are primarily driven by factors such as high-speed internet access, affordability, safety, and networking opportunities. Accommodation preferences emphasize flexibility, co-living spaces, and access to coworking facilities. While some nomads seek urban environments with strong digital infrastructures, others prioritize locations that offer a balance between work and leisure. This research contributes to the understanding of digital nomads' decision-making processes and provides valuable insights for tourism stakeholders aiming to attract and accommodate this growing segment effectively.

Results | The study's limitations include the sample size and the specific focus on interviewed participants, which may not capture the full diversity of the digital nomad community. Future research should expand to different geographic contexts and explore the evolving needs of digital nomads in a post-pandemic landscape.

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CHARACTERISING INDUSTRIAL TOURISM IN THE CROSS-BORDER REGION: PORTUGAL AND SPAIN

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Abstract

Purpose | Industrial tourism is an emerging sector highlighting the historical industrial landscape, fostering regional development, community revitalisation, and heritage preservation. Factories, mines, and transport infrastructure can be transformed into museums and interactive spaces. Industrial tourism can also include tours of active industrial sites where production remains the primary focus (Friel et al., 2024; Yan et al., 2024). In this context, this study aims to characterise the industrial heritage of the cross-border region, namely in *Terras de Trás-os-Montes* (Portugal) and *Castilla y León* (Spain), in the Douro River region, aiming to showcase opportunities for cross-border tourism development.

Methodology/Approach | Firstly, a database was drawn up with the industrial heritage of the two regions under analysis. To do this, a form was drawn up based on previous documents and validated by the team of a project related to industrial tourism. From October 2024 to March 2025, the form was sent to 22 municipalities in Portugal and 80 municipalities in Spain. Ultimately, 1079 industrial heritage sites were registered and statistically analysed to determine their characterisation.

Expected Results | Of the 1079 industrial heritage sites, 247 are in Portugal, and 832 are in Spain. The heritage elements were categorised and most related to transport infrastructure (31%), wineries (23.6%), food industries (20.5%), and hydraulic heritage (9.3%). These characteristics align with the attractions offered in the two regions surrounding the River Douro. Portugal presents more transport (34.6%) and wineries (22.7%), and Spain to wineries (26.7%) and food industries (25.1%). It is also clear that most

(47.3%) of the heritage sites identified are prepared to receive visitors. This study shows that the categorisation of heritage reflects the richness and historical diversity of the region. Among the main types of heritage identified are wineries, illustrating the strong wine-growing tradition of the Douro River, and transport infrastructure, namely old railway stations and bridges, which highlight witness to the impact of industrialisation on regional connectivity. There are also hydraulic structures, such as water mills and historic dams, which show how water resources have been used for industrial activity over the centuries.

Keywords | Industrial tourism, industrial heritage, cross-border region.

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AVALIAÇÃO ECONÓMICA DO PRÉMIO DE PREÇO COMO EXTERNALIDADE POSITIVA DAS INDICAÇÕES GEOGRÁFICAS (IG) EM PRODUTOS ALIMENTARES TRADICIONAIS

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Resumo

Este artigo analisa o impacto económico das Indicações Geográficas (IG) na atribuição de prémios de preço a produtos alimentares tradicionais, bem como as externalidades positivas que estes sistemas de qualificação podem gerar. Com base numa revisão de literatura ampla e em métodos de valoração económica — sobretudo Valoração Contingente (CVM) e Experiências de Escolha (CE) —, verificou-se que diversos produtos com IG conquistam acréscimos de preço significativos face a produtos equivalentes não qualificados. Alguns desses exemplos incluem: azeites virgens extra DOP/IGP (+1,79€/L) e queijos com Denominação de Origem Protegida (DOP) (até +11,5%). Para além do impacto monetário, salientam-se também os benefícios culturais, ambientais e sociais associados às IG, como a preservação das práticas agrícolas tradicionais e o fortalecimento das comunidades rurais. No entanto, identificam-se desafios na interação com outras indicações gráficas descritivas (p. ex. Nutri-Score, certificações de bem-estar animal) e na falta de métricas padronizadas para quantificar as externalidades positivas. O artigo sublinha, ainda, a necessidade de desenvolver estratégias de comunicação claras e de políticas públicas que reconheçam o valor coletivo das IG, bem como o potencial das soluções tecnológicas avançadas (Big Data, Inteligência Artificial) para melhorar a análise de preferências do consumidor assim como a competitividade destes produtos.

Palavras-chave | Geographical Indications (GIs), Price Premium, Contingent Valuation Method (CVM) Choice Experiments (CE).

IMIGRAÇÃO JOVEM: DESAFIOS E IMPACTOS EM POLÍTICAS DE EDUCAÇÃO

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jjmarques@ua.pt**Resumo**

O trabalho propõe-se a contribuir para a reflexão sobre uma gestão mais democrática de escolas e políticas educativas, considerando as mudanças nos territórios educativos. O trabalho parte da crescente diversidade dos territórios educativos, evidenciada por recenseamentos escolares que mostram um aumento significativo de alunos estrangeiros, centrando-se na análise do afluxo recente desses estudantes em escolas de uma região portuguesa.

A análise incide no diagnóstico da situação dos alunos estrangeiros na escolaridade obrigatória, abrangendo o perfil, a distribuição geográfica e as escolhas formativas destes estudantes. Paralelamente, explora os desafios associados, como a implementação de medidas de acolhimento e integração, e os processos educativos e pedagógicos que promovam a valorização da diversidade cultural e social.

Nesse contexto, são introduzidas questões emergentes das geografias educativas, com o objetivo de mobilizar informação e conhecimento na construção de políticas educativas mais inclusivas e socialmente justas, capazes de responder às dinâmicas e necessidades da crescente diversidade nas escolas portuguesas.

Palavras-chave | Alunos estrangeiros; diversidade; medidas educativas e pedagógicas.

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TRADE INTEGRATION AND SOCIAL DISTRUST DISCOURSES: THE CASE OF PORTUGAL AND SPAIN FROM THE PERSPECTIVE OF CULTURAL HISTORY**Maria Zozaya-Montes**

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This paper contrasts the perspectives of the economic and historical disciplines. On the one hand, it shows the reality of trade data between Spain and Portugal, which evidences the financial link between geographically close partners who share a common market. On the other hand, it contrasts with the perception and social representations of that reality from the approach of Cultural History. To this end, the recent past of the Iberian trade between 1984 and 2023 is analysed. In 1984, a year before the signing of the treaty of accession of Spain and Portugal to the EEC, trade flows between the two countries totalled 124,703 million pesetas, representing 1.49% of the total trade in goods between the Spanish economy and the rest of the world, and 4.67% of Portugal's foreign trade. The consolidation of the European integration process developed over the last few decades, with the creation of the single market in 1993 and the introduction of the euro in 2002, has had a significant influence on the growth in the volume of trade in agricultural and manufactured products between the two neighbouring countries. Specifically, in 2023, it amounts to 55,448.20 million euros, with a share of 5.98% in the total of those involving Spain and 30.38% of those originating in or destined for Portugal. The increasing economic ties between the two Iberian Peninsula countries contrast with Portuguese perceptions and societal views on these exchanges. There is a certain reticence on the part of Portuguese society, expressed in different media discourses, which may be influencing the commercial activity between the two neighbouring countries in the long run. Based on the statistical information on exports and imports provided by the Eurostat database and the documentary information reviewed from the press and social networks, the aim of this research is, firstly, to find out whether there is a certain distrust of Spanish partners among the Portuguese and, secondly, to quantify the trade dependence, by type of product, between Spain and Portugal between the end of the 20th century and the first decades of the 21st century. By contrasting the scope of the market with the impact of the discourses, the aim is to analyse the cultural divergence between the economic reality and the representations generated in this respect.

Key words | Portugal, Spain, Economic integration, Perceptions, Cultural History.

A VALORAÇÃO DOS GANHOS DE BIODIVERSIDADE E OS MERCADOS VOLUNTÁRIOS

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Resumo

Objetivo | A União Europeia (UE) apresenta uma grande diversidade de ecossistemas, caracterizados por diferentes tipos de solo e de biodiversidade, profundamente marcados pela presença humana. A sua regeneração é fundamental para garantir o cumprimento dos objetivos de desenvolvimento sustentável estabelecidos para 2030. Existem setores cujo envolvimento ainda é diminuto, nomeadamente o da agricultura, cujo contributo líquido é negativo. São mais de nove milhões de explorações, das quais 65,6% consistem em pequenas unidades com um rendimento anual inferior a €8.000. Face a esta estrutura produtiva fragmentada, promover mudanças nas práticas agrícolas constitui um grande desafio. A importância da pequena agricultura prende-se, não só, com o seu peso no setor, mas também com a sua elevada dependência económica e social face aos recursos e serviços prestados pelos ecossistemas. Nesta perspetiva, o objetivo deste trabalho é estudar as principais abordagens de valoração dos serviços dos ecossistemas e as políticas de incentivo dos ganhos de biodiversidade, aplicáveis a explorações agrícolas de menor dimensão, e avaliar o impacto dos mercados voluntários na conservação e regeneração da natureza e no financiamento ao produtor.

Metodologia | Este trabalho explora os principais conceitos, teorias e metodologias associadas à valoração dos ganhos de biodiversidade e à sua integração em mercados voluntários. Através de uma revisão bibliográfica e de uma análise crítica de alguns dos métodos existentes e sua aplicabilidade às pequenas explorações agrícolas na UE, discute-se a eficácia destes instrumentos e as limitações para a sua implementação.

Resultados esperados | As especificidades das zonas rurais mais fragmentadas de baixa densidade populacional exigem políticas diferenciadoras para a recuperação da natureza, que a torne mais resiliente, mais produtiva e mais atrativa para promover a sua reocupação. Nestas circunstâncias, a remuneração do investimento em novas práticas agrícolas regenerativas não pode depender exclusivamente dos serviços de aprovisionamento e da venda em mercado da produção. A valoração dos serviços dos ecossistemas associados a esses espaços e da sua biodiversidade, merece uma atenção especial. Mas serão os mercados de carbono e de biodiversidade uma resposta para estes casos? Os resultados deste trabalho focam-se no diagnóstico destes mercados como potenciais soluções para o financiamento da transição das zonas rurais mais fragmentadas para uma abordagem regenerativa da natureza.

Palavras-chave | Biodiversidade, Mercados Voluntários, Bioeconomia, Pequena Agricultura, Valoração.

WHISPERS OF TORRÃO: COLLABORATIVE TEACHING AND PARTICIPATORY DESIGN IN RURAL REGENERATION WITH FOUNDATION DAST

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Abstract

Purpose | This abstract explores the pedagogical approach I employed while leading the design studio at Xi'an Jiaotong-Liverpool University, Department of Architecture, "A Whisper to an Old Dream: The Restoration, Regeneration, and Re-imagination of Torrão, Portugal," in collaboration with Foundation DaST (Design a Sustainable Tomorrow) on their Torrão Lab project. The focus of the studio was to engage students in a real-world design project centered on the cultural and architectural regeneration of Torrão. Through this collaboration, students were able to explore sustainable design and heritage preservation while fostering meaningful interactions with local communities. Drawing on the philosophy that "responsible architects think very much in terms of the whole community" by Walter Gropius, the studio aimed to integrate community-based approaches to teaching architecture. The field trip served as a platform for students to understand the local context and work alongside villagers, enriching the students' cross-cultural experience and contributing to the village's future development.

Methodology/Approach | The pedagogical approach was rooted in participatory and experiential learning, emphasizing direct engagement with the local community. A two-week field trip to Torrão provided students with the opportunity to immerse themselves in the village's daily life, collecting stories and understanding the aspirations and challenges faced by its residents. Through a cross-generational creative process, students collaborated with locals on collective paintings, diorama mappings, and model-making exercises, fostering a dialogue between design and lived experience.

Beyond creative engagement, the field trip facilitated an in-depth research inventory, culminating in the booklet *Whispers of Torrão*, which documented the architectural and cultural landscape of the village. This survey spanned key elements such as outdoor public spaces, derelict sites, materiality, construction techniques, and architectural details, forming a foundation for student-led design proposals. Upon returning to the university, students spend a full semester to each develop a project within the themes of Restoration, Regeneration, and Re-imagination of Torrão, which were later presented to the local community in an exhibition. This pedagogical model aligns with the principles of community-based architectural education exemplified by Auburn University's Rural Studio, where students learn through direct engagement with underrepresented communities, using architecture as a tool for social impact (Feuerborn, 2005), such an approach not only enhances student learning but also fosters meaningful collaborations that empower both the designers and the communities they serve.

Expected Results | The engagement with the local community and the iterative design process resulted in a deeper understanding of the village's unique challenges and opportunities. By incorporating both local knowledge and speculative design, the students developed proposals that aimed to preserve and regenerate Torrão's heritage while fostering a sustainable future. The exhibition of these proposals in the village helped facilitate a dialogue between the students and the locals, providing valuable feedback and allowing the community to reflect on the potential transformation and beauty of their hometown. This educational model demonstrates the power of participatory design in architectural education and its potential for fostering more sustainable, resilient, and culturally sensitive communities.

Keywords | Community-based learning, Participatory design, Rural regeneration, Architectural pedagogy, Sustainable Design.

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REGIONAL DISPARITIES IN HIRING PROBLEMS - THE ROLE OF JOB AND FIRM CHARACTERISTICS

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Abstract

In many regions of advanced economies, labour and skills shortages are among the most urgent policy concerns. Difficulties in filling vacancies can negatively affect business activity and dampen local economic growth. They may create barriers to exploiting new economic opportunities arising from technological progress or meeting environmental targets (OECD 2024). While there's consensus that regional labour shortages have increased substantially, evidence on the spatial pattern and the factors behind these regional disparities is less clear-cut. Some studies emphasize shortages in rural areas, often focusing on specific sectors such as agriculture or health (e.g. Carson 2024, Nystrom 2021, Jones 2019). Other studies suggest that in particular large regions showing high employment rates suffer from above average labour shortages (OECD 2024). Moreover, still little is known about the factors that explain differences in labour shortages faced by firms (Groiss 2024).

This study examines labour shortages based on data from a large representative establishment survey in Germany. Its focus is on regional differences in hiring problems along the urban-rural continuum. Moreover, we examine whether observed spatial heterogeneity is due to composition effects, i.e. differences in firm and vacancy characteristics. For our analysis, we use microdata from the IAB Job Vacancy Survey on job vacancies, staffing and recruitment success for the period 2010-2023 that we link with administrative data on the recruiting establishments. The survey data provides detailed information on different indicators of labour shortages, inter alia, on the number of applicants and search duration. The establishments also state whether they faced problems filling the vacancy and, if so, what this was related to (e.g. qualification mismatch, wage demand). Information on search cancellations and concessions made during the recruitment process is also available as well as the location of each establishment at a small spatial scale (municipality level). The latter allows us to analyse regional differences in job placements along the urban-rural continuum at different spatial levels. We distinguish the establishments' locations by types of municipalities defined on a granular level and by types of larger travel-to-work areas.

For our analysis of hiring problems, we use different microeconomic estimation techniques depending on the type of dependent variable considered, i.e. logistic and negative binomial regressions as well as survival analysis. Based on these regressions, we examine the extent to which regional differences in labour shortages as reflected by the considered indicators can be attributed to composition effects. We consider both characteristics of the position to be filled including occupation and working conditions as well as information on the recruiting establishment such as industry and size. We find that both the characteristics of the establishments and of the vacancies are important factors for spatial disparities in labour shortages.

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PARTICIPATORY DESIGN FOR RURAL FUTURES: A CASE STUDY OF TORRÃO'S INSTALLATION DESIGN

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Abstract

Purpose | In rural villages like Torrão, Portugal, sustainable development must be approached through direct engagement with the local community to ensure meaningful and contextually relevant interventions. Torrão Lab, an initiative of the Foundation DaST (Design a Sustainable Tomorrow), has been actively working with local residents to address environmental and social challenges through participatory design. In collaboration with Xi'an Jiaotong-Liverpool University, this project explores how rural installation practices can support village life by responding to climatic conditions, community needs, and cultural identity.

The research focuses on the co-design process of a set of pavilions located at Cerrado Garden, the entry point of Torrão along the N2 route. These installations aim to serve as shading structures and play areas that enhance the public realm while reinforcing social cohesion. Through community-driven decision-making, the project integrates local perspectives with sustainable architectural strategies, ensuring that the pavilions provide climate resilience, cultural sensitivity, and ecological responsibility.

Methodology/Approach | The installation design process follows a participatory and research-driven methodology developed by Torrão Lab, structured into four key stages:

1. **Preliminary Research:** Conducted as part of the XJTLU & DaST 2024 Field Trip, students and researchers collaborated with local residents to document Torrão's vernacular architecture, cultural symbols, and spatial patterns. Field studies, interviews, and on-site observations helped identify community expectations and needs.
2. **Design and Analysis:** The village's built environment was analyzed to extract key architectural and landscape features, which informed the project's design language. This phase emphasized local materiality, construction techniques, and color palettes to align the installations with Torrão's aesthetic identity.
3. **Initial Design Development:** Integrating insights from preliminary research, three distinct installation proposals were developed—The Hut, The Tent, and the Evergreen Pavilion. These designs reinterpret traditional architectural forms while responding to the practical needs of the community.
4. **Community Engagement and Selection:** In line with Torrão Lab's participatory model, local villagers played an active role in evaluating and selecting the final design through community discussions and voting sessions. The Hut emerged as the preferred installation, leading to further design development and realization.

Expected Results | This research underscores the importance of place-sensitive installation design as a tool for rural revitalization. By adopting a participatory, research-based approach, the project fosters stronger community involvement in the design process, ensuring that interventions are not only contextually appropriate but also embraced by local residents.

The collaboration with Torrão Lab of DaST Foundation highlights how interdisciplinary and cross-cultural engagement can preserve vernacular identity while fostering contemporary design innovation. The installations at Cerrado Garden will provide climatic adaptation solutions, social gathering spaces, and cultural

continuity, demonstrating how small-scale architectural interventions can enhance the everyday life of rural communities while promoting sustainable development.

Keywords | Rural Revitalization, Vernacular Architecture, Installation Design, Cultural Symbols, Community Engagement.

PROMOÇÃO DA ACESSIBILIDADE HABITACIONAL À ESCALA LOCAL: UMA ANÁLISE DE BOAS PRÁTICAS

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Resumo

O acesso à habitação digna e adequada é um direito constitucional e amplamente promovido por organizações internacionais, governos e políticas públicas. Todavia, somos confrontados com a dificuldade de o cumprir, não só porque, por vezes, as políticas públicas revelam-se desajustadas às necessidades, mas também devido a novos desafios, resultantes, por exemplo, de conjunturas de crise e vulnerabilidade (e.g. guerra da Ucrânia e pandemia da COVID-19) e instabilidade do mercado, como os desajustes entre a procura e a oferta que motivam o aumento generalizado de preços.

Ainda assim, tem sido preocupação dos governos ao longo do tempo promover, por meio de políticas públicas, o acesso à habitação digna e adequada, sobretudo aos mais desfavorecidos, alargando, recentemente, o âmbito da atuação junto de famílias da classe média que não encontram resposta por via do mercado. A par deste desígnio, comumente associado à promoção da justiça social, e procurando adequar as políticas públicas às necessidades dos cidadãos, a escala local (e.g. autarquias locais) juntamente com atores da esfera pública, privada e social, tem vindo a destacar-se como o meio privilegiado para a formulação, execução e implementação de políticas de habitação. Portanto, neste modelo de governança multinível em que o nível central é responsável por definir as linhas gerais de política e financiar as mesmas, cabe à escala local tomar as decisões adequadas e implementá-las. É neste contexto que, à escala local, cada vez mais surgem exemplos de iniciativas que, seguindo as linhas gerais traçadas pelo governo, procuram responder às necessidades dos seus cidadãos, adaptando as políticas ao contexto e tomando iniciativas próprias que visam robustecer o desígnio de acessibilidade à habitação.

Assim, é nosso objetivo recorrendo à literatura de referência identificar um conjunto de boas práticas de política pública que à escala local, em cidades europeias (Amesterdão, Barcelona, Berlim, Helsínquia, Paris, Viena) e portuguesas (Braga, Bragança, Porto, Viana do Castelo, Vila Real), demonstram a relevância da referida escala e da intervenção de atores da esfera pública, privada e social no cumprimento do direito à habitação e na adequação das respostas às necessidades dos cidadãos. Em particular consideramos como dimensões relevantes de análise as necessidades identificadas; os atores envolvidos; os níveis de decisão relevantes; as formas de intervenção e respetivos beneficiários, com destaque para programas de política pública que à escala local procuram responder a necessidades e grupos específicos; e, por fim, os desafios decorrentes da implementação.

Espera-se que os resultados obtidos comprovem a relevância da escala local e da articulação de atores públicos, privados e sociais, na definição e implementação de políticas de habitação adequadas às necessidades e às especificidades socioeconómicas e territoriais. É ainda de esperar que sejam identificados

como fatores limitativos de atuação a dificuldade em avaliar a eficácia e eficiência destas políticas, a par da respetiva incerteza que acompanha o financiamento das políticas de habitação.

Palavras-chave | Acessibilidade, boas práticas, escala local, políticas de habitação.

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THE ROLE OF THE SCHOOL NEIGHBORHOOD BUILT ENVIRONMENTS IN ACTIVE COMMUTING: A MICROSCALE STUDY IN SPAIN

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Abstract

Purpose | The interconnection between the built environment and adolescent’ behavior had attracted considerable attention in the fields of public health, transportation, and urban planning (Carlson et al. 2014; Williams et al. 2012). However, in Spain a lack of scientific publications analyzing the school neighborhood built environments through internationally validated audits was observed. In the scientific literature, (Sallis et al. 2011) defined the term micro to describe elements of the built environment that represent small-scale details, which are generally more adaptable, cost-effective to modify, and visible to pedestrians. This study aimed to conduct a detailed analysis of the micro-scale characteristics of the built environments surrounding 12 school neighborhoods across four Spanish cities—Almería, Granada, Jaén, and Valencia—and examine their relationship with the percentage of adolescents who actively commute to school.

Methodology/Approach | Regarding the analysis of built environment variables, the Microscale Audit of Pedestrian Streetscapes Global (MAPS-Global) was employed—an internationally validated tool for analyzing the school neighborhood built environment (Pocock et al. 2020). Specifically, this tool had been validated for data collection in Spain through online observations (Queralt et al. 2021).

The study analyzed the entire perimeter of streets surrounding each educational center’s plot using 38 items, covering various design infrastructures and built environment features such as crosswalk amenities, signage, and traffic calming measures, among others. After the audit, the data were processed using IBM SPSS Statistics, applying descriptive analyses to understand the condition of the built environment, as well as patterns and trends in the results obtained. Concerning health-related characteristics, the data was obtained from PACO study (Chillón et al. 2021) in which 335 adolescents completed a questionnaire to assess the mode and frequency of commuting to and from school (Chillón et al. 2017; Segura-Díaz et al. 2020).

Expected Results | The findings evidenced the heterogeneity of the school neighborhood built environment features. Unfortunately, no optimal micro-scale urban conditions were found. However, differences emerged among the educational centers analyzed. Virgen del Carmen (Score: 55.04) and Maritim (50.95) had the highest scores in micro-scale built environment characteristics, aligning with the highest percentage of adolescents walking to/from school, 88.9% in Virgen del Carmen (Jaén) and 88% in Maritim (Valencia). Conversely, the most unfavorable situation was observed at Fray Luis School in Granada, with a score of 23.30 in “Active Commuting”, coinciding with the lowest percentage of adolescents walking to school (27.5%). These results highlighted the crucial role of the school neighborhood built environment in promoting active commuting to/from school.

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A MULTIVARIATE MEASURE OF THE SMARTNESS OF TOURIST DESTINATIONS: APPLICATION TO EXTREMADURA (SPAIN)

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Abstract

Purpose | The DTI model is a tourism destination management model developed by the Spanish Secretary of State for Tourism. This model considers that the smartness of tourist destinations is based on 5 dimensions: governance, innovation, technology, sustainability and accessibility. All these dimensions have a pronounced multidimensional nature, which requires the quantification of the value of a wide range of indicators (metric and dichotomous). In order to obtain a single value for each dimension of the model in a specific tourism destination and to determine the relationship between dimensions, multivariate statistical tools must be used.

Methodology/Approach | In order to quantify each of the five dimensions of the model in the 28 tourism microdestinations of Extremadura into a single magnitude, a common factor analysis model was used, using principal components as the extraction method. Once unique values were obtained for each dimension, a bivariate correlation matrix was built to determine whether there is a statistical relationship between these 5 dimensions in the territory under study. Finally, and on the basis of the factor values obtained, the 28 microdestinations studied were classified into groups or segments, using a hierarchical segmentation technique.

Expected Results | The large number of indicators used to measure each of the dimensions of the DTI model, and the large number of aspects of tourist destinations (some of them unconnected or poorly related) which the Spanish General Secretariat of Tourism wishes to quantify, suggest that the number of common factors necessary to capture a high percentage of variance in the original indicators is quite high (equal to or greater than 5). Furthermore, it is not expected that there will be a strong statistical correlation between the dimensions of the model, possibly as a consequence of the lack of implementation of integrated tourism policies in the region and the execution of projects of a more conjunctural than structural nature, financed with European funds, not directly linked to an integrated management model for tourist destinations in the region.

Keywords | STD model, factor analysis, correlation, hierarchical segmentation.

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MUNICIPAL PERFORMANCE IN SUSTAINABILITY: APPLICATION TO CIMRC MUNICIPALITIES**Gabriel Tomás Henriques**

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Purpose | The Sustainable Development Goals are increasingly a topic discussed in scientific literature. Since these objectives are relevant at any level, this work aims to verify not only the relevance, but the success of sustainability in municipalities, to know whether the performance of municipalities varies with the adoption of policies to fulfil them or whether they are determined by their contexts. Therefore, I am interested in addressing this issue, since it concerns the entire population, and we can all contribute, in some way, to making municipalities, countries and the world a welcoming and sustainable place, preserving it for future generations.

Methodology/Approach | During the research, the minimum and maximum method will be used in order to obtain a generic index for all indicators, that is, all calculated so that their value ranges between 0 and 1. Furthermore, weighted averages will be calculated between the indexes to obtain municipal average values and, subsequently, an inter-municipal index. Therefore, it made sense to use the aforementioned methods, since they had already been used by other authors for similar studies.

Expected Results | It is expected that municipalities that are more developed will possibly be those that will make the most progress in terms of meeting the SDGs, and those that have more policies to meet the SDGs will be closer to achieving them compared to others. The results obtained may be somewhat biased due to there being few indicators considered relevant for each SDG. It should also be noted that if one of these indicators has a relatively low index, its overall index may decrease, thus significantly affecting its performance in a biased manner.

Keywords | Sustainability, sustainable development, municipalities. Development, SDG.

BLOWIN' IN THE WIND: EXPLORING THE GEOGRAPHIES OF KNOWLEDGE DYNAMICS AND INNOVATION IN THE EUROPEAN HI-FI INDUSTRY

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Abstract

Purpose | Territorial Innovation Models (TIMs) recognise the significance of a firm's (regional) context in promoting growth and competitiveness, as the interaction with local actors and institutions is crucial for knowledge generation, absorption and innovation development (e.g., Moulaert & Sekia, 2003). Nevertheless, firms can also access knowledge and engage in purposefully built collaborations to develop innovative solutions at broader spatial scales to create innovative solutions (e.g., Fitjar & Rodríguez-Pose, 2017; Lorentzen, 2008). Furthermore, the TIMs framework tends to emphasize the significance of agglomeration economies for the innovation performance of firms, where evidence similarly suggests that firms located in peripheral areas achieve comparable levels of innovation performance (e.g. Fritsch & Wyrwich, 2021; Shearmur, 2017).

This study positions the cross-country analysis of the European High-Fidelity (Hi-Fi) Industry as a relevant approach and contribution to the debates mentioned above.

Methodology/Approach | Hi-Fi can be described as a 'cottage industry', consisting of SMEs and individual businesses that manufacture at least a component (e.g., loudspeaker, turntable, amplifier) that enables music consumption at home via a Hi-Fi system.

From a geographical perspective, the preliminary mapping conducted in this study identified approximately 1200 active manufacturers across 30 European countries, spanning from the Algarve to the Black Forest and near the Arctic Circle. Although the spatial distribution is uneven distribution, agglomerations are found, confirming evidence from prior research (May et al., 2001).

From an innovation (technological) standpoint, the Hi-Fi industry strives for continuous innovation (product and process) (Oliver et al., 2007), relying on the development and application of a wide range of specialised knowledge areas and varying levels of technical complexity. The technological landscape of Hi-Fi comprises new emerging technologies at the early stages of development and adoption (particularly in the digital domain), and less commercially successful or (apparently) outdated ones that are nonetheless still produced and used (particularly in the analog domain), as demonstrated by the enduring appeal of the vinyl, and lately tape formats (Bartmanski & Woodward, 2015). Consequently, manufacturers may resort to carpentry to produce loudspeaker cabinets, utilise and develop advanced materials for loudspeaker cones and drivers, and precision engineering and electronics for the design of PCBs, or refine digital signal processing for decoding digital audio from music streaming services. This variety becomes more intricate, as some manufacturers may specialise in one type of product (e.g. loudspeakers), suggesting a narrower knowledge base, while others may have a broader product portfolio, indicating the need for a more diverse knowledge base and a wider array of competences, which may not necessarily be available in-house.

Expected Results | Despite the low brand recognition beyond the user (audiophile) community, European Hi-Fi manufacturers are 'Hidden Champions' (Schenkenhofer, 2022), as they are primarily oriented towards the foreign (export) markets, outcompeting the electronics 'giants', particularly in niche segments (e.g. High-End Audio).

Beyond the contributions to the aforementioned research discussions, the findings of this study are also expected to have a broader reach in terms of the European Industrial Policy debate, at a time when the 'European Reindustrialisation' gains prominence on the political agenda, and particularly in the context of the Smart Specialisation Strategies 'Era', contribute to reflect on the importance of 'wildcard' (niche) industries in facilitating regional diversification towards more complex knowledge cores, and improving economic performance (Rigby et al., 2022).

Keywords | Hi-Fi Industry, Innovation, Economic Geography.

Acknowledgments | This work receives financial and institutional support from INNUOS (www.innuos.com).

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A REGULAÇÃO AMBIENTAL E O SEU IMPACTO NO COMPORTAMENTO DAS EMPRESAS: UM ESTUDO DE CASO EM SANTA MARIA DA FEIRA

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Abstract

Propósito | Problemas regulatórios de natureza ambiental têm características específicas como externalidades e dificuldades de detecção. Imposições “à força” pelo Estado resultam apenas no cumprimento mínimo necessário a evitar sanções. As empresas podem levar a cabo auto-regulação visando adiar ou impedir regulação e sanções. A literatura prevê os melhores resultados através de um modelo híbrido que combina estes dois mecanismos: a regulação impõe um mínimo a cumprir, e a auto-regulação dá resposta às necessidades particulares de cada indústria e fomenta a inovação. A consciencialização das famílias reveste-se de magna importância, não só impactando os incentivos das empresas através das suas decisões de consumo, mas também impactando a regulação em si, e as iniciativas levadas a cabo pelo ramo executivo, através do seu sentido de voto, em regimes democráticos.

Metodologia | De modo a melhor compreender a aplicação prática destes princípios, bem como o grau de correspondência entre as recomendações da literatura e a política pública em vigor no presente, entrevistei dois decisores públicos municipais na área de circunscrição do presente estudo.

Resultados | Em Santa Maria da Feira, presenciamos traços do tal modelo híbrido. Regulação ambiental apoiada por sanções garante um certo nível mínimo de cumprimento, e há lugar a iniciativas voluntárias incentivadas pela Câmara, que se encarrega da supervisão do cumprimento daquilo a que as empresas se propõem, evitando um “pitfall” identificado na literatura. O município encarrega-se ainda de corrigir duas das principais causas de incumprimento ambiental: a falta de informação, especialmente grave em pequenas empresas, levando a cabo acções de sensibilização, e proporcionando um espaço para a troca de boas práticas entre empresas; e a falta de recursos, nos casos em que a Câmara tem autoridade legal e capacidade financeira para implementar soluções colectivas mais eficazes e com menor custo do que aquelas que poderiam ser implementadas individualmente pelos agentes privados.

Palavras-chave | Economia do ambiente; Regulação ambiental; Regulação híbrida; Política pública; Comportamento das empresas.

**COMPETITION IN A VERTICALLY DIFFERENTIATED DUOPOLY UNDER
ASYMMETRIC MARGINAL COSTS****Williams Huamani**Universidade Federal da Integração Latino-Americana (Brazil)
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Purpose | We will present a complete characterization of the equilibria in a vertically differentiated Bertrand duopoly market under asymmetric marginal costs. Accordingly, we will analyze the implications for the minimum differentiation principle and the configuration of market segments.

Methodology/Approach | We consider a market where consumers are distributed over an interval. The demand system is determined by an indifferent consumer, served by two firms producing vertically differentiated goods. One firm offers a higher-quality product than the other, and both face different marginal costs. Our model is derived from the models of Moorthy [1988], Choi and Shin[1992], and Wauthy[1996]. To achieve our objective, we frame this scenario within game theory and seek the Nash equilibrium.

Expected Results | We expect to derive an equilibrium price configuration and a characterization of the different market segments, defined by the marginal costs of the firms. This result will help us analyze, in the future, how marginal costs endogenous to product quality can influence equilibrium prices.

Keywords | Vertical differentiation, duopoly, price-setting, asymmetric costs.

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EVALUATING URBAN SPRAWL THROUGH DIVERSIFIED ENTROPY INDICATORS IN URBAN SYSTEMS. APPLICATION TO THE LISBON METROPOLITAN AREA

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Abstract

Urban areas are multidimensional systems comprising individuals, communities, enterprises, and infrastructures coexisting in the same geographical area where many types and degrees of interaction can occur. The unchecked expansion of those areas, a relevant feature of urban sprawl, is a common and growing phenomenon in different urban systems (e.g., metropolitan areas). Urban Sprawl, due to its social, environmental, transportation, and economic impacts, is a major concern for planning policies.

Modeling urban sprawl is generally considered a challenging task, as several techniques could be used to develop measurements and model different aspects of sprawl. Moreover, sprawl metrics could comprise wider scopes, as well as unidimensional measurements or a combination of multiple dimensions (e.g., density, accessibility, diversity). Some of these dimensions include several metrics such as urban densities (e.g., population, jobs), entropy, spatial geometry indexes, or street network accessibility. Measures of diversity (e.g., entropy indicators) provide a means to evaluate the “mix” of open and urban space throughout an urban or metropolitan area. So, they are regularly used to measure urban sprawl, to reveal land-cover patterns (e.g., dispersed vs. compact), and to describe the structure and behavior of different systems.

This paper measures the evolution of urban sprawl in the Lisbon Metropolitan Area for the period 1991-2021 using Shannon’s and Batty’s entropy indicators based on data for population density at the level of civil parishes. We use spatial panel data models to explain the variation in these entropy indicators as a function of transport infrastructure, both road and rail-based; accessibility indicators; commuting costs; geographical indicators; socioeconomic variables; and land use policy variables. The main outcomes will allow us to discuss, the evolution of sprawl within the metropolitan area of Lisbon in the last three decades, and even more importantly, the main drivers of the observed sprawl evolution.

Keywords | Sprawl Measurement; Entropy; Transportation; Metropolitan Area; Urban Systems.

DIGITAL TRANSFORMATION IN MEXICO CITY'S TOURISM: TOWARDS A SMART DESTINATION.

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Abstract

Purpose | The society of knowledge has become relevant in recent decades, turning innovation, technology, and disruptive tools into imperative needs for companies, governments, and society. In this context, all organizations have had to adapt their operations to the constant technological changes, and the tourism industry is no exception. Mexico City stands out as one of the most competitive Smart Cities in Latin America; tourism in CDMX is a city leader for the huge cultural, gastronomic, and business tourism in Mexico. The concept of Smart Tourism Destinations, which integrates technology as its essential component, is being increasingly explored by the scientific community and governments. This approach offers great potential for the economic growth of nations, making it a crucial element in maximizing benefits for both society and the companies involved. This work aims to analyze how the touristic companies in Mexico City have implemented digital technologies to facilitate the transition to a Smart Tourism Destination.

Methodology/Approach | The research begins with a review of the literature on Digital Transformation (DT) and Smart Destinations (SD), developing a theoretical framework. Additionally, examining the issue from a quantitative standpoint. Through comparative analysis and variable correlation, the types of technology and the efforts made by Mexico City in this area are examined.

Expected Results | The expected results are intended to determine at the correlation level that the digital transformation influences Mexico City to become a Smart Destination, which will allow it to reach an outstanding international competitiveness.

Keywords | Digital Transformation, Digital Technologies, Smart Destination, Latin Tourism.

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ARCHITECTURAL HERITAGE CONSERVATION IN POST-GROWTH RURAL PORTUGAL: AN EXPERIMENTAL PRACTICE OF THE TORRÃO LAB PROJECT AND ITS REPLICABLE MODEL

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Abstract

Nowadays, counter-urbanization has become an unavoidable reality in developed countries, reshaping the dynamics between urban centres and rural areas. As rural regions absorb population shifts from metropolitan areas, heritage conservation faces the challenge of balancing the increasing demand for revitalisation with the need to preserve cultural and historical integrity. Torrão, a town in Alentejo located an hour and a half from Lisbon, represents a compelling case of rural revitalisation, where architectural heritage plays a central role in shaping sustainable development strategies. In this post-growth era, it offers a valuable opportunity to explore conservation methodologies that juggle with cultural continuity and economic sustainability.

Through our half-month research in Torrão, conducted in collaboration with DaST, this study investigates a community-driven model for heritage conservation that ensures the cultural identity of historic spaces remains integral throughout the revitalisation process. As I have just said, the challenge of ignoring the individual identities of heritage sites and their embedded cultural contexts are ubiquitous when the conservation is hosted by macro governmental institutes, while the Torrão LAB project, led by DaST, proposes a replicable, locally rooted approach. A key innovation of the project lies in employing local residents with professional expertise as mediators between external specialists and the local community. This approach fosters a participatory process in which heritage conservation is shaped by both technical knowledge and local narratives.

Within this framework, our research focused on the abandoned Cerrado Olive Oil Factory, which also served as the site for our final-year project as architecture students from XJTLU. Initially, we followed conventional architectural conservation methods, conducting structural surveys and risk assessments to evaluate the building's condition. However, despite completing these technical analyses, we struggled to establish a clear direction for the renovation plan. Recognising the limitations of a purely data-driven approach, we refined our methodology to incorporate extensive interviews and community engagement. By integrating local perspectives, we sought to understand how the factory's identity and symbolic meaning were perceived by the inhabitants, ensuring that its revitalisation aligned with both cultural continuity and contemporary needs. While historical records and architectural analysis provide a scientific foundation made of data and maps, the lived experiences and collective memory of the community shape how heritage buildings can be meaningfully reintegrated into contemporary life. By incorporating these local perspectives, our methodology ensures that conservation efforts contribute to multi-dimensional sustainability—preserving architectural identity, fostering social cohesion, and accommodating the functional demands of urban tourism. This practice underscores the importance of the participatory conservation model in the context of post-growth economies, where rural revitalisation depends on holistic strategies that integrate ecological, cultural, and economic dimensions. The case of Torrão suggests that heritage conservation, when embedded in local cultural context and community agency, can serve as a catalyst for sustainable rural regeneration.

Keywords | Community-driven, participatory conservation model, architectural identity, cultural context, Portugal rural revitalisation.

REFLECTIVE FUNCTIONALISM IN RURAL HERITAGE CONSERVATION –
TORRÃO AS A POTENTIAL CASE STUDY**Martin Goffriller**

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Torrão, a historic agro-pastoral settlement in Portugal's Alentejo region, lends itself ideally as a living laboratory for redefining rural sustainability through the lens of reflective functionalism. This framework, partially informed by Laurajane Smith's well-established critique of heritage as a dynamic social process (Smith 2004, 2011), moves beyond static preservation to interrogate the symbiotic relationships between ecological systems, cultural memory, and socio-economic resilience. Torrão's inherent strengths—its ancient hydraulic networks shaped by Roman and Islamic hydrological traditions, fertile soils sustained by centuries of communal land management, and vernacular architecture reflecting adaptive construction techniques—are not mere resources but active expressions of inherited knowledge.

'Reflective Functionalism', therefore, prioritises a certain homeostatic equilibrium and resilience over constant growth. The method combines ethnographic engagement with archival analysis to map historical "functional thresholds" (e.g., pre-industrial crop yields, kinship-based labour networks) and assess their applicability to contemporary challenges.

In the case of Torrão we suggest that the functionalist approach might manifest itself through potential catalytic strategies such as the revival of a Junta de Água—a type of water council—which would reposition resource governance as a collective social practice. We argue that decentralising decision-making to local stakeholders, so that this participatory model reinstates water as a relational commons, fostering intergenerational stewardship of irrigation networks while integrating modern hydrological techniques sensors to balance equity and efficiency. Such interventions exemplify reflective functionalism's core tenet—that stability arises not from stasis but from empowering communities to reinterpret tradition as a dynamic toolkit for metabolic balance. The framework rejects nostalgic preservation, instead advocating for negotiated continuity.

This study challenges the standard Authorised Heritage Discourse (AHD) by positioning Torrão not as a relic but as a theatre of adaptive memory—where intangible practices (e.g., corral building rituals) and tangible infrastructures co-evolve to negotiate post-growth futures. Findings offer transferable insights for Mediterranean region grappling with desertification and cultural erosion, demonstrating how reflective functionalism transforms heritage from a burden of conservation into a toolkit for systemic resilience.

Keywords | Reflective Functionalism, Rural Heritage Conservation, Adaptive Memory, Authorised Heritage Discourse (AHD).

CONSTRANGIMENTOS NO CRESCIMENTO E SUSTENTABILIDADE DAS PEQUENAS E MÉDIAS EMPRESAS EM CABINDA-ANGOLA**Agostinho Bumba**

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Atividade empresarial em Angola, apresenta uma especificidade na estratégia competitiva, algo que impacta, em grande medida, o posicionamento concorrencial entre empresas em diferentes regiões do País. Nesta abordagem subjetiva-se como:

Objetivo | O principal objetivo da pesquisa é compreender os principais constrangimentos no crescimento e sustentabilidade das pequenas e médias empresas em Cabinda / Angola.

Metodologia | No cumprimento dos objetivos que se pretende almejar, adotou-se um estudo de tipo qualitativo, associado de um estudo de caso composto por treze (13) empresários / gestores com grande destaque das pequenas e médias empresas sediadas na Província de Cabinda -Angola. Entrevista foi a técnica utilizada para obtenção de dados.

Resultados: Dos treze (13) empresários / gestores constituintes da mostra, Sete (7) pertence a categoria de pequenas empresas e cinco (5) na categoria de média empresa, das pequenas empresas, cinco (5) localizadas geograficamente ao centro e dois (2) na periferia, das médias empresas, quatro (4) situadas geograficamente ao centro e uma (1) na periferia. Na exposição dos entrevistados foram unânimes em considerar constrangimentos relacionado ao ambiente empresarial pouco atrativo, insuficiência de incentivos públicos direcionados ao crescimento das empresas, reformas fiscais com efeitos retroativos no âmbito empresarial, estrutura de mercado complexo para sobrevivência às empresas, cumprimento do contrato social que regulam às parcerias entre o empresariado local e entidade pública.

Conclusões | O crescimento de uma empresa, é importante na atividade empresarial, porém, a sintonia das leis que regulam o mercado é fundamental para garantir um ambiente saudável para sobrevivência e sustentabilidade das empresas.

Palavras-chave | Crescimento, Sustentabilidade, PME, Cabinda / Angola.

DESAFIOS DOS PRODUTORES RURAIS PARA A UTILIZAÇÃO DE MÉTODOS SUSTENTÁVEIS DE PRODUÇÃO: UMA REVISÃO BIBLIOMÉTRICA DA LITERATURA

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Resumo

Nos últimos anos, a produção científica sobre desenvolvimento rural sustentável tem crescido, mas ainda não se consolidou como um campo de pesquisa sólido nem recebe a devida atenção. Este estudo tem como objetivo identificar os desafios enfrentados pelos produtores rurais na adoção de métodos sustentáveis de produção. Para isso, foi realizada uma revisão de literatura utilizando o modelo PRISMA, a fim de orientar a estratégia de pesquisa e a seleção dos dados. A análise incluiu 52 publicações da base de dados Scopus, referentes ao período de 2013 a 2023. Além disso, foi realizada uma análise bibliométrica quantitativa com o software VOSviewer. Os principais resultados apresentam implicações para diversas áreas, como pesquisa acadêmica, formulação de políticas públicas, cooperação internacional, práticas agrícolas e investimentos. A análise das palavras-chave mais frequentes, como "desenvolvimento rural" e "sustentabilidade", revelou os principais focos das pesquisas na área. Além disso, a identificação da China, do Reino Unido e do Canadá como os países que mais publicam sobre o tema sugere que suas políticas podem servir de referência para outras nações interessadas em fortalecer o desenvolvimento rural sustentável. Os programas de extensão rural desempenham um papel essencial, fornecendo aos produtores o conhecimento e as ferramentas necessárias para a implementação de práticas sustentáveis que sejam viáveis econômica, social e ambientalmente. O investimento deve priorizar o desenvolvimento de tecnologias agrícolas sustentáveis, a identificação de práticas eficientes de gestão de recursos naturais e a compreensão dos fatores que influenciam a adoção dessas práticas pelos agricultores. Como principal conclusão, o estudo destaca que o desenvolvimento rural sustentável exige uma abordagem integrada, envolvendo aspectos sociais, econômicos e ambientais. O tema ainda não é um campo de pesquisa totalmente consolidado, mas as tendências indicam um crescimento das colaborações internacionais, o que pode contribuir para sua consolidação futura. Essas descobertas podem orientar pesquisas futuras e oferecer uma visão global sobre o estado atual da investigação nesse campo.

Palavras-chave | Desenvolvimento rural, Métodos sustentáveis de produção, Produtor rural, Sustentabilidade, Análise bibliométrica.

TOURISM INTENSITY: AN INSIGHT ACCOUNTING FOR THE TERRITORY ACCOMMODATION CAPACITY

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Abstract

Purpose | After a break in the pandemic years, the tourism global bust cycle (Gössling & Peeters, 2015) is again on its way. Since the impacts of tourism development are often economically, socially, and environmentally unbalanced, sustainability and overtourism concerns are among the priorities of tourism stakeholder's agenda. Recognizing the multidimensional nature of tourism sustainability and overtourism, implies, for their measurement and monitoring, the use of synthetic indicators that take into consideration, and aggregate, multiple dimensions (Miller & Torres-Delgado, 2023; Buitrago & Yñiguez, 2021; Batista e Silva et al., 2021). Independently of the other indicators that compose sustainability or overtourism composite indexes, the main driver of unsustainable tourism or overtourism is the existence of a relatively high number of tourists in a specific area, that can be measured by the relationship between the nights spent and the resident population. We claim that we can disclose relevant information on the sources of tourism intensity in each territory if we also consider data on the accommodation capacity. We split tourism intensity into two different measures, the accommodation utilization rate and the accommodation capacity rate. This disaggregation allows us to distinguish different sources of tourism intensity, and when measured over the years, the sources of tourism intensity variation.

Methodology/Approach | We use data on nights spent, resident population and the existing beds for the six NUTS III regions of the Center region of Portugal, for the period between 2014 and 2023. We calculate the bed occupation rate (nights spent / existing beds) and the accommodation capacity rate (existing beds / resident population) and also their growth rates and identify the sources of tourism intensity and tourism intensity variation in this period of exceptional growth for tourism activity in the country.

Expected Results | We characterize the NUTS III regions of the Center Region of Portugal according to tourism intensity levels and we identify the sources of tourist intensity growth within this period. We distinguish between the regions where tourism intensity grew mainly due to the increase in the accommodation capacity and the regions where this growth was mainly due to the increase in the occupation rate of the existing accommodation capacity. This distinction is relevant since it reveals the regions where the increase in the accommodation capacity rate creates the conditions for a further increase in the number of tourists, and economic receipts for the region, eventually compromising the quality of hospitality services and creating over-demand. Furthermore, since the pandemic period is covered in our analysis, we identify the different impact it had on tourism activity in these NUTS III regions.

Keywords | Tourism, Portugal, NUTS III regions, Tourism intensity.

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RENTABILIDADE DA RESINAGEM EM POVOAMENTOS DE PINHEIRO-BRAVO: ANÁLISE TÉCNICO-ECONÓMICA DE DIFERENTES MODELOS DE EXPLORAÇÃO

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Resumo

Objetivo | Este trabalho tem como objetivo analisar a rentabilidade empresarial da resinagem em povoamentos de pinheiro-bravo orientados para a produção de madeira. Para isso, são avaliados diferentes cenários de exploração que combinam a extração de madeira e resina, considerando variações na localização geográfica, nas características do terreno e nas opções tecnológicas e produtivas.

Metodologia | O trabalho, de âmbito multidisciplinar, reuniu académicos e técnicos especializados do setor, permitindo a identificação das várias operações técnicas, suas opções e condicionantes, na fase de instalação e na fase de exploração do povoamento florestal, bem como a identificação dos produtos e quantificação dos rendimentos e dos custos associados. Os sistemas considerados incluem a plantação de novos povoamentos e a condução da regeneração natural, que podem ser sujeitos a desbastes em diferentes idades e integram distintos sistemas de extração de resina, nomeadamente à vida e à morte. Como rendimentos foram considerados os provenientes da venda de madeira e de resina. Os custos incluem a instalação do povoamento bem como os custos operacionais com a sua gestão. Os dados técnico-económicos foram suportados na literatura da especialidade (p.e. Fonseca e Carneiro, 2019), nas tabelas de dados com custos de referência para arborização, rearborização, beneficiação e exploração florestal, desenvolvidas pela Comissão de Acompanhamento para as Operações Florestais (CAOF, 2022a, 2022b, 2022c), nas simulações da evolução da floresta ao longo do ciclo produtivo e da distribuição diamétrica geradas pela plataforma Modispinaster, e na consulta do mercado. Os indicadores económico-financeiros calculados foram o Valor Atual Líquido (VAL) e a sua Anuidade, a Taxa Interna de Rentabilidade (TIR) e o rácio Benefício/Custo (B/C), permitindo uma análise comparativa entre os diferentes modelos de exploração florestal.

Resultados esperados | Os resultados indicam que a extração da resina permite maior rentabilidade da exploração florestal e proporciona, tal como os desbastes, entradas anuais de capital que reduzem os longos intervalos de rendimentos provenientes da extração da madeira. A maior presença de trabalhadores na floresta, associada à necessidade de gerir/reduzir a vegetação arbustiva (mais combustível) para a atividade, reduz ainda o risco de incêndios. Os cenários que adotaram a regeneração natural mostraram-se mais vantajosos do que os baseados na plantação, uma vez que evitam custos iniciais elevados e permitem um melhor aproveitamento das condições naturais de crescimento. Entre os diferentes tipos de resinagem

analisados, a resinagem à morte, realizada de modo intensivo, nos últimos anos do ciclo antes do corte final demonstrou maior impacto económico-financeiro.

Palavras-chave | Pinheiro-bravo; rendibilidade empresarial; sistema produtivo; tomada de decisão.

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A SUSTENTABILIDADE COMO FATOR DE COMPETITIVIDADE DO ENOTURISMO NAS EMPRESAS VITIVÍNICOLAS: UMA REVISÃO SISTEMÁTICA DA LITERATURA

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Resumo

Apresenta-se neste artigo o resultado de uma revisão sistemática da literatura sobre a relação entre sustentabilidade e competitividade no enoturismo, com foco nas empresas vitivinícolas em Portugal. O objetivo principal foi analisar como a literatura tem abordado a influência das práticas sustentáveis das empresas vitivinícolas na atividade enoturística. Para isso, foi utilizada uma metodologia de análise qualitativa, com apoio do software NVivo, que permitiu a sistematização e análise de artigos científicos sobre os temas de sustentabilidade e enoturismo. A análise envolveu a criação de códigos e clusters, bem como a aplicação de ferramentas como nuvem de palavras e codificação em matriz.

Os resultados da amostra indicam que a literatura reconhece a importância das práticas sustentáveis implementadas pelas empresas vitivinícolas na dinâmica do enoturismo. No entanto, verifica-se uma escassez de estudos que abordem explicitamente o impacto da sustentabilidade na competitividade do enoturismo das empresas vitivinícolas. Este facto aponta para uma lacuna significativa na literatura que deve ser aprofundada em investigações futuras, considerando as implicações para a formulação de políticas públicas e estratégias empresariais no setor.

Palavras-chave | Enoturismo, Sustentabilidade, Competitividade, Empresas Vitivinícolas.

EMPOWERING RURAL COMMUNITIES FOR SUSTAINABLE GROWTH: THE NEWECOSMART APPROACH

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Abstract

Purpose | New Rurality is transforming rural regions through economic diversification and sustainability, yet areas in Southern Europe—namely in Portugal, Spain, and Italy—lag behind, struggling with depopulation, infrastructure gaps, and limited policy integration despite EU rural development frameworks (Álvarez Lorente et al., 2020; Mantino, 2010).

NewEcoSmart (NES), an ESF+ funded project, is aligned with advancing New Rurality's goals of economic diversification and sustainability, namely by equipping rural residents with more than 45 years with skills for the green and digital transition and entrepreneurship. NES relates with New Rurality's vision by closing skill gaps, boosting entrepreneurship and promoting eco-friendly practices, aiming to reverse rural decline and ensuring long-term prosperity for these regions.

Stakeholder engagement is key to NES, ensuring it tackles rural challenges in digital, green and entrepreneurial sectors. NES collaborated with educators, municipalities, SMEs and industry groups to develop training tools that address emerging job markets, support rural entrepreneurship and boost community-led development, fostering sustainability, social and economic resilience.

Methodology/Approach | NES Communities were formed to foster collaboration throughout the project development process, ensuring co-creation, refinement, and validation of activities. Comprised of three regional communities, an Intercommunities group, a transnational community, and NES consortium partners, this structure supports knowledge exchange and the replicability of results. Local communities were created in Montemor-o-Velho (Portugal), Yecla (Spain), and Pacentro – Maiella Madre Green Community (Italy) to align outcomes with regional contexts. Each local community, represented by an ambassador, participated in collaborative sessions to identify challenges, share best practices, and explore new policies and business models. The NES transnational community, a network of EU-funded projects, experts, and stakeholders, promotes innovation through cross-border cooperation focused on sustainability and long-term impact. This stakeholder engagement strategy fosters long-term collaboration, knowledge sharing, and cross-border innovation, driving sustainable solutions and effectively addressing the challenges of the twin transitions.

Expected Results | The interaction between science and society (stakeholders) can inspire innovative research programs and foster transdisciplinary networks (Koskinen, 2023). The NES Communities will remain active beyond the project, facilitating the exchange of challenges, best practices, peer learning, and cross-border collaboration. Through ongoing stakeholder engagement, NES ensures its results address real-world challenges. By maintaining partnerships, hosting follow-up events, and strengthening communication, NES will sustain knowledge exchange and collaboration. Empowered stakeholders, with effective strategies, will continue driving positive change and innovation in their regions. Efforts to expand the NES community have also uncovered opportunities for scaling up and applying NES tools in medium-sized municipalities and metropolitan peripheries.

Keywords | Sustainability, Twin transition, Stakeholders, Engagement, Collaboration.

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ON THE TECHNO-ECONOMICS OF GREEN HYDROGEN AND SUSTAINABLE FUELS: POWER-TO-X FROM OFFSHORE WIND IN PORTUGAL

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Abstract

Green hydrogen stands out as a strategic element within the Portuguese and European panorama. This resource can be used as a feedstock, fuel, or energy carrier. This paper presents a techno-economic analysis linking the future offshore floating wind farms in Portugal, green hydrogen, and other sustainable fuels (Power-to-X). The study aims to assess the costs and feasibility of green hydrogen and other sustainable fuels that use hydrogen as a feedstock in Portugal. For this, a techno-economic model was designed, considering an offshore wind farm of 1 GW off the coast of Portugal, which will supply the required electricity to a fuel production hub onshore. The fuel production hub is situated in northern Portugal, near the designated areas for offshore wind auctions and the Port of Leixões. Different scenarios are considered, one to produce green hydrogen and its distribution in gaseous form through a hydrogen pipeline that will interconnect all of Europe. Under this scenario, the hydrogen can be produced in Portugal and delivered, for example, to Germany. Another scenario involves liquefying the hydrogen and distributing it through maritime transport to Germany, specifically to the Port of Wilhelmshaven, which is expected to have a new hydrogen terminal after 2028. Four other scenarios were considered, in which 100% of the green hydrogen is used to produce ammonia, methanol, biodiesel from hydrogenated vegetable oils (HVO), and sustainable aviation fuels. The Levelised Cost of "X" was obtained for every scenario and compared. Here "X" refers to gaseous hydrogen, liquified hydrogen, ammonia, methanol, HVO or SAF. Results show that green hydrogen, whether in gas or liquid form, remains a non-competitive commodity compared to hydrogen obtained from other sources. However, its transformation into sustainable fuels can be competitive. Ammonia, methanol, and SAF products are not less appealing in terms of costs due to the relatively high cost of offshore floating wind, which is expected to reduce over time. Results also showed that HVO can be a good option. The low cost of HVO is competitive with fossil fuels, primarily due to the reduced amount of hydrogen required to produce each tonne of HVO, and the low cost of the residual oil used in the process. For each ton of HVO produced, about 100 kg of hydrogen and 1200 kg of residual oils and animal fats are used. There is an opportunity to produce sustainable fuels using green hydrogen in Portugal, contributing to Europe's energy independence goals.

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A DIMENSÃO TERRITORIAL NO PORTUGAL 2030: UM VETOR ESTRATÉGICO PARA A COESÃO TERRITORIAL**Gonçalo Marques Barbosa**Agência para o Desenvolvimento e Coesão, I. P. (Portugal)
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A presente comunicação propõe-se a analisar o papel da dimensão territorial consagrada no Acordo de Parceria Portugal 2030 enquanto catalisadora da coesão territorial, sublinhando de que forma o atual quadro de fundos comunitários reforça a importância da atuação e cooperação entre agentes municipais, intermunicipais e regionais no combate às assimetrias regionais.

Neste contexto, será destacado o caráter distintivo do Portugal 2030 face aos quadros programáticos anteriores, em particular no que concerne aos novos instrumentos territoriais introduzidos pelo Governo português, no respeito pela regulamentação comunitária (Presidência do Conselho de Ministros, 2023; República Portuguesa, 2022). São disso exemplo os Instrumentos Territoriais Integrados (ITI) Redes Urbanas, os ITI Temáticos ou Funcionais e as Parcerias para a Coesão em Espaços Urbanos e não Urbanos.

Será igualmente abordado o caso do Fundo para uma Transição Justa que, embora não integre formalmente o conjunto de instrumentos territoriais do Portugal 2030, constitui um mecanismo de financiamento ancorado na dimensão territorial, já que está orientado para o apoio aos territórios mais vulneráveis no âmbito da transição para uma economia sustentável e neutra em carbono.

Assim, e com base numa análise documental de políticas públicas, esta comunicação pretende demonstrar a consolidação da dimensão territorial no atual ciclo de programação dos fundos comunitários, evidenciando uma aposta crescente em abordagens multinível e territorialmente diferenciadas para a aplicação dos recursos, com vista à promoção de um desenvolvimento mais coeso e inclusivo (Rodrigues & Ramos, 2018).

Palavras-chave | Coesão territorial, desenvolvimento regional, fundos comunitários, políticas públicas.

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CO-CREATION OF SUSTAINABLE DEVELOPMENT STRATEGIES FOR THE CULTIVAR STUDY AREA BASED ON THE ECOSYSTEM SERVICES FRAMEWORK

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Abstract

Purpose | Rural landscapes provide a comprehensive range of ecosystem services (ES) vital to local populations' support, development and well-being. However, those areas face multiple challenges (e.g., agricultural abandonment or intensification) that require co-creating sustainable solutions, which the ES framework could support. To address this gap, the 'CULTIVAR' research and innovation project for the sustainable development of the agri-food sector in the Beira Interior region employed a co-creation strategy to incorporate the vision and interests of local actors.

Methodological approach | Based on participatory methodologies, key ES were selected and mapped (using secondary data) and discussed with key stakeholders. A hot spot analysis was carried out to identify clusters

of high and low values of ES (hot and cold spots, respectively) that were used to identify synergies and mismatches between ES that supported a trade-off analysis. The ES maps were presented and discussed with stakeholders during participatory workshops. This process aimed to validate the maps and encourage a discussion on sustainable development strategies. It included a SWOT analysis followed by the "reverse engineering" approach (TWOS analysis) to support policy-making.

Results | The cultural landscapes associated with agrosilvopastoral activities were recognized as a Nature-based Solution that strikes a good balance between ES. One of the primary strategies identified was to support the rural economic dynamics linked to the related sectors (agriculture, livestock and forestry). This strategy should focus on innovation related to local products, such as improving production techniques and bringing the product's transformation industry to the territory. Additionally, it should be supported by ecotourism and agritourism, along with a well-coordinated marketing strategy that connects the production and tourism sectors. This approach could enhance the value of local products by promoting short market chains.

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O VISITANTE DA ROTA DA ESTRADA NACIONAL 2 – PERFIL E EFEITOS ECONÓMICOS**Paulo Almeida**

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Nos últimos anos, tem-se observado um crescente interesse nas rotas turísticas como uma estratégia eficaz para a promoção do turismo. As rotas turísticas, que podem ser temáticas, culturais ou paisagísticas, têm a capacidade de integrar territórios e atrair turistas para áreas que, de outra forma, poderiam permanecer desconhecidas e, assim, desperdiçar o seu potencial como motor de desenvolvimento sustentável.

A Rota da Estrada Nacional 2 (REN2) tem sido promovida como uma alternativa ao turismo de sol e praia, com o objetivo de atrair visitantes para o interior de Portugal e contribuir para o desenvolvimento económico das regiões atravessadas pela rota. Desde a sua promoção enquanto produto turístico, em 2016, pela Associação de Municípios da Rota da Estrada Nacional 2 (AMREN2), a REN2 tem captado a atenção de turistas nacionais e internacionais. Além de promover o desenvolvimento económico local, a REN2 desempenha um papel crucial na revitalização das áreas rurais e na preservação do património cultural e natural. O interesse crescente pela REN2 reflete uma mudança nos padrões turísticos contemporâneos, onde os turistas procuram experiências autênticas e personalizadas, longe das tradicionais zonas do litoral. Este fenómeno tem impulsionado a criação de infraestruturas e serviços ao longo da rota, beneficiando as economias locais e gerando novas oportunidades de emprego. A capacidade de inovação e adaptação da REN2 em resposta às expectativas dos visitantes é um fator determinante para o seu sucesso contínuo. A diversidade de atrações, a possibilidade de imersão cultural e a oferta de experiências gastronómicas genuínas são apenas alguns dos atrativos que consolidam a Rota da Estrada Nacional 2 como um destino turístico emergente e de alto potencial.

Este estudo teve como objetivo analisar o perfil dos visitantes da REN2 e os potenciais efeitos económicos que esses visitantes geraram nas regiões que atravessaram ao longo da rota. Como método de análise, foram realizados inquéritos aos turistas que percorreram a totalidade ou parte da REN2, a fim de obter dados sobre o perfil sociodemográfico dos visitantes, os gastos apresentados durante as suas viagens e o nível de satisfação com a experiência. Os resultados contribuem para uma compreensão abrangente do perfil dos visitantes, das suas motivações, comportamentos, despesas e nível de satisfação, e as conclusões obtidas fornecem relevantes insights que podem orientar a gestão e o desenvolvimento da REN2 como um destino turístico de referência.

Palavras-chave | Rotas turísticas, Estrada Nacional 2; Desenvolvimento Regional Sustentável.

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REDES DE ABASTECIMENTO E A DISTRIBUIÇÃO DE HIDROGÉNIO VERDE: O CUSTO E AS CONDIÇÕES DE MERCADO PARA PORTUGAL**Maria Espinha**LNEG - Laboratório Nacional de Energia e Geologia (Portugal)
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juliana.barbosa@lneg.pt**Resumo**

Este trabalho apresenta uma nova metodologia para apoiar o planeamento da localização das estações de abastecimento de hidrogénio (HRS) em Portugal. Assim, o propósito do estudo é selecionar potenciais localizações de HRS e custos associados para um conjunto de estações produtoras, com início de operação previsto antes de 2030. Com recurso ao software ArcGIS Pro, foi efetuada uma análise geo-espacial para selecionar os potenciais postos, consoante os seguintes cenários: localizações com base no acesso às principais rotas de transporte rodoviário de mercadorias (A1, A3, A6 e A25 e respetivas Estradas Nacionais num raio de 20km); e localizações tendo em consideração os postos de abastecimento da Rede de Emergência de Postos de Abastecimento (REPA).

Para cada um dos potenciais postos foi calculado o custo nivelado do hidrogénio verde (LCOH) para toda a cadeia de valor desde a produção até as estações de abastecimento. Para tal foram determinadas as rotas desde os centros hidrogeno-produtores até as potenciais localizações. O custo nivelado do hidrogénio foi obtido considerando os custos e a produção descontada usando uma taxa de desconto. Para estudar a variação dos custos, foi realizada uma análise de sensibilidade aos parâmetros mais relevantes. As condições do mercado de distribuição de hidrogénio em Portugal foi analisada de forma qualitativa, considerando alguns dos diferentes tipos de consumidores finais, tais como, transporte rodoviários coletivo de passageiros, transporte rodoviário pesado de mercadorias, maquinaria de construção e veículos ligeiros. Esta análise foi efetuada considerando fatores como: tempos de carregamento; disponibilidade da infraestrutura; taxas de adoção da tecnologia em outros países; número de estações de abastecimento requeridas; e custos associados em comparação aos combustíveis fósseis convencionais. Neste estudo, identificaram-se, assim, um total de 587 potenciais localizações para diferentes HRS. Os resultados indicam que o LCOH varia entre um mínimo de 6,5 €/kg e um máximo de 11,2 €/kg. Além disso, foram analisadas 2349 rotas considerando as quatro estações e os dois cenários, das quais 1432, ou seja, 61% das rotas, apresentam um LCOH compreendido entre 6 e 8 €/kg. As principais conclusões do estudo indicaram que o LCOH em Portugal é, respetivamente, 34%, 16% e 13% inferior ao observado na Alemanha, França e Dinamarca. Além disso, os setores que provavelmente adotarão, em primeira instância, a tecnologia do hidrogénio serão o transporte rodoviário coletivo de passageiros e o transporte rodoviário pesado de mercadorias.

Financiamento | Este projeto teve financiamento do Programa de Recuperação e Resiliência através da agenda mobilizadora Moving2Neutrality, WP3, Projeto 3.1.

PROJETOS E INOVAÇÃO SOCIAL: QUE INDICADORES PARA MEDIÇÃO DESTA RELAÇÃO?**Carla de Jesus Godinho Godinho**

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Carla.P.Jesus@gmail.com**Resumo**

O conceito de inovação social nem sempre foi um conceito presente na conceção e implementação dos projetos como uma resposta diferenciada na resolução de problemas sociais geradores de resultados úteis e sustentáveis. Atualmente, os projetos são cada vez mais destinados a públicos-alvo específicos, a territórios menos abrangentes e com resultados e impactos efetivamente capazes de gerar mudança.

Hoje, o conceito de inovação social tem uma perspetiva mais ampla, sendo um conceito multidimensional, relacionado com a produção de riqueza e ou de valor, associado a estratégias baseadas com o crescimento sustentável, com uma sociedade mais inclusiva, com mais emprego e oportunidades de trabalho, mais ecológica e competitiva.

Mas como se avalia a inovação social dos projetos? Que indicadores poderão ser criados para medir as mudanças nos territórios?

Existem vários conceitos de inovação social, mas direcionados para um processo de transição e de mudança. Numa altura em que os recursos são cada vez mais escassos, os projetos têm que se diferenciar uns dos outros pela sua capacidade transformadora.

Em termos de planeamento estratégico, este conceito foi analisado segundo três questões:

- O que são mudanças sociais inovadoras?
- Como é que as pessoas são capacitadas para contribuir para uma mudança transformadora?
- Quais os indicadores que podem ser criados para medir a inovação social?

Em termos de avaliação dos projetos muitas vezes deparamos com a incapacidade de estes não alavancarem mudanças nos territórios por variadas razões. Neste estudo são apresentados um conjunto de indicadores objetivamente verificáveis de dois projetos destinados a públicos-alvo vulneráveis e geograficamente delimitados e apresentar algumas causas por que os projetos nem sempre geram inovação social transformadora, começando pela falta de articulação entre os objetivos do projeto e os indicadores de realização e de resultado ou porque nem sempre existe coerência interna entre os indicadores comuns das operações integradas numa perspetiva mais macro e os indicadores definidos para os projetos. Neste sentido e no que diz respeito à análise da Inovação Social existem quatro elementos principais (Iceird, 2017, p. 20) relevantes na formulação, na implementação e avaliação dos projetos: “Identificação das necessidades sociais e dos requisitos da sociedade; investigar, projetar e desenvolver novas abordagens e soluções em resposta a essas necessidades sociais; avaliar a eficácia das soluções sugeridas e sua correspondência com as necessidades e exigências e ampliar inovações sociais eficazes.”

BRIDGING SOCIAL INNOVATION AND RESILIENCE: THE ROLE OF SOCIAL NETWORKS IN MEDITERRANEAN FOREST COMMUNITIES

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Abstract

Purpose | Social networks play a crucial role in fostering social innovation towards communities' resilience (Norris et al., 2008; Moore & Westley, 2011). By facilitating the exchange of knowledge and resources, social capital building and collaboration, within and between communities, social networks enhance self-organisation and adaptability, enabling communities to adapt to and overcome societal challenges, driving innovative approaches and practices to socio-ecological systems' resilience (Rockenbach et al., 2017; Castro-Arce & Vanclay, 2020; Novikona, 2021). The purpose of the PhD research is therefore to investigate and explore the role of social networks, focused on local informal networks, called shadow networks in Resilience Theory (Olsson et al., 2006), in driving SI to enhance forest communities' resilience.

Based on an integrated approach of Social Network and Social Innovation (SI) Theories, an analytical framework was developed and is being applied to forest communities' networks in Portugal and Greece, as both are cases of fire-prone forest in Mediterranean basin. Analytical Framework adopted three key aspects to identify potential, and barriers, of social networks to drive SI towards forest communities' resilience: i) What is the network being analysed? ii) In what ways does the network interact with and connect to various forms of SI? How are the actors within the network engaged with SI? iii) What other key issues or themes emerged from the in-depth case study of the networks that help explain the dynamics of SI in relation to the resilience of forest communities? (Haxeltine et al., 2016; Avelino et al., 2020).

Based on the analytical framework, in-depth empirical research is being carried out on a local informal network built through the Social Innovation Laboratory (InnoLab Bridge) in Monchique, a fire-prone forest in southern Portugal, called Monchique Action Group (Dias et al., 2023). Based on results of the analytical framework applied to Monchique Action Group' network (1st case study), and then, in-depth, cross-cases analysis between forest communities' network, the research will contribute with important findings on the potential, and current obstacles, of these local informal networks in conducting SI to enhance resilience of Mediterranean forest communities.

Methodology/Approach | PhD research adopted a Case Study Method (Stake, 2005; Yin, 2018) to analyse and explore how these social networks emerge as a local, self-organizing process and its role (and potential) in promoting SI towards forest communities' resilience. Based on in-depth empirical research, case studies in Portugal and Greece are being analysed empirically through cases data collected from documents and archival analysis, field observations / diaries and in-depth interviews with key actors and members of forest communities. Case studies data collected will be analysed using two distinct and complementary procedures to achieve the research objectives: Thematic Analysis, to identify key social processes and patterns among variables direct related to research questions, and Social Network Analysis (Scott & Carrington, 2005; Borgatti et al., 2018) to identify networks' structure, its connectivity and dynamics (channels, flows), and the structural position and role played by key actors within these social networks in supporting, leveraging and/or cross-scaling community-based innovative solutions to enhance forest communities' resilience.

Expected Results | This communication will present the findings of the PhD research up to the date of the 32nd APDR, namely the analysis of the first case study, Monchique Action Group Network, supported by InnoLab Bridge (Portugal). It also presents an analytical framework developed as part of the research which

aims to contribute to strengthening and supporting local informal networks in conducting SI to increase the resilience of Mediterranean forest' communities.

Keywords | Social Network Analysis, Social Innovation, Communities' Resilience, Forest Territories.

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FROM SOCIAL RESPONSIBILITY TO SUSTAINABLE TERRITORIES: ENHANCING WELL-BEING AND PURPOSE IN THE POST-2030 COHESION POLICY

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Abstract

The ongoing transition towards a sustainable development model in Europe calls for a rethinking of how territorial planning and the European Union's Cohesion Policy interact to address contemporary challenges. In this context, this paper proposes an integrated perspective that connects sustainable territorial planning with the internal social responsibility practices of organizations, focusing on well-being, purpose, and inclusive development. Drawing from the Portuguese experience, particularly the Alentejo region, we argue that the future Cohesion Policy (post-2030) must not only address structural territorial inequalities but also actively foster social cohesion within organizations and communities.

This contribution is based on mixed methods research, combining evidence from previous studies on corporate social responsibility, well-being, and organizational purpose in Portuguese organizations, with insights from a multi-case study conducted in the Alentejo region. The findings demonstrate that internal social responsibility practices—such as promoting well-being, fostering meaningful work, and adapting to remote and hybrid work models—are directly linked to territorial sustainability. They contribute to attracting and retaining talent, revitalizing rural and peripheral areas, and promoting a stronger sense of belonging and purpose in both organizations and communities. The paper advocates for a renewed paradigm where spatial planning and cohesion policy instruments integrate these social dimensions more explicitly. This approach enhances the capacity of territorial policies to generate not only economic and environmental benefits but also social value, reinforcing the Agenda 2030 objectives. The paper presents concrete policy recommendations for the Portuguese context, proposing innovative governance mechanisms and funding strategies that link social responsibility practices, sustainable development, and territorial resilience.

The results are particularly relevant for regions like Alentejo, which face demographic challenges, limited economic diversification, and social inequalities. By combining territorial planning with organizational practices that value human well-being and purpose, it is possible to foster inclusive, cohesive, and sustainable territories aligned with the priorities of the European Union's post-2030 Cohesion Policy.

Keywords | Sustainable Territorial Planning, Cohesion Policy, Social Responsibility, Well-being, Purpose, Territorial Resilience, Agenda 2030.

STRATEGIC AND TERRITORIAL ALIGNMENT: TOWARDS A STRONGER EFFICIENCY IN THE ARTICULATION BETWEEN EU COHESION POLICY AND SPATIAL PLANNING IN PORTUGAL**Paulo Neto**

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The articulation between Portugal's spatial planning instruments and the territorial instruments of the European Union's Cohesion Policy remains a complex challenge. Despite the existence of multiple regulatory and strategic frameworks at both national and European levels, there is still a lack of effective integration between the objectives of spatial planning and the financial and operational mechanisms of Cohesion Policy. This misalignment results in inefficiencies in territorial governance, difficulties in coordinating investments, and missed opportunities for maximizing the impact of EU funding on regional development.

This paper explores how Portugal can enhance the strategic and functional articulation between these instruments to improve territorial governance and economic efficiency. First, it examines the current structure of Portuguese spatial planning, highlighting the main instruments and their role in guiding public and private investments. Second, it assesses the territorial tools of the EU Cohesion Policy, such as Integrated Territorial Investments (ITI) and Community-Led Local Development (CLLD), evaluating their effectiveness in aligning with national planning priorities.

The paper then identifies key gaps in coordination, including regulatory inconsistencies, governance fragmentation, and insufficient strategic coherence between national and EU frameworks. Through a comparative analysis of best practices in other EU member states, it proposes policy recommendations for improving alignment, such as stronger multi-level governance mechanisms, enhanced data integration for territorial decision-making, and the development of adaptive planning frameworks that respond dynamically to regional needs.

The findings suggest that a more integrated approach to territorial planning and Cohesion Policy implementation would lead to better-targeted investments, increased efficiency in resource allocation, and a more sustainable regional development trajectory. This research contributes to the ongoing debate on post-2030 Cohesion Policy reforms, emphasizing the importance of ensuring stronger synergies between national planning systems and EU territorial policies.

Keywords | Cohesion Policy, spatial planning, territorial governance, EU funding, regional development.

INNOVATION AND MULTI-LEVEL GOVERNANCE: STRATEGIES TO ENHANCE THE EFFECTIVENESS OF COHESION POLICY IN PORTUGAL POST-2030**Paulo Neto**

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Abstract

Effective multi-level governance is essential for maximizing the impact of EU Cohesion Policy, yet persistent challenges remain in ensuring coordination between European, national, regional, and local actors. In Portugal, the complexity of governance structures, overlapping competencies, and bureaucratic inefficiencies have often hindered the full potential of Cohesion Policy interventions. This paper examines how Portugal can improve the governance of Cohesion Policy post-2030 by fostering innovation, simplifying administrative processes, and enhancing stakeholder participation.

The analysis begins by mapping the current governance framework of Cohesion Policy in Portugal, highlighting the main institutional bottlenecks and inefficiencies that limit the effectiveness of policy implementation. It then explores innovative governance approaches, including digital governance solutions, participatory decision-making models, and data-driven policy design, to improve policy coordination and efficiency.

Drawing from international best practices, this research proposes concrete strategies for enhancing Portugal's governance model, including strengthening regional and local capacities, adopting more flexible regulatory frameworks, and increasing transparency in decision-making processes. The paper also discusses how Portugal can advocate for EU-level reforms that promote more decentralized and territorially sensitive governance structures in the next programming cycle.

By addressing governance challenges and embracing innovation, Portugal can significantly enhance the effectiveness of Cohesion Policy, ensuring better-targeted investments and a more inclusive and participatory approach to regional development. This paper contributes to the debate by proposing practical solutions to strengthen the governance mechanisms that underpin future EU territorial policies.

Keywords | Multi-level governance, Cohesion Policy, territorial innovation, public administration, regional development.

INDICATORS OF SOCIAL SUSTAINABILITY IN VITICULTURE: A STAKEHOLDER-DRIVEN STUDY OF THREE PORTUGUESE WINE REGIONS (VERDES, DOURO AND ALENTEJO)

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Abstract

Purpose | Sustainability in the wine industry is typically assessed from environmental and economic perspectives, while the social dimension often receives less attention. However, the long-term viability of wine production depends not only on environmental stewardship and financial stability but also on fair labour practices, community well-being, and social equity (Elkington, 1994; Massuça et al., 2023). This study explores social sustainability in three key Portuguese wine regions (Vinhos Verdes, Douro, and Alentejo regions) by engaging local stakeholders to identify and prioritize the most relevant social indicators for assessing this pillar of sustainability. Recognizing that each region faces unique challenges, this research employs a participatory approach to ensure that the assessment reflects the realities experienced by vineyard owners, workers, policymakers, and community members.

Methodology/Approach | To structure and refine these insights, the Real-Time Delphi (RTD) method was used, allowing for dynamic feedback and expert consensus in a more efficient manner than traditional multi-round Delphi studies (Gordon & Pease, 2006). This process enabled stakeholders to collectively determine the most critical social sustainability indicators. To further enhance the evaluation, a hierarchical weighting system was applied, combining the Analytic Hierarchy Process (AHP) (Saaty, 1980) and the Weighted Scoring Method (WSM) (Keeney & Raiffa, 1993). This approach provided a clear ranking of indicators, ensuring their regional relevance while allowing for comparability across different wine-producing areas.

Expected Results | The findings highlight both common concerns and region-specific differences. Across all three regions, fair wages, access to health and safety services, and agricultural training emerged as top priorities. However, variations reflect the distinct characteristics of each region. In the Vinho Verde Region, known for its small-scale vineyards, workforce demographics and the of agricultural traditions were key concerns. In the Douro region, where steep slopes and geographic constraints shape social dynamics, stakeholders emphasized housing quality and access to essential services. Meanwhile, in Alentejo, characterized by large estates and seasonal labour, social inclusion and fair competition were primary concerns. These differences underscore the need for localized strategies to enhance social sustainability in viticulture, rather than a one-size-fits-all approach. These findings also align with existing studies that emphasize the influence of regional socio-economic factors on sustainability assessments (Rasmussen et al., 2017; Trigo et al., 2023).

By incorporating stakeholder perspectives into a structured evaluation model, this study ensures that social indicators align with the lived experiences of those working in and around the vine and wine agribusiness. The results offer valuable insights for policymakers and industry leaders, pointing concrete areas for improvement, from labour conditions to community engagement. Future research should explore how these indicators evolve over time and how this model can be adapted to other agricultural contexts, ensuring that social sustainability remains a central pillar of sustainable agribusiness.

Keywords | Social sustainability, wine agribusiness, stakeholder engagement, sustainability assessment, Real-Time Delphi.

Acknowledgments | This research is supported by the R&D project “Vine & Wine PT - Driving Sustainable Growth Through Smart Innovation”, with the financial support of the “Agenda for mobilizing reindustrialization” and by national funds of the FCT (Portuguese Foundation for Science and Technology) under the projects UID/04011: CETRAD – Centro de Estudos Transdisciplinares para o Desenvolvimento and UIDB/05183/2020 (<https://doi.org/10.54499/UIDB/05183/2020>; <https://doi.org/10.54499/LA/P/0121/2020>).

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ALONE IN THE CROWD: AN ANALYSIS OF COWORKING SPACES IN PORTUGUESE MUNICIPALITIES

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Abstract

Purpose | The main aim of this research is to explore the explanatory factors behind Portuguese municipalities' creation of coworking spaces. In this context, we specifically want to identify the economic and social factors that led Portuguese municipalities to join the National Network "Teleworking in the Interior: Local Life, Global Work."

Methodology/Approach | Several authors, including Bock (2016) and Orel et al. (2022), highlight the importance of raising awareness among political decision-makers regarding the creation of coworking spaces and advocating for developing public policies that support these collaborative work environments. Such spaces are increasingly recognized as instruments capable of fostering economic and social dynamism at national, regional, and local levels (Avdikos & Papageorgiou, 2021). This study seeks to contribute to this field by addressing the research question: "What economic and social factors are associated with the creation of coworking spaces by Portuguese municipalities?" To that end, a quantitative research strategy will be adopted based on a cross-sectional study design, which allows the comparison of two or more cases at a specific time (2025, in this instance). As Camões (2012) underlines, the fundamental aspect of this type of design lies in the spatial comparison between analytically homogeneous cases. The unit of analysis comprises 186 Portuguese municipalities listed in the Annex to Ministerial Order no. 208/2017, of 13 July, out of a total of 308 municipalities. Data collection will be carried out through a structured questionnaire survey. The dependent variable is dichotomous, coded as one if the municipality has adhered to the national coworking network and 0 otherwise. The independent variables will reflect the economic and social conditions hypothesized to influence the creation of such spaces. Data analysis will include both descriptive and bivariate techniques, with particular emphasis on linear regression. Descriptive analysis enables the systematic and objective summarisation of the collected data, while bivariate analysis, primarily through linear regression, is fundamental for exploring associations between variables. This method allows for estimating the degree and direction of linear relationships and assessing their statistical significance, thereby supporting the interpretation and robustness of the findings (Hair et al., 2019).

Expected Results | The expected results of this study indicate that, despite the literature recognizing the importance of coworking spaces for municipalities, their implementation does not occur as frequently as hoped. The analysis of economic and social factors suggests that specific structural barriers may limit the proliferation of these spaces, preventing their potential from being fully realized. Identified determining variables include the level of stimulus to the local economy, population resettlement, and public policies to encourage teleworking, all directly influencing municipal acceptance of the coworking format. Based on this evidence, the study aims to offer well-founded recommendations for adopting more effective public policies that can stimulate the expansion of coworking spaces and maximize their impact on local development. Thus, this work enhances the understanding of the challenges and opportunities in promoting alternative models of work and innovation, reinforcing their significance as a strategic public policy for the current and future economic and social development of Portuguese municipalities.

Keywords | Coworking spaces; flexible work; public servants; local government.

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O PAPEL DOS AGENTES ECONÓMICOS DO ESPUMANTE NO SUBSETOR DO ESPUMANTE NA VALORIZAÇÃO DO PRODUTO E DESENVOLVIMENTO DO TERRITÓRIO

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Resumo

Relevância e objetivos | Nas últimas duas décadas, o setor de espumante tem vindo a crescer significativamente, representando atualmente 11% das exportações globais de vinho, devido à crescente procura internacional (OIV, 2020). A valorização do espumante não se restringe somente à qualidade do vinho base, sendo também influenciada pelas práticas e estratégias dos agentes económicos envolvidos nos processos de produção, distribuição e comunicação (Vrontis et al, 2016). Compreender a atuação desses agentes é crucial para fortalecer a competitividade do espumante nos mercados nacional e internacional.

Este estudo tem como objetivo analisar a atuação e a perspetiva dos agentes económicos no desenvolvimento de estratégias de valorização do espumante, evidenciando boas práticas e desafios para a criação de estratégias mais eficazes que promovam a geração de valor para o produto e para o território.

Metodologia | A metodologia adotada é de natureza qualitativa, baseada em entrevistas semiestruturadas com os principais produtores de espumante, a nível nacional. A identificação destes agentes foi realizada a partir das entidades oficiais de cada região vitivinícola. Após a seleção dos principais produtores, foi estabelecido contato com as entidades para a realização das entrevistas. O guião de entrevista foi elaborado com o propósito de obter informações sobre o estado atual da produção e comercialização, compreender os valores e a identidade da marca, além de analisar o modelo de negócios adotado pelas diferentes empresas.

Por fim, as entrevistas também abordaram os objetivos futuros dos agentes, com especial foco nas perspectivas e estratégias de internacionalização.

Principais resultados e contributos | Os resultados destacam a relevância dos agentes económicos do setor do espumante para o desenvolvimento territorial, evidenciando a interação entre tradição, inovação e estratégias de valorização. As entrevistas revelaram que a identidade e a valorização da marca estão fortemente associadas à Denominação de Origem Controlada (DOC), que garante qualidade e exclusividade no mercado global. A construção da identidade das marcas baseia-se na tradição, no *terroir* e na inovação na produção. Os modelos de negócio variam entre pequenas casas familiares e grandes maisons globais, com o e-commerce a ser apontado como o grande impulsionador da expansão internacional.

Além disso, o setor tem um impacto significativo no desenvolvimento regional, promovendo emprego, enoturismo e parcerias com áreas complementares, como o turismo de luxo e a gastronomia. A crescente adoção de práticas sustentáveis reforça a competitividade do setor e responde à procura por produtos ecológicos. No entanto, os produtores enfrentam desafios, como a concorrência de espumantes de outras regiões e a necessidade de adaptação a novas regulamentações e preferências de consumo. Ainda assim, há um otimismo quanto à expansão para mercados externos, nomeadamente asiáticos e à consolidação do espumante português no panorama internacional.

Conclusões e Limitações | Com o trabalho realizado até ao momento, é possível afirmar que as estratégias e modelos adotados para a produção, distribuição e comercialização dos vinhos espumantes são fatores-chave para o posicionamento e sucesso destes produtos.

Apesar dos contributos relevantes deste estudo, considera-se que, a amostra foi limitada a um número restrito de agentes económicos, podendo restringir a generalização dos resultados.

Para investigações futuras, sugere-se a exploração da perceção do consumidor em relação aos espumantes portugueses. Compreender a forma como os consumidores avaliam estes produtos permitiria o desenvolvimento de estratégias de *marketing* e posicionamento de marca mais eficazes, reforçando assim a competitividade do setor a nível global.

Palavras-chave | Espumante; Agentes económicos; Setor Vitivinícola; Valorização do produto; Desenvolvimento do território.

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PREVENÇÃO DA CORRUPÇÃO NAS IES EM PORTUGAL: A MONITORIZAÇÃO DOS PLANOS DE PREVENÇÃO DA CORRUPÇÃO E INFRAÇÕES CONEXAS

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Resumo

Objetivo | Este estudo visa analisar a monitorização dos Planos de Gestão de Risco de Corrupção e Infrações Conexas (PGRCIC) das instituições de ensino superior (IES) público em Portugal, com o objetivo perceber como são monitorizados e acompanhados internamente.

Metodologia | Foi aplicado um questionário IES do sector público em Portugal. Os dados obtidos foram complementados com uma análise de conteúdo aos documentos disponibilizados nos websites.

Resultados | O estudo revela que 88,9% das IES do sector público em Portugal percecionam a existência de um nível médio de corrupção. A área da contratação de docentes é considerada a de maior risco. A grande maioria (87%) das instituições afirma divulgar os PGRCIC e 62% realiza ações de divulgação interna. A monitorização dos PGRCIC é igualmente realizada em 87% das IES, mas apenas 50% reportam um grau de execução acima de 75%. Apenas 37,5% das IES possuem comissões de prevenção da corrupção. A análise de conteúdo das páginas revelou que 87,5% divulgam os PGRCIC, todavia 62,5% não apresentam relatórios anuais. A maioria dos PGRCIC está atualizada, mas muitos foram publicados tardiamente.

Apesar de 81% das IES terem canais de denúncia, a transparência e o cumprimento das recomendações ainda são insuficientes, evidenciando a necessidade de melhorias na gestão e divulgação de informações sobre corrupção.

Palavras-chave: Prevenção da Corrupção; Plano de Gestão de Riscos de Corrupção e Infrações Conexas; Ensino Superior Público; Sector Público.

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RESEARCH TRENDS AND STAKEHOLDER INFLUENCE IN MONTADO AND DEHESA SYSTEMS: A BIBLIOMETRIC ANALYSIS

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Abstract

Purpose | The Portuguese *montado* and the Spanish *dehesa* systems are multifunctional agrosilvopastoral landscapes essential for biodiversity, economic productivity, and cultural heritage. However, these systems face increasing pressures from climate change, land degradation, and stakeholder mismanagement. This study aims to evaluate the influence of stakeholder actions on montado and dehesa sustainability, with a focus on economic viability, biodiversity conservation, and social well-being.

Methodology/Approach | Using bibliometric analysis and network mapping, this study examines 567 scientific publications collected from Scopus database to identify key research trends, stakeholder influence, and knowledge gaps within the *montado* and *dehesa* value chains.

Expected Results | The analysis revealed four main research clusters: Ecosystem Services, Land-use Dynamics and Sustainability in the *Montado/Dehesa*; Climate Change and Ecosystem Dynamics; Biodiversity, Cork Oak and Forest Management; Grazing Management and Livestock Farming. While extensive research has explored the ecological and economic dimensions of these systems, significant gaps remain in areas such as cultural heritage, socioeconomic dynamics, and carbon sequestration. Additionally, by analysing the selected publications, this study directly identifies and categorizes the various stakeholders involved in the *montado* and *dehesa* value chains, addressing a critical gap in the existing literature. These findings offer valuable insights for policymakers and researchers, highlighting the need for targeted strategies that balance ecological, economic, and social priorities. Ultimately, this study contributes to a deeper understanding of *montado* and *dehesa* sustainability, guiding future research and fostering stakeholder collaboration to ensure the long-term resilience of these landscapes.

Keywords | Montado, dehesa, sustainability, stakeholders, value chain, agrosilvopastoral.

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TURISMO DE ESCALADA SUSTENTÁVEL NO PARQUE NATURAL SINTRA-CASCAIS: CONTRIBUTOS DE UMA FERRAMENTA DIGITAL DE GESTÃO**Verónica Dias**

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francisco.silva@eshte.pt**Resumo**

Finalidade | A crescente valorização do turismo na natureza e de aventura, aliada à necessidade de assegurar a gestão sustentável dos territórios, exige o equilíbrio entre a conservação de recursos naturais e a satisfação dos visitantes. Embora a escalada em rocha esteja profundamente enraizada na relação com a natureza, pode exercer pressões ambientais significativas sobre os ecossistemas, tornando essencial a definição e monitorização da capacidade de carga. Este estudo analisa o potencial de desenvolvimento de uma aplicação digital orientada para a gestão da escalada em rocha no Parque Natural de Sintra-Cascais (PNSC), com funcionalidades como a monitorização de fluxos de visitantes, a disponibilização de informação em tempo real e a promoção de comportamentos sustentáveis. O objetivo é apoiar os gestores das áreas protegidas, operadores turísticos e a comunidade de escaladores na adoção de uma abordagem colaborativa que assegure, simultaneamente, a valorização da experiência turística e a preservação do património natural e cultural do PNSC.

Metodologia | A investigação adota uma abordagem de métodos mistos, combinando a revisão da literatura, o trabalho de campo e entrevistas semiestruturadas. O trabalho de campo permite analisar as condições e especificidades dos locais de escalada em rocha, aspetos relevantes para a elaboração do guião de entrevista e para o desenvolvimento da aplicação digital de apoio à gestão desses espaços. A participação de diferentes stakeholders revela-se é central no estudo, sendo realizadas entrevistas a quatro grupos-chave: representantes do PNSC, comunidade local de escaladores, operadores turísticos e especialistas em aplicações digitais no sector do turismo. As entrevistas visam recolher perspetivas sobre a gestão da capacidade de carga, a viabilidade e aceitabilidade da aplicação, as suas características essenciais, bem como os potenciais benefícios e limitações da sua implementação.

Resultados | Os resultados evidenciam o potencial de desenvolvimento de uma aplicação digital dedicada à gestão da escalada em rocha no PNSC, com impacto na otimização da capacidade de carga e na valorização da experiência turística. Apontam ainda a existência de uma lacuna de dados sobre a prática de escalada no PNSC. Foram identificadas variáveis e funcionalidades fundamentais, que permitem assegurar a monitorização dos fluxos de visitantes, a gestão da distribuição espacial dos visitantes, a disponibilização de informações em tempo real, a melhoria da comunicação entre stakeholders e o apoio à gestão adaptativa. O estudo analisa ainda as perceções dos stakeholders quanto à capacidade de carga e o contributo da aplicação para a promoção de comportamentos responsáveis, mitigar impactos ambientais e reforçar a sustentabilidade e qualidade da experiência turística em áreas naturais protegidas.

Palavras-chave | Turismo sustentável, Capacidade de carga, Escalada, Parque Natural Sintra-Cascais, Aplicações digitais.

PROJETO BRANDA CIENTÍFICA – ESTAÇÃO BIOLÓGICA DE ALTITUDE: DA TRANSFORMAÇÃO E REATIVAÇÃO DE UM TERRITÓRIO DE MONTANHA E INTERIORIDADE**Ana Luísa Salgado**

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Objetivo | A Branda de São Bento do Cando, uma microurbanidade de montanha e antigo lugar de transumância, situada nas serras do Parque Nacional da Peneda Gerês (PNPG), é um testemunho dos desafios e oportunidades de reativação destes territórios marcados pelo despovoamento e pela descaracterização patrimonial. A transformação das paisagens de interioridade poderá conduzir à redefinição das interações entre pessoas e lugares, sobretudo no contexto da mobilidade, migração e turismo.

Metodologia | O Projeto Branda Científica – Estação Biológica de Altitude – surge da confluência entre natureza, cultura e ciência. Este modelo de ocupação procura reintroduzir uma ciclicidade estacional, estabelecendo uma nova relação entre a presença humana e a biodiversidade, reinventando o território como um laboratório vivo de conhecimento. Simultaneamente contribui para a reflexão sobre a revitalização de territórios rurais de montanha, explorando de que forma a reocupação de espaços tradicionalmente ligados à agro-silvo-pastorícia pode gerar novos usos e dinâmicas que promovem valor económico, científico e comunitário.

Resultados Esperados | A transformação da Branda de peregrinação em Branda Científica permitirá a reabilitação das construções vernáculas existentes, garantindo a adaptação e contribuição do património edificado para a revalorização da região. Paralelamente, a nova Estação Biológica desempenhará um papel fundamental na monitorização da biodiversidade, na identificação de medidas para reverter o declínio das espécies e na promoção de estratégias de adaptação às alterações climáticas.

A reabilitação e reconversão programática de edifícios-chave dispersos na comunidade possibilita a reintegração do ciclo de ocupação sazonal, assegurando a continuidade da Branda enquanto espaço habitado. A Estação Biológica de Altitude alinha-se com as diretrizes da Estratégia Nacional de Conservação da Natureza e Biodiversidade, do Quadro de Ação Prioritária para a Rede Natura 2000 e do Plano de Co-Gestão do PNPG, o que posiciona a inovação programática deste projeto como um modelo de desenvolvimento sustentável para territórios de baixa densidade populacional, proporcionando a criação de novos modelos de gestão territorial como “áreas de reabilitação rural ou de montanha”.

O Projeto Branda Científica representa ainda um modelo replicável de revitalização territorial, no qual arquitetura, biodiversidade, paisagem e investigação científica convergem para uma abordagem de desenvolvimento integrado, promovendo a preservação dos ecossistemas e da biodiversidade, assim como o envolvimento ativo da sociedade na valorização e proteção do lugar e dos seus patrimónios.

Palavras-chave | Património, Interioridade, Biodiversidade, Reuso, Transformação.

PERCEPTION OF THE IMPACT OF RISKS ON TOURISM IN THE DOURO DEMARCATED REGION

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Abstract

The Douro Demarcated Region is one of the territorial spaces of choice from a tourist point of view, especially after the UNESCO classification of its distinctive landscape (Pinto, 2020). Although the Douro Region has a series of highly relevant values and attractions, such as historical, natural, cultural and social heritage (Pina & Queiroz, 2017), it is imperative to understand the impact that the various risks can have on the sector (Setiawan et al., 2024), significantly when some of these risks are exacerbated by climate change. The impact of COVID-19 on industry was very much in line with what was theorized by Butler in 1980 regarding the Tourism Life Cycle, and it made us aware of the need to investigate the perception of the impact of risks on tourism, in this case in the Douro Demarcated Region.

The main objective of this exploratory research is to obtain results that allow a better understanding of how risks affect the tourism sector in the twenty-one municipalities of the Douro Demarcated Region. The methodology applied in this study was based on a questionnaire survey of a series of private entities in the tourism sector (tourist entertainment agents, travel and tourism agencies, tourist enterprises, and local accommodations). The sample, selected for convenience, includes more than one hundred responses from entities in the twenty-one municipalities in the region.

The preliminary results of these surveys indicate that most private entities surveyed consider that natural risks negatively impact the tourism sector; however, for these entities, the tourist's perception of safety issues is also an essential point in the tourist attractiveness of the territory. Even so, in the Douro Demarcated Region, most private entities consider that the most notable risk, in terms of impact on tourism, is rural fires, followed by heat waves and droughts. These results highlight the widespread concern of the tourism sector regarding natural risks and the importance of the perception of safety among tourists and visitors. Therefore, it is necessary to develop prevention strategies and prepare tourists for possible events, thus ensuring the sustainability and continuous growth of the tourism sector in this region.

Keywords | Tourism; Impact; Risks; Perception; Douro Demarcated Region.

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O PODER DO MARKETING NO ENOTURISMO PARA TRANSFORMAÇÃO SUSTENTÁVEL E INTEGRAÇÃO TERRITORIAL

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Resumo

Objetivo | O enoturismo revela-se como um vetor fundamental para o desenvolvimento das regiões vinícolas, promovendo a interação entre turistas e territórios, dinamizando a economia local e reforçando a identidade cultural dos destinos. No contexto da transformação sustentável, o marketing surge como um estímulo essencial para impulsionar a sustentabilidade e a mobilidade das paisagens rurais. O marketing tem um papel fundamental na promoção da sustentabilidade, ao estimular a práticas responsáveis no e na comunicação. No enoturismo, esta abordagem foca-se na promoção de produtos autênticos, na conservação patrimonial e na gestão equilibrada do fluxo de turistas. Perante o exposto, a presente investigação tem como objetivo analisar o papel do marketing no enoturismo, com foco num produto tradicional, o vinho de talha, como catalisador da transformação sustentável e da interação espacial em paisagens rurais. Pretende-se compreender como é que as práticas de marketing podem promover a mobilidade turística, fortalecer a ligação entre visitantes e comunidades locais e contribuir para o desenvolvimento económico sustentável das regiões vitivinícolas, utilizando como caso de estudo os produtores de vinho de talha da região de Cuba, Alentejo, Portugal.

Metodologia | A pesquisa adota uma abordagem quantitativa, baseada na aplicação de questionários a 9 produtores certificados de vinho de talha do concelho de Cuba, Alentejo. Centra-se nas estratégias de marketing utilizadas, na perceção da sustentabilidade e no impacto do marketing digital na atração de visitantes e fixação da população, ou seja, na promoção do turismo rural da população, ou seja, na promoção do turismo rural.

Resultados Esperados | Espera-se demonstrar que o marketing aplicado ao enoturismo pode valorizar a autenticidade e sustentabilidade do vinho de talha, promovendo experiências imersivas que fortalecem a interação entre turistas e a comunidade local. Consequentemente, os resultados deverão evidenciar o impacto positivo das práticas de marketing na mobilidade turística e no desenvolvimento económico sustentável das regiões rurais, além de destacar oportunidades para integrar a sustentabilidade como um elemento central nas campanhas de comunicação.

Palavras-chave | Enoturismo, Marketing, Sustentabilidade, Mobilidade, Vinho de Talha.

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ANALYSING TERRITORIAL COHESION AND REGIONAL ASYMMETRIES USING THE LOCAL HUMAN DEVELOPMENT INDEX IN POLAND

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Abstract

Purpose | The Local Human Development Index (LHDI) is a localized metric that adapts the global HDI to reflect regional and local conditions. It combines indicators of health, education, and income to provide a comprehensive measure of human development at the local level. By capturing spatial variations in development, the LHDI enables policymakers to identify and address territorial disparities effectively.

The primary purpose of this study is to explore LHDI in Poland for the years 2010 and 2023, with a focus on its spatial distribution and component variables. We aim to analyse regional asymmetries in LHDI to identify trends and changes across different areas of Poland. We seek to provide insights into the evolving socio-economic landscape of Poland over this thirteen-year period. Ultimately, the findings are intended to highlight regions requiring targeted policy interventions to support sustainable development at the local level. The research also investigates the importance of LHDI as an evaluation tool for socioeconomic differences.

Methodology/Approach | The core of the methodology involved the construction of composite indices for each of Poland's counties. We applied a repetition of the procedure described in a previous 2012 LHDI report for Poland (Wyszkowski et al., 2012). This approach aimed to ensure comparability of results across the two time points to reveal temporal and spatial changes in human development features. These indices combined normalised indicators (using geometric means on a scale of 1-100) across three main dimensions of human development, mirroring the traditional HDI: health, education level, and per capita income (wealth). These main dimensions, in turn, contained composite, detailed, and absolute (also normalised) values of particular sub-indices. Beyond the core LHDI calculation, the study also employed spatial and comparative analysis to illustrate the analytical capacity of LHDI in assessing developmental progress and detecting disparities.

Expected Results | The greater dispersion of overall LHDI values in 2023 compared to 2010 clearly demonstrates increasing asymmetries in general human development levels across Polish counties, as well as in particular sub-indices. The presence of more significant top and bottom outliers indicates a growing divide between the best and worst performing regions. The consistently high LHDI values in major cities contrast with the decline observed in many peripheral areas, exacerbating developmental gaps. While peri-urban areas show improvement, this can further highlight disparities with more rural regions. The varying trends in health and wealth sub-indices contribute significantly to these regional asymmetries, with notable declines in specific areas like northern Mazovia and northern Poland. These findings suggest a weakening of territorial cohesion as human development progresses unevenly across the country. The increasing asymmetries in access to resources and opportunities pose challenges for balanced regional development and could lead to social and economic inequalities (Piketty, Thomas, 2014; Rodríguez-Pose, 2018). Therefore, the LHDI analysis underscores the need for targeted interventions to address these growing territorial disparities and promote greater cohesion across Poland.

Keywords | Local Human Development Index, LHDI, Territorial Disparities, Poland.

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AI, SUSTAINABILITY AND REGIONAL DEVELOPMENT: A CLUSTER APPROACH TO DIGITAL AND ECOLOGICAL TRANSITIONS**Simona Cafieri**

ISTAT (Italy)

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In recent years, the interaction between digitalisation and environmental protection has emerged as a key driver for sustainable and inclusive development in European regions. This work explores the intersection of artificial intelligence (AI), in particular generative AI, and environmental sustainability strategies, and analyses their combined potential to transform regional economies and improve resilience.

Using a clusterwise methodology at the European NUTS2 level, the research identifies clusters of territories according to their level of digital readiness and commitment to ecological transition. The study places particular emphasis on the role of generative AI in accelerating innovation, optimising resource efficiency and promoting adaptive policy-making.

This approach provides a better understanding of how regional contexts, policy frameworks and infrastructure investments interact to produce different outcomes. While some regions are using AI to drive sustainable transformation - through predictive environmental modelling, smart resource management and AI-enabled circular economies - others face barriers due to digital infrastructure gaps or regulatory constraints, exacerbating existing social and economic inequalities.

The findings highlight the complexity of balancing economic efficiency, territorial equity and environmental goals, and show that a one-size-fits-all strategy is unlikely to deliver sustainability at scale. Instead, the research highlights the need for context-specific interventions that tailor AI capabilities to regional needs.

By integrating advanced analytical tools with forward-looking policy strategies, this study provides policymakers and stakeholders with a data-driven roadmap. It shows how European regions can use AI to promote economic growth, social inclusion and environmental resilience, ensuring that digital and environmental transitions are mutually reinforcing rather than exacerbating existing inequalities.

Keywords | Regional development, sustainability, AI, Clusterwise.

EXPLORING PERCEIVED VALUE IN AGRI-FOOD PRODUCTS: AN EXPLORATORY STRUCTURAL MODEL

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Abstract

Purpose | Understanding how consumers perceive and mentally organise value in agri-food products has become increasingly relevant, particularly in contexts shaped by sustainability, quality, and price sensitivity. Although perceived value is recognised as a multidimensional construct influencing consumer evaluations, research often focuses on outcomes such as satisfaction or purchase intent. Shifting the analytical focus to the internal relationships between value dimensions offers new insights into how these elements interact in shaping overall value perceptions. Previous studies in value co-creation and sustainable food consumption have highlighted the importance of such interconnections (Talwar et al., 2021; Aggarwal et al., 2019). The study aims to identify and examine the structural links among five perceived value dimensions: functional/quality, emotional, social, price, and environmental within the context of agri-food products.

Methodology/Approach | Data were collected in Portugal in 2024 through an online questionnaire based on the internationally recognised PERVAL (Sweeney & Soutar, 2001) scale, extended with sustainability-related items. The survey gathered 444 valid responses from Portuguese consumers, with a diverse demographic profile. A seven-point Likert scale was used to measure agreement with 24 statements covering five latent constructs. The model was estimated using the consistent Partial Least Squares (PLSc) method, which is suitable for complex and early-stage models with non-normal data. Measurement model quality was assessed through outer loadings, composite reliability (CR), and average variance extracted (AVE).

Expected Results | Preliminary results are expected to reveal statistically significant and positive relationships among several perceived value dimensions. For example, social value is likely to influence functional/quality value, while environmental concerns may be associated with price sensitivity. These interconnections are anticipated to highlight the complementary nature of the constructs and provide insights into how consumers structure their perception of value in agri-food products.

Keywords | Perceived value, agri-food products, structural equation modelling, consumer behaviour, sustainability.

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O SISTEMA COOPERATIVO NO SETOR DO AZEITE: DESAFIOS E OPORTUNIDADES NOS PRINCIPAIS PAÍSES PRODUTORES**Maria Romão**

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Resumo

A produção de azeite nos principais países produtores, como Espanha, Itália, Grécia e Portugal, apresenta uma grande diversidade de práticas cooperativas e enfrenta desafios regionais. Na Espanha, a maior produtora mundial de azeite (40-50% da produção global), as cooperativas são essenciais, responsáveis por 70% da produção, especialmente na Andaluzia. Contudo, o setor enfrenta desafios como a concorrência internacional, modernização agrícola e adaptação ambiental. A Itália, segundo maior produtor europeu, tem uma produção fragmentada com pequenos produtores, e as cooperativas priorizam a qualidade, utilizando certificações DOP/IGP (Candemir et al., 2021). Organizações como a Coldiretti fortalecem o setor, mas desafios de sustentabilidade e promoção de mercados justos persistem (Oliveira & Bertolini, 2022). A Grécia, com forte tradição na produção de azeite de qualidade, enfrenta dificuldades de modernização e comercialização, necessitando de práticas mais sustentáveis para manter a competitividade.

Portugal, que tem vindo a crescer como uma potência emergente no setor de azeite, enfrenta forte concorrência de grandes grupos privados e multinacionais. Um exemplo é a Gallo Worldwide, que, embora seja uma marca portuguesa, é detida em 45% pela Jerónimo Martins e 55% pela Unilever, operando em mais de 30 países e liderando mercados como o do Brasil. Outro caso é o da empresa espanhola Ángel Camacho, conhecida por marcas como La Vieja Fábrica e Fragata, que adquiriu a portuguesa Maçarico S.A. em 2024, expandindo a sua presença no mercado português. Além disso, a marca Oliveira da Serra, pertencente à Soverna, do grupo Nutrinveste, tem vindo a consolidar a sua posição no mercado nacional. O modelo cooperativo do azeite em Portugal enfrenta desafios como resistência à inovação, burocracia e falta de renovação geracional (Revista do Setor Agrário). No entanto, iniciativas como o projeto INOVolive, que introduziu tecnologias LED no processamento da Azeitona de Conserva Negrinha de Freixo (Compete 2030, QualFood), e a modernização promovida pela CONFAGRI, com agricultura de precisão e uso eficiente de recursos (Confagri), mostram como a tecnologia pode fortalecer o setor. Para manter a competitividade, é essencial continuar a investir na inovação e na formação.

A produção de azeite no Alentejo enfrenta desafios relacionados com as alterações climáticas e as pressões ambientais. As cooperativas de azeite são essenciais para garantir a competitividade e a sustentabilidade do setor. Este estudo investiga as práticas de sustentabilidade adotadas pelas cooperativas de azeite no Alentejo, com foco nas perceções dos intervenientes e nas estratégias para transitar para um modelo mais sustentável.

A pesquisa adota uma abordagem de método misto, combinando metodologias qualitativas e quantitativas. Entrevistas com especialistas e inquéritos realizados entre produtores, gestores de cooperativas e outros intervenientes ajudam a avaliar como as cooperativas implementam práticas sustentáveis, como a gestão eficiente dos recursos, a conservação da biodiversidade e a redução de resíduos (van Klingeren & De Moor, 2024). O estudo também explora o impacto social, económico e ambiental dessas práticas, destacando o papel das cooperativas no desenvolvimento rural e na mitigação das alterações climáticas.

O estudo destaca como a inovação tecnológica, como sistemas de rega inteligente e energia renovável, pode melhorar a eficiência e a sustentabilidade no setor do azeite. Essas tecnologias são chave para garantir a competitividade das cooperativas. Políticas públicas e incentivos governamentais são essenciais para apoiar a transição para práticas mais sustentáveis, promovendo a viabilidade económica e a resiliência ambiental do setor (Cristão et al., 2024).

Financiamento | Esta pesquisa é apoiada por fundos nacionais através da FCT (Fundação para a Ciência e a Tecnologia), no âmbito dos projetos UIDB/04011/2020 (<https://doi.org/10.54499/UIDB/04011/2020>) e UIDB/05183/2020 (<https://doi.org/10.54499/UIDB/05183/2020>; <https://doi.org/10.54499/LA/P/0121/2020>)).

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SPATIAL INTERACTION MODELS TO MEASURE MOBILITY POVERTY – AN APPLICATION TO THE MUNICIPALITIES OF MADEIRA

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Abstract

Transport has a central role socio-economic development, both in terms of economic growth and quality of life. Transport poverty occurs when the distance between the place of residence and the places of work, and services - in terms of cost, time or security -impedes accessibility (Dorantes and -Bull, 2022), reduces participation in society (Lucas ,2012, 2016) and result in low transport availability, low accessibility to transport, low transport affordability, too much time spent travelling, inadequate transport conditions, and high exposure to transport externalities from noise and pollution (Kiss, 2022; Alonso-Elpelde et al.,2023). Remoteness and size increase the possibility of mobility poverty (Kizos et al., 2023). There are many indicators of mobility poverty (Martens and Bastiaanssen, 2019; Lowans et al., 2021) requiring different sorts of data: household budget surveys (Siksnyte-Butkiene et al., 2021), the mobility and transport annual surveys, specific transport surveys for vulnerable households, comparable accessibility (Voltes-Dorta and Martín, 2022) and the potential indicator: a gravity-model-based index that takes into account travel.

Introduction | Transport has a central role socio-economic development, both in terms of economic growth and quality of life. Transport poverty occurs when the distance between the place of residence and the places of work, and services - in terms of cost, time or security -impedes accessibility (Dorantes and -Bull, 2022), reduces participation in society (Lucas ,2012, 2016) and result in low transport availability, low accessibility to transport, low transport affordability, too much time spent travelling, inadequate transport conditions, and high exposure to transport externalities from noise and pollution (Kiss, 2022; Alonso-Elpelde et al.,2023). Remoteness and size increase the possibility of mobility poverty (Kizos et al., 2023). There are many indicators of mobility poverty (Martens and Bastiaanssen, 2019; Lowans et al., 2021) requiring different sorts of data: household budget surveys (Siksnyte-Butkiene et al., 2021), the mobility and transport annual surveys, specific transport surveys for vulnerable households, comparable accessibility (Voltes-Dorta and Martín, 2022) and the potential indicator: a gravity-model-based index that takes into account travel. The aim of this paper is to create a indicator of mobility based in a Spatial interaction Model applied to the municipalities of Madeira Archipelago. The Spatial Interaction Model allow three types of Mobility Indicators:

Per capita cost to access goods and services per region.

$$CSp_i = \sum_j (S_{i(jk)} d_{ij}) / P_i$$

Per capita cost to access work per region.

$$CLp_i = \sum_j (T_{i(jk)} d_{ij}) / P_i$$

Total cost to access goods and service and work per region.

$$CTp_i = CSp_i + CLp_i$$

Application

The Model will be applied to the municipalities of Madeira archipelago.

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VINHO DE TALHA E ENOTURISMO: SUSTENTABILIDADE E TRANSFORMAÇÃO DA PAISAGEM RURAL**Sónia Duarte Vieira**IPBeja, Portugal; Membro integrado do CiTUR
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Objetivo | No panorama empresarial atual, a sustentabilidade é um pilar para a resiliência e competitividade, impulsionada pela Diretiva de Relato de Sustentabilidade Corporativa (CSRD) da União Europeia, que visa a transparência no relato corporativo da divulgação de informações sobre sustentabilidade. A transformação empresarial desempenha um papel crucial na produção sustentável de bens tradicionais. Com base no exposto, o estudo visa analisar o papel das práticas de sustentabilidade adotadas por produtores certificados de vinho de talha da região de Cuba, avaliando a sua contribuição para a resiliência económica, a preservação ambiental e a valorização sociocultural. Pretende-se compreender como a tradição vinícola ancestral do vinho de talha se alinha com os princípios da sustentabilidade empresarial, em conformidade com as diretrizes da Diretiva de Relato de Sustentabilidade Corporativa da União Europeia.

Metodologia | A metodologia adotada consiste na aplicação de um questionário estruturado aos 9 produtores certificados de vinho de talha do concelho de Cuba. O questionário foi desenvolvido com base na revisão da literatura sobre sustentabilidade empresarial e indicadores de desempenho sustentável. Os dados recolhidos serão analisados através de métodos estatísticos descritivos e inferenciais, permitindo identificar padrões e relações entre as práticas de sustentabilidade e os resultados alcançados.

Resultados Esperados | Espera-se que os resultados demonstrem que as práticas de sustentabilidade adotadas pelos produtores de vinho de talha contribuem significativamente para a resiliência económica das empresas, através da melhoria da eficiência, da redução de custos e da diferenciação no mercado. Adicionalmente, acredita-se que exista um impacto positivo destas práticas na preservação do património ambiental, na redução do consumo de recursos naturais e na promoção da biodiversidade. Por fim, pretende-se demonstrar que as práticas de sustentabilidade reforçam a identidade cultural da região de Cuba, valorizando o vinho de talha como um símbolo de tradição e inovação sustentável.

Palavras-chave | Enoturismo, Sustentabilidade empresarial, Vinho de talha, Produção tradicional.

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ÍNDICE DE GENTRIFICAÇÃO: UMA PROPOSTA EXPLORATÓRIA

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A crise da habitação em Portugal é um dos temas mais marcantes e amplamente discutidos na política pública nos últimos anos, em muito associada a visões e processos neoliberais decorrentes da reestruturação capitalista do pós-crise do sub-prime, ou, por outras palavras, a segunda fase da financeirização da habitação. Um dos fenómenos aceleradores desta crise tem sido a gentrificação (e também, como consequência, a “turistificação”) das principais áreas urbanas do país, com implicações diretas no quotidiano dos residentes destes territórios e o acentuar dos desequilíbrios sociais e territoriais (Carvalho et al., 2019; Santos et al., 2014).

Este trabalho propõe-se, assim, a contribuir para o desenvolvimento de um Índice de Gentrificação (à escala da freguesia) baseado em três grandes dimensões: sociodemográfica, económica e funcional. Estas dimensões tentam incorporar aspetos associados à gentrificação no espaço urbano, nomeadamente: i) a substituição de grupos sociais nos centros urbanos e a estratificação e segregação sociais; ii) a partilha de culturas e práticas associadas a um poder económico mais elevado por novos grupos; iii) a transformação do ambiente urbano com a requalificação das áreas residenciais em novas funções e serviços; e iv) a mudança da ordem fundiária com o aumento do valor da renda do uso do solo e a concentração de propriedade via habitação/captura imobiliária (Mendes, 2011). A análise parte de dados recolhidos dos Censos de 2011 e 2021, complementados com outros dados relevantes do portal do INE e do Turismo de Portugal, com o objetivo de construir indicadores compósitos associados às dimensões mencionadas e procurar padrões territoriais que traduzam a evolução do processo de gentrificação.

Com esta análise, pretende-se explorar o potencial do Índice de Gentrificação construído enquanto ferramenta de apoio à tomada de decisão no contexto da política pública, conducente ao desenho de medidas integradas que possam responder a este desafio, mitigando assim os efeitos da gentrificação.

Palavras-chave | Gentrificação; índice; indicadores compósitos; ferramenta de apoio à decisão.

Agradecimentos | O trabalho foi apoiado por fundos nacionais pela FCT - Fundação para a Ciência e Tecnologia, I.P., através da Bolsa de Doutoramento com a referência 2024.05463.BDANA, atribuída a João Canas. Este trabalho foi ainda apoiado pela UID Unidade de Investigação em Governança, Competitividade e Políticas Públicas (GOVCOPP), financiada por fundos nacionais através da Fundação para a Ciência e a Tecnologia, I.P.

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MIGRANT WORK IN TOURISM AND HOSPITALITY: A SYSTEMATIC LITERATURE REVIEW

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Abstract

Purpose | This study aims to systematically review existing literature on migrant labour within the tourism and hospitality sectors, identifying key research themes and gaps to inform future investigations.

Methodology/Approach | A comprehensive search was conducted in the Scopus database browsing for ‘*migrant work*’ OR ‘*migrant labour’ AND ‘tourism’ AND ‘hospitality’ in titles, abstracts, and keywords. The search was limited to publications in the social sciences domain from 2000 to 2024, resulting in a dataset of 284 documents. Bibliometric analysis was performed using VOSviewer software to identify and visualize thematic clusters within literature. Co-citation and keyword co-occurrence analyses were conducted to map emerging themes, key authors, and prominent academic institutions. Subsequent content analysis was conducted to interpret the content of these clusters.

Expected Results | The analysis revealed five primary research clusters: (1) workplace interactions and employees’ experiences; (2) migration policy and sociopolitical aspects; (3) economic and development factors; (4) social and demographic dynamics; (5) transnational migration and cultural adaptation. This review highlights significant research gaps, particularly in understanding the intersectionality of migrant experiences and the long-term impacts of migration policies on the tourism and hospitality workforce. The study contributes to the existing body of knowledge by providing a structured overview of current research trends and suggesting directions for future studies aimed at enhancing labour practices and policy formulations in these sectors.

Keywords | Migrant labour, tourism workforce, hospitality, bibliometric analysis, thematic clusters.

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DESENVOLVIMENTO E COESÃO EM PORTUGAL: ASSIMETRIAS E CONVERGÊNCIAS REGIONAIS NO PRIMEIRO QUARTEL DO SÉCULO XXI**Pedro Miguel Marques**Agência para o Desenvolvimento e Coesão, I. P. (Portugal)
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A presente comunicação enquadra-se nos trabalhos de preparação do “II Relatório do Desenvolvimento & Coesão”, a produzir pela AD&C – Agência para o Desenvolvimento e Coesão, IP, assumindo como objetivo apresentar os resultados da análise das trajetórias de convergência interna e externa – por relação à UE – das regiões portuguesas. Recorrendo a dados atualizados do INE, do Banco de Portugal e do Eurostat, procede-se a uma análise das variações de diversos indicadores, entre 2000 e 2024, identificando tendências e decompondo os resultados observados.

Neste âmbito, procuramos apontar que desafios recaem sobre a relação entre desenvolvimento e coesão territorial, num período de maior incerteza e de crescente debate em torno do papel da Política de Coesão na promoção da competitividade e do desenvolvimento económico regional e nacional.

Quando se observa a evolução dos processos de convergência regional em Portugal, face às médias nacional e europeia, verifica-se uma trajetória consistente de redução das disparidades regionais, que parece revelar uma inversão a partir de 2022.

Os resultados indicam que a alteração das NUTS, operada em 2024, resultou num aumento significativo das assimetrias regionais mensuradas pelo PIB per capita e o seu comportamento face à média da UE27 – o que pode ser explicado pela especialização produtiva das regiões, em articulação com as dinâmicas populacionais de ocupação do território e movimentos pendulares associados. Contudo, estes resultados terão de ser sujeitos a uma análise conjunta com outros indicadores, nomeadamente o rendimento disponível, para validar essa hipótese.

Procurando contribuir para a compreensão das dinâmicas de convergência e coesão das regiões portuguesas no primeiro quartel do século XXI, esta análise destaca ainda as implicações da evolução populacional nos restantes Estados-Membros e dos eventuais processos de alargamento da UE a países candidatos, com reflexos na Política de Coesão.

Palavras-chave | Coesão territorial, desenvolvimento regional, convergência regional, assimetrias.

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BEHAVIORAL ECONOMICS AND GIG ECONOMY: THE CASE OF MORAL EMOTIONS

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Abstract

Purpose | The arrival and development of digital platforms have changed the landscape of the labor market. These platforms made possible the emergence of new forms of work, which are characterized by greater flexibility as well as by an increasing degree of job precariousness. Much of the work associated with this new economy is freelance work, which is not paid through a regular wage but rather by piece of work effectively done. This is the reason why workers in this called platform economy are called gig workers and the new setting has received the designation of gig economy. Ride-sharing services as Uber eats are good examples of how the gig economy has penetrated in our everyday lives. Given the increasing relevance and complexity of the gig economy and the changes it has brought to the way work is performed, it is important to investigate how it impacts its stakeholders. This research approaches the interplay between gig activities and moral emotions. The goal is to understand which the main emotions are felt by purchasers of gig services.

Methodology/Approach | According to Moraes et al. (2024), some of the most recurrent emotions mentioned in the moral behavior literature are anger, disgust, empathy, guilt, pride, and shame. These dimensions were applied in the content analysis of the 10 interviews conducted in this study. Furthermore, to deepen our analysis, the 'ineffable' dimension was added.

Expected Results | This study highlighted the predominance of empathy, as well as the presence of responses in the ineffable category, which can be related to people's inability to classify their emotions and, therefore, to the importance of initiatives aimed at developing emotional intelligence throughout life. Concerning the statements, people expressed concerns about providers' working conditions. These concerns are related to interviewees' emotions of disgust, empathy, shame, and guilt. However, it was also evidenced that this kind of work itself should not automatically be labeled as bad. There are indications that the decision to use the service stems from factors such as poor time management or overwork on the part of the users, adding to the feeling of shame for contributing to an unjust work market.

Keywords | Behavioral economics; Gig economy; Moral emotions; Platform economy.

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FROM SILENCE TO SUCCESS: FONDAZIONE ARENA DI VERONA'S 67 COLUMNS PROJECT DRIVES CULTURAL AND ECONOMIC REVIVAL

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Abstract

The scenario: the value of Opera

The production value of Italian Opera Houses exceeds half a billion euros annually. In 2022, the 14 Italian Opera foundations collectively generated around 531 million euros, compared to a government allocation of approximately 190 million euros (Fondo Unico Spettacolo - FUS). Each euro invested in Opera returns between 2 and 2.5 euros to the local economy, including direct and indirect economic benefits, particularly for tourism and related industries. Opera Houses significantly contribute to local tourism, attracting visitors from around the world and boosting local businesses [<https://www.ilsole24ore.com/art/teatri-lirici-produzione-vale-oltre-mezzo-miliardo-incassi-crescita-2023-AFTpXMDC>; <https://finanza.repubblica.it/News/2024/08/30/il-2024-sara-lanno-dellopera-lirica-il-settore-riparte-alla-grande-107/> Eurispes, 2024)].

The Arena di Verona Opera Festival impacts its territory with 400-500 million euros, making up 1.5% of the GDP of an already vibrant province. In June 2024, the Arena hosted an event attended by top state authorities and broadcast worldwide to celebrate opera singing being recognized as an Intangible Cultural Heritage of Humanity by UNESCO. This recognition highlights its cultural and economic significance, promoting Italy's image globally [<https://forbes.it/2024/06/18/festival-estivo-arena-verona-impatto-territorio-400-milioni/>; <https://ich.unesco.org/en/RL/the-practice-of-opera-singing-in-italy-01980>; FAV, 2025; Fondazione Symbola, 2024].

The challenge: overcoming the pandemic crisis

Opera and symphony foundations, like all sectors of live entertainment in Italy and beyond, faced significant challenges during the recent crisis. These organizations responded by leveraging their intellectual and organizational strengths to maintain operations and preserve the valuable relationships they had built with their audiences. Additionally, they initiated crucial projects to ensure continued engagement and growth (Giambrone, 2023; Mazzola, Martinello, 2021).

The sustainable network project: Fondazione Arena di Verona's 67 Columns

The project took its name from the idea of ideally rebuilding the outermost ring of arches, destroyed by an earthquake in 1117, with the support of entrepreneurs and professionals united by their love for the Arena as

a true enterprise. "67 Colonne per l'Arena" is an ambitious project that achieved its goal of becoming an annual membership, driven by the ongoing arrival of new supporters, large companies, and small entrepreneurs, all united by the desire to contribute not only to entertainment but also to its economic and social value, and to be part of one of the country's cultural excellences, a worldwide symbol of "Made in Italy" [<https://www.arena.it/en/support-us/67-columns/>]. This Fundraising Corporate Membership project is part of the broader national path of measures to promote culture through patronage (Mecenatismo) called ArtBonus. Profit and non-profit companies and individuals who make liberal cash donations to support culture, as provided for by law (2014), can enjoy significant tax benefits in the form of a tax credit. Notably, Project 67 Columns has won several competitions over the years as the Best ArtBonus Programme [<https://artbonus.gov.it/fondazione-arena-di-verona-67-colonne-per-larena-di-verona-2021.html>; https://www.ansa.it/sito/notizie/postit/Arena/2022/06/10/arena-di-verona-67-colonne-vince-concorso-art-bonus_52a779ce-7a69-4f22-bf22-adfa01848066.html; <https://culturapiuimpresa.apply-idea360.com/>].

The project involves almost 90 companies that, in various ways of participation (Founder; Executive; Advisor; Leadership; Benefactor), donated more than 2 million euros in 2024. There is a steady increase in the number of companies and the value of donations. Additionally, 2.7 million euros come from the 20 established sponsors and the two private founding partners (around 1.2 million euros). These summary figures highlight the strong contribution that companies and entrepreneurs bring to the development of culture and its allied industries. Their contribution, added to the significant income from ticket sales (nearly 34 million euros), brings the revenue from private parties to 68%. Typically, the public contribution is the largest share of revenue in this sector (FAV, 2025; Eurispes, 2024).

We are deepening the study of the numerous interviews that entrepreneurs are giving to the local press to identify the values and motivations that drive them to invest (and continue to do so over the years) in the Fondazione Arena di Verona's 67 Columns project. Even from an initial analysis, it is clear that values play a critical role in shaping entrepreneurial attitudes towards cultural investments, partnerships, and community outreach efforts. The intention is to achieve a richer understanding of cultural entrepreneurship and its role in promoting long-term sustainability.

Keywords | Cultural Tourism, Opera, Sustainable Development, Entrepreneurial Engagement, Values.

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**TERRITORIAL MARKETING APPLIED TO LOW-DENSITY TERRITORIES:
THE PARTICULAR CASE OF PEREIRA VILLAGE****Maria Leonor Alves**

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Low-density territories, especially those located in rural areas, are essential not only for the local economies but also for the national ones. Despite their importance, low-density territories face enormous challenges, such as an ageing population, desertification, and economic development primarily based on primary activities. Territorial Marketing plays an essential role in developing low-density territories, particularly rural ones. In the context of the development and application of Territorial Marketing tools, this study aims to better understand the opportunity to preserve traditions, enhance heritage, develop and protect endogenous products, and create experiences that promote the connection between visitors and local communities. Moreover, maintaining the territory's sustainability and residents' quality of life are essential inputs that territorial marketing should consider when considering low-density territories. This article aims to acquire a more profound knowledge of the Pereira residents' perceptions of their territory. Pereira is a small village characterized as a low-density territory in the Trás-os-Montes region, a region located in the interior of Portugal. The study also intends to better understand the village endogenous products, events, experiences, traditions and heritage that can be promoted to enhance tourism's economic contribution. Following a qualitative methodology, this study uses semi-structured resident interviews. The results achieved will contribute to defining marketing territorial strategies that consider not only the territory's sustainability and identity, but also the well-being of residents. Future studies should consider other perspectives, such as those of investors, local governments, municipalities, visitors, and tourists.

Keywords | Territorial Marketing, Sustainability, Low-density territories, Tourism, Rural areas.

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DOURO: DESAFIOS E OPORTUNIDADES

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O artigo tem como objetivo refletir sobre os desafios e as potencialidades do Douro, baseado em indicadores sociais e económicos, e contribuir para definir uma visão prospetiva e uma estratégia de intervenção. A metodologia assenta numa pesquisa documental e na análise de dados de fontes estatísticas.

O Douro está hoje no mapa mundial dos vinhos de excelência, do património mundial e dos destinos turísticos, contudo, depara-se com problemas como, a perda demográfica e o envelhecimento da população, a insuficiente capacidade de atração de investimento, a presença de atividades de menor intensidade em tecnologia, acompanhadas de uma débil presença de atividades transacionáveis nos mercados digitais.

As condições naturais favoráveis do Douro para a produção diversificada de produtos agrícolas de qualidade pode ser potenciada pela capacidade exportadora e traduzir-se no aumento do valor acrescentado do vinho, azeite e frutos secos. Porém, persistem dificuldades na valorização dos recursos endógenos e a estrutura produtiva está dependente de setores fortemente expostos à concorrência internacional, cujas produções possuem um grau elevado de substituíbilidade. Acrescem níveis reduzidos de inovação e de experimentação social, um défice de cultura de criação de start-ups e de empresas tecnológicas.

As empresas do setor agroalimentar têm reputação internacional, caso do vinho, contudo, o sector depara-se com excesso de produção de uva, comercializada a baixo valor, o que exige medidas de sustentabilidade e de competitividade. Novos formatos de turismo, caso do enoturismo, pode ser potenciado pela diversidade de produtos regionais associados a um receituário gastronómico tradicional. As oportunidades no turismo passam ainda por parcerias transfronteiriças com o Parque do Côa e o ADV, inscritos na Lista Património Mundial da UNESCO. A ferrovia, caso da Linha do Douro, é um ativo estratégico para o território.

Persistem défices de acessibilidades na mobilidade ferroviária e assimetrias de banda larga. Os défices existem na qualificação, em particular na população adulta, que exigem dinâmicas de reconversão técnica, de formação profissional e de internacionalização. O investimento em atividades de I&D é, igualmente, baixo em relação à média do Norte e do país.

No plano ambiental, as alterações climáticas e as limitações de água associadas ao seu insuficiente armazenamento, e à perda de biodiversidade e de desertificação do solo são desafios do Douro, que requerem soluções para mitigar os seus efeitos e adaptar às novas condições emergentes.

Em síntese, o desenvolvimento do Douro exige políticas que promovam investimentos para criar e fixar valor e promover o emprego, baseados na inovação, e na fixação e atração de população, privilegiando programas que envolvam todos os atores da Região. É essencial uma visão e um plano de ação com medidas concretas para delinear um caminho capaz de preparar o território para um futuro que se antecipa de imprevisibilidade, devendo as questões da qualificação, da investigação e da valorização do conhecimento assumir um papel central.

Palavras-chave | Desenvolvimento regional; Douro; Portugal; Coesão territorial.

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IDENTIFICAÇÃO DAS DESIGUALDADES NOS SISTEMAS DE TRANSPORTE PÚBLICO: ABORDAGENS, MÉTODOS E MÉTRICAS**Andreia Monteiro**

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Nos últimos anos as desigualdades urbanas têm adquirido uma grande relevância tanto na agenda global de desenvolvimento sustentável como nas políticas nacionais e locais (Nie et al., 2024; Suel et al., 2024). Nesse sentido, as questões relacionadas com as desigualdades nos transportes têm atraído um enorme interesse quer na investigação quer no exercício do planeamento (Tiznado Aitken et al., 2023).

De acordo com Cohen (2020) é necessário compreender as desigualdades nos transportes para encontrar soluções de forma a ser possível a sua gestão num nível aceitável, e por isso, um passo fundamental consiste na medição ainda que seja um desafio.

Diversos fatores intrínsecos (como os atributos individuais: idade, género, rendimento, etc.) e externos (contextos espaciais e socioculturais) interrelacionados e até sobrepostos, originam as desigualdades nos transportes. Naturalmente que a complexa interação destes fatores leva ao desenvolvimento de uma grande variedade tanto nas abordagens na análise e estudo das desigualdades nos transportes, mas também na aplicação de metodologias (métodos quantitativos, qualitativos ou mistos), quer na literatura quer no exercício do planeamento (Hidayati et al., 2021).

Sendo os serviços de transporte público considerados como fundamentais, uma vez que podem contribuir para a redução das desigualdades dado que possibilitam o acesso a bens e serviços e a participação em atividades essenciais, mas também podem reforçá-las devido a decisões de planeamento e a determinados atributos (tempos de viagem, custos, etc.) (Nie et al., 2024; Suel et al., 2024). Este trabalho tem como objetivo investigar e compreender quais as abordagens que têm sido aplicadas, e quais as metodologias e métricas utilizadas na identificação das desigualdades associadas aos sistemas de transporte público.

Methodology Uma revisão sistemática de artigos publicados nos últimos anos, nas bases de dados Scopus e WoS, identificados a partir de pesquisa direcionada na associação dos conceitos “desigualdades” e “transporte público”.

Expected Results Compreensão das abordagens, métodos e métricas utilizados e aplicados na identificação e estudo das desigualdades nos sistemas de transporte público; contribuindo para um maior conhecimento e debate das questões relacionadas com a desigualdades nos transportes.

Palavras-chave | Transporte público, Metodologias, Desigualdades, Medição.

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WHO LEADS RURAL CHANGE? A FRAMEWORK TO IDENTIFY AND EMPOWER LOCAL LEADERS

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Abstract

Purpose | This study explores the critical role of community managers - also referred to as local leaders, animators, or rural facilitators - as catalysts for sustainable development in rural territories. Despite growing interest in place-based development and local empowerment, there is a lack of conceptual clarity and practical tools to identify, support, and position these actors within rural ecosystems. The paper aims to synthesise existing literature, propose a typology of competencies and roles for rural community managers, and present a strategic matrix for their classification and development.

Methodology/Approach | The paper adopts a conceptual and exploratory methodology grounded in a literature review across the fields of rural studies, community development, and leadership. It integrates theoretical insights with practice-based knowledge emerging from the Rural Move experience (2020–2024), particularly its network of community managers and the outcomes of the project “Rural Leaders’ Academy”. The analysis identifies key personal and relational dimensions that underpin effective rural leadership and translates them into a two-axis conceptual matrix. The axes 1) Agency (individual initiative, vision, and leadership) and 2) Embeddedness (local trust, legitimacy, and connectedness to territorial structures) enable the positioning of community managers into four archetypal profiles, with implications for capacity-building strategies and rural policy design.

Expected Results | The expected outcome is a conceptual framework and a practical tool to inform policy-makers, civil society organisations, and development practitioners about the identification and strategic development of rural community managers. The proposed matrix allows for the segmentation of community actors into four types - Catalysts, Challengers, Silent Pillars, and Observers - each requiring tailored support. The study is anticipated to contribute to rural innovation strategies, improve leadership training programmes, and support the co-construction of sustainable territorial futures through community-led development.

Keywords | Rural leadership, community managers, capacity-building, territorial development.

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THE INFLUENCE OF OPERATIONAL GROUPS AND LIVING LABS IN FOREST AND AGROFORESTRY INNOVATION: SOME INSIGHTS**Ana Maria Ventura**

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Purpose | To bring to evidence the regional and national differences and similarities in innovation and entrepreneurship in rural areas, in several EU countries. Promote reflection on the role of innovation ecosystems for resilient and prosperous rural areas.

Methodology/Approach | The work was carried out under the Horizon Europe Project Forest4Eu (www.forest4eu.eu), and an individual literature review was conducted on the role of rural living labs in promoting innovation in rural areas.

Expected Results | According to EIP-AGRI, innovation can be diverse and multifaceted, encompassing economic, technical, management, social, and organisational aspects. Based on Project Forest4Eu (www.forest4eu.eu), the Operational Groups (OGS) show evidence of bringing innovation to the forestry and agroforestry sectors across Europe and in diverse environments. Despite this, innovation is not perceived similarly in the distinct EU biogeographical regions, and natural conditions and socioeconomic factors considerably influence the uptake of innovation by social actors. On the other hand, Living Labs (LLs) can be a way to bring innovation to the end-users; however, their efficacy and sustainability need to be analysed. Essential aspects in the OGs and LLs implementation may be adherence to the region(s) where they operate and their capability to attract producers (with special relevance to the youth) and other value chain representatives, where forestry and agroforestry are inserted. Social innovation may be a cause and a consequence of OGs and LLs implementation. Still, the policy framework appears to be a fundamental condition for innovation success and is relevant to the survival and strength of OGs and LLs. More research and field analysis emerged as key aspects for understanding innovation in complex systems, such as forestry and agroforestry.

Keywords | Innovation; forestry and agroforestry; Operational Groups and Living Labs.

**FEAR AND BEHAVIORAL ECONOMICS IN THE GIG ECONOMY: INSIGHTS
FROM THE CASE OF UBER**

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Abstract

Purpose | Anxiety is one of the most significant challenges facing contemporary society and is frequently intertwined with fear. Given that fear plays a crucial role in decision-making, it can have a profound impact on economic settings, such as in the gig economy. This study seeks to deepen the understanding of this relationship by examining how fear manifests within the gig economy - including in the context of tourism - and by exploring strategies for effectively managing this emotion.

Methodology/Approach | To achieve this goal, we conducted interviews both with workers and interviews with users of the Uber platform in Portugal and Brazil.

Expected Results | The findings revealed kinds of fears that are largely driven by platform policies and interactions with unfamiliar dimensions, whether users or drivers. Drawing on these insights, the study offers recommendations to support the development of policies in both the private and public sectors.

Keywords | Behavioral economics; Fear; Gig economy; Platform economy.

VINHO MADEIRA NUM MUNDO TARIFÁRIO EM EBULIÇÃO: LIÇÕES DA ADOÇÃO DO EURO EM 2001**António Almeida**

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O vinho Madeira constitui um dos ex-libris da economia regional, e um fator chave de promoção externa da região, e como tal exposto as vicissitudes do comércio global. A deriva tarifária em curso ameaça as perspetivas do sector nos EUA, dada a importância relevante deste mercado, embora as perspetivas de crescimento do número de turistas dos EUA compensem em parte o impacto negativo das tarifas. Para além da deriva tarifária, a contração do consumo de álcool per capita nos principais mercados também afeta negativamente a evolução das vendas. Baseado numa análise das séries temporais, agregadas (disponíveis desde 1976) e por mercados (disponíveis desde 1973), com base numa metodologia ARDL, este paper demonstra que a expansão do setor do turismo tem vindo a compensar as perdas infligidas pela redução no nível do consumo de álcool per capita, constatando-se uma relação de longo prazo entre as vendas de vinho Madeira e a expansão do setor do turismo. Contudo a adoção do euro, em 2001, implicou uma quebra estrutural na série de vendas (em quantidade e valor), com quebras nas vendas do qual o sector nunca recuperou, apesar da expansão posterior do mercado turístico. Com base na evidência econométrica disponível sugere-se que a aplicação permanente de um regime tarifário nos principais mercados conduzirá a nova quebra estrutural permanente.

O IMPACTO DA GESTÃO DE RECURSOS HUMANOS NUM UNIVERSO EMPRESARIAL CONCENTRADO NA SATISFAÇÃO DOS TRABALHADORES**António Almeida**

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Os mercados de trabalho a nível regional caracterizam-se pela forte dependência de 2/3 setores chave, como a administração pública e o setor do turismo, pela relevância de grupos económicos a operar em regime de monopólio ou oligopólio, e pela mobilidade intersectorial reduzida. Dado peso excessivo das microempresas, caracterizados por salários mais baixos e menores oportunidade de progressão na carreira e as restrições ao nível das oportunidades de emprego em empresas de pequena e média dimensão, a pertença aos quadros de empresas de média dimensão é extremamente valorizada. Nesse sentido, as políticas de gestão de recursos humanos ao nível das empresas de média e dos grupos regionais dimensão definem em grande medida os limites das expectativas e possibilidades para o conjunto da economia. Baseados numa amostra de 260 inquiridos afetos a grupo empresarial de média dimensão, este estudo analisa os determinantes da satisfação no trabalho, como base num modelo logit, assim como o grau de envolvimento com a política da empresa, nas áreas do marketing, produto e inovação. O estudo oferece algumas recomendações a implementar no conjunto de tecido económico regional.

ENTREPRENEURIAL ECOSYSTEMS FOR SUSTAINABLE DEVELOPMENT: EVIDENCE FROM LOW-DENSITY TERRITORIES IN PORTUGAL

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Abstract

Entrepreneurial ecosystems (EEs) have become a prominent framework for understanding the conditions that foster entrepreneurship and innovation. However, the mainstream EE literature remains heavily shaped by urban-centric assumptions, often overlooking the specific dynamics, constraints, and potentials of rural or low-density territories (LDTs). This paper addresses this gap by examining how EEs contribute to sustainable local development in Portuguese LDTs, where demographic decline, institutional thinness, and infrastructural deficits persist despite policy efforts toward territorial cohesion.

Drawing on a conceptual framework developed through a systematic review of EE literature adapted for LDT contexts, the study argues that entrepreneurial activity alone is insufficient to generate meaningful development outcomes in these territories. Instead, ecosystem effectiveness depends on the presence and quality of foundational strategies: strong leadership, local embeddedness, open boundaries, collaborative governance, long-term orientation, and a sustainability focus. These strategic conditions are proposed as critical mediators that shape the translation of entrepreneurial outputs (e.g. startup creation, innovation activity) into broader developmental outcomes, such as youth retention, demographic renewal, employment diversification, and ecological stewardship.

Methodologically, the study applies a mixed-methods approach, integrating quantitative national-level mapping of Portuguese municipalities with qualitative case study analysis. The quantitative component analyses three indicators of entrepreneurial activity—startup density, enterprise birth rate, and medium-high-tech firm density—against five sustainable development outcomes, including population dynamics, youth retention, education levels, and unemployment variation. Using cluster analysis and a four-quadrant typology, the study categorises LDTs into distinct ecosystem profiles based on their activity and outcome scores. Finally, two municipalities were selected for in-depth qualitative exploration.

The findings challenge the conventional focus on entrepreneurial quantity as a proxy for ecosystem success and advocate for a more inclusive, place-sensitive understanding of ecosystem performance. By highlighting the role of governance strategies and trans-local linkages, this research contributes to ongoing debates on entrepreneurship, rural development, and cohesion policy.

The study concludes with policy recommendations to support leadership development, foster collaborative governance, and embed sustainability into ecosystem-building efforts in peripheral regions. These insights offer actionable guidance for policymakers, practitioners, and researchers seeking to promote resilient and inclusive entrepreneurship in marginalised territories.

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SOCIO-ECONOMIC DRIVERS OF RISK AWARENESS IN ORGANIC COCOA PRODUCTION

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Abstract

The sustainability of organic cocoa agro-forestall system depends not only on environmental factors but also on socio-economic conditions that shape producers' decision-making processes. This study investigates the influence of education and market dynamics on risk awareness among cocoa farmers in São Tomé and Príncipe. The research explores how different socio-economic backgrounds impact the recognition and assessment of risks in organic cocoa production, including financial instability, policy shifts, and climate uncertainties. Findings reveal that farmers with higher education levels tend to exhibit a greater awareness of market volatility, input price fluctuations, and financial planning challenges. They are also more likely to anticipate and prepare for policy changes affecting subsidies, certification standards, and access to international markets. Conversely, farmers with lower education levels often rely on traditional knowledge and informal networks, which may limit their ability to adapt to evolving economic and regulatory conditions. Market access and trading structures significantly contribute to risk perception. Farmers involved in direct trade or cooperative organizations report heightened awareness of price instability and unfair competition, whereas those dependent on intermediaries often face greater uncertainty regarding income stability. Additionally, exposure to training programs and financial literacy initiatives enhances farmers' preparedness to mitigate risks linked to production losses, extreme weather events, and economic downturns. The study underscores the necessity for tailored educational initiatives that empower cocoa producers with strategic risk management skills. Strengthening financial literacy, improving access to market information, and fostering cooperative engagement can enhance resilience against socio-economic challenges. Future research should expand on the role of digital tools and financial inclusion in supporting risk-mitigation strategies among organic cocoa farmers.

Keywords | Socio-Economic Factors, Organic Cocoa, Risk Awareness, Market Dynamics, Financial Literacy.

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UIDB/04674/2020, DOI 10.54499/UIDB/04674/2020 (<https://doi.org/10.54499/UIDB/04674/2020>). Funding was additionally provided by FCT under the research contract PRT/BD/152273/2021 to Ibrahim Prazeres.

ANTHROPOTECHNICS IN PERSPECTIVE: A SYSTEMATIC LITERATURE REVIEW

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Abstract

Purpose | The term “anthropotechnics” has emerged as a central concept in contemporary thought, intrinsically linked to the work of the German philosopher Peter Sloterdijk. “Like most of Sloterdijk’s key terms, anthropotechnics defies easy conceptualization (...) its ramifications far exceed the domain of techné. At stake in Sloterdijk’s use of the concept is, among other things, the constitution of the human and humanity’s being-in-the-world, its ability not only to modify but especially to exercise and transcend itself and the possibility to mediate human interiority with the non-human outside” (Roney & Rossi, 2021, p.1). In this study, we aim to investigate how the term anthropotechnics has been appropriated and reinterpreted in the literature, particularly in its connections with new technologies, such as Artificial Intelligence. This critical mapping is needed to clarify the main theoretical debates, research gaps, and potential pathways for future investigations into human self-construction practices in a technologically mediated world.

Methodology/Approach | This systematic literature review analyzed 65 articles indexed in the Web of Science that address the concept of “anthropotechnics” across various fields of knowledge.

Results | The analysis revealed that the concept of anthropotechnics evolves from the idea of traditional practices of human self-transformation to encompass discussions on new technologies for physical, cognitive, and educational enhancement.

Keywords | Anthropotechnics; Artificial Intelligence; Cognition; Literature Review; New Technologies.

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TURISMO RURAL E AUTENTICIDADE: A COMUNICAÇÃO TERRITORIAL NA VALORIZAÇÃO DOS RECURSOS ENDÓGENOS**Maria Lúcia Pato**

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Propósito | A singularidade do turismo rural, enquanto produto turístico, baseia-se nos seus recursos, tanto físicos como culturais, que distinguem cada região. Por isso, é essencial que a experiência turística realce e conserve a autenticidade das tradições locais e regionais, promovendo o modo de vida das comunidades rurais (Zhao et al., 2024). Ao respeitar e valorizar essa autenticidade e os recursos endógenos do território, torna-se possível gerar um maior impacto económico, ambiental e social local, promovendo, por outro lado, a identidade e marketing do território. No entanto, a relação entre turismo rural e autenticidade, é escassamente investigada, sobretudo em Portugal. Partindo duma investigação centrada na Região Viseu Dão Lafões (RVDL), no Centro de Portugal, o propósito deste estudo, é observar a relação entre turismo rural, autenticidade e os recursos endógenos do território.

Metodologia | Para o desenvolvimento deste estudo, uma análise de conteúdo dos websites dos empreendimentos de turismo no espaço rural (TER) na RVDL foi usada. A escolha por esta metodologia é explicada pelo crescente uso de ferramentas digitais na procura turística (Pato & Duque, 2021). Assim começámos por observar o número de empreendimentos de TER existentes na RVDL. A pesquisa foi feita no dia 29 março 2025, com base no Registo Nacional de Empreendimentos Turísticos (RNET). Foi posteriormente construída uma base de dados excel com distribuição destes empreendimentos por concelho, tipologia e existência de página web. Para estes foi observada a oferta turística existente, com particular ênfase na oferta de produtos/serviços endógenos e de características rurais: experiências no campo; experiências gastronómicas; pedestrianismo, caminhadas e ciclismo; eventos e festas rurais; desportos de aventura e workshops relativos a produtos/serviços endógenos. Baseado nos trabalhos de Pato & Duque (2021) a existência desta oferta foi analisada de acordo com um processo dicotómico (sim/não).

Resultados esperados | Apesar da importância dos recursos endógenos e de experiências autênticas na promoção do turismo rural e marketing do território, os resultados mostram uma aparente modéstia na oferta existente na RVDL. São poucos os empreendimentos que parecem oferecer experiências autênticas relacionadas com os modos de vida local e com a ruralidade do território. Adicionalmente, as redes estabelecidas com outros stakeholders locais na oferta destas experiências parecem também modestas.

Palavras-chave | Turismo rural, recursos endógenos, autenticidade, marketing, Região Viseu Dão Lafões.

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MARKETING NA VALORIZAÇÃO DE PEQUENOS TERRITÓRIOS: COMO A HERANÇA CULTURAL E AS EXPERIÊNCIAS AUTÊNTICAS POTENCIAM DESTINOS LOCAIS

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Resumo

Propósito | A inovação aliada às tradições culturais pode ser a força motriz na revitalização e promoção de destinos rurais (Marques et al., 2019), particularmente dos mais interiores e de menor dimensão. É fundamental dar a conhecer estes produtos, numa lógica integrada e envolvendo todos os stakeholders. Daí que o marketing territorial se assuma como ferramenta fundamental na promoção desses destinos, devendo estar presente nas estratégias encetadas localmente, ajudando e promovendo o desenvolvimento económico e social sustentável (Sousa et al., 2019).

Este estudo investiga o papel do marketing e da inovação na criação de experiências autênticas, com enfoque na região Centro de Portugal. Procura-se compreender de que forma a identidade local e o património cultural podem ser valorizados para impulsionar o desenvolvimento sustentável e atrair novos visitantes. Além disso, analisa-se a relevância de estratégias diferenciadoras na comunicação e promoção de destinos menos explorados, especialmente em territórios de menor dimensão.

Metodologia | A investigação adota uma abordagem mista, combinando revisão teórica sobre inovação (com base na tradição) e marketing territorial com uma análise empírica de iniciativas concretas na região Centro. Para isso, são estudados casos do setor da moda e do têxtil, avaliando-se como estas indústrias têm integrado elementos culturais na sua comunicação e contribuído para a experiência turística.

Resultados esperados | Os resultados demonstram que a inovação e o empreendedorismo são fatores-chave para a valorização económica e social das comunidades locais. Verificou-se que o reforço da identidade territorial e a aposta em narrativas autênticas aumentam a competitividade dos destinos, permitindo que pequenas localidades se posicionem de forma mais atrativa no mercado turístico. Além disso, identificou-se a importância da colaboração entre diferentes setores e da adoção de estratégias criativas de comunicação para potenciar a experiência do visitante.

A pesquisa evidencia o papel estratégico do marketing na promoção da herança cultural e na dinamização de territórios de menor dimensão. A integração de inovação na criação e comunicação de produtos e experiências permite não só fortalecer a identidade local, mas também estimular o desenvolvimento económico sustentável, assegurando a autenticidade das regiões envolvidas.

Palavras-chave | Inovação, Tradições culturais, Marketing territorial, Região Centro Portugal.

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THE ROLE OF INTANGIBLE HERITAGE IN THE DEVELOPMENT OF CROSS-BORDER REGIONS: THE CASE OF THE TERRAS DE TRÁS-OS-MONTES REGION

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Abstract

Purpose | This paper aims to show how territorial marketing and strategic policies to promote culture and intangible heritage operate as engines of development in low-density areas. Valorising intangible cultural heritage is often seen as a strategic factor for depressed regions (EC, 2022), while low-density cross-border areas face significant structural challenges including depopulation, economic stagnation and institutional weakness. Still, despite these hardships, we believe these regions can make the best of their rich intangible heritage and unique cultural identity as strategic assets for sustainable development.

Methodology/Approach | This research applies a qualitative methodology through content analysis of indexed scientific articles. Starting from a systematic review of the literature and an analysis of empirical studies about cultural events in rural and cross-border regions, its main goal is to identify the dynamics of economic and cultural appropriation of intangible heritage. The Terras de Trás-os-Montes region was chosen because (1) all its municipalities have a low population density; (2) it is the sub-region of Northern Portugal that has the fewest online resources despite its cultural wealth and rich intangible heritage.

Expected Results | The expected results indicate that territorial marketing is a strategic tool to disseminate culture and intangible heritage as crucial assets for sustainable development based on (i) Smart Growth, Inclusive Growth and Sustainable Growth. Besides, we intend to reveal the lack of methodological patterns to measure social and economic impacts, particularly as far as rural or intangible contexts are concerned. Accordingly, we propose participatory policies of transversal integration in which policies for education, tourism and land planning include heritage. This research also aims to create metrics that measure both economic and social and environmental benefits, as well as regional cooperation networks to allow these regions to share practices and funding through partnerships. This research concludes that valorising culture and intangible heritage not only strengthens a region's identity and attractiveness but also represents an efficient tool for environmental and socio-economic development as long as it is supported by strategic management adapted to local characteristics.

Keywords | Territorial Marketing; Tourism; Low Density Regions; Place-Based Policy; Social innovation.

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Before the COVID-19 health crisis, there was a huge transformation in the metropolises' central areas, causing conflicts that affected the urban environment, social and economic activities, housing, citizens and neighborhoods. International tourism has become a key economic element for urban governance and, possibly, it will become even more relevant in the coming years. In the present decade, the return of visitors attracted by cultural heritage has brought challenges and the local inhabitants have negative perceptions concerning the growing real estate prices and landscape transformation. These problems are being faced in several other European cities, with different policies, such as the recently announced in Barcelona to eliminate tourism accommodation in housing.

This phenomenon may lead to the concept of a shared city, not only between inhabitants and tourists, but also with immigrants, who arrive due to the growth of the services sector, in the global economy for foreigners. The dynamics of tourism had consequences in the evolution of real estate in Lisbon and Porto, causing also problems for security and urban management, related to the wave of immigration coming to work precariously, without a good standard of accommodation in the high-density areas of Arroios parish, for example. Lisbon shows a larger substitution of local citizens, losses more than 20% of residents from central parishes (Baixa, Misericórdia and Santa Maria Maior), almost 650 inhabitants per year in the last decade. And in Porto the population only increases beyond the main circular road, in Aldoar, Paranhos and Ramalde.

The aim of this research paper is to evidence the relations between urban regulations, real estate and tourism development, focusing the metropolitan areas of Lisbon and Porto. The results will contribute to improve planning policies aiming to reduce the housing crisis and achieve proposals for territorial management. In the framework of the sustainable development goal for cities and communities (SDG nº 11), it is suggested that an integrated analysis of these 3 dimensions may improve the environment of the new shared cities. This goal is connected to the Portuguese competitiveness strategy, regarding the exploration of cultural heritage and links also to regional development strategies: the domain of symbolic capital, technologies and tourism services in the North, and the intention to reinforce Lisbon brand on a larger regional scale.

The research uses a combined methodology, with quantitative data analysis and foresight studies, as an important tool to understand the development of urban tourism and its impact on housing, for both landowners and tenants, including the evolution of territorial regulations and real estate prices.

**ARE THE UNIVERSITIES FAILING TO PREPARE GENERATION Z TO WORK?
INSIGHTS FROM STUDENTS' PERSPECTIVES****Joana Fernandes**

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Generation Z, born between 1997 and 2012, is steadily entering the labour market, bringing new expectations and dynamics to the professional world. However, this generation faces notable challenges in the transition from higher education to employment. This study investigates these difficulties through qualitative interviews with 68 individuals aged 21 to 30, representing a broad range of sectors and professional roles. The data collection and thematic content analysis—based on Bardin's methodology—were conducted by second-year Marketing students as part of the Market Research course. The findings highlight three central issues: insufficient academic preparation for real-world demands, high levels of workplace pressure, and a critical need for soft skills, particularly emotional intelligence and adaptability. Based on these insights, the paper proposes targeted strategies to ease this transition, including enhanced mentorship programs, more practice-oriented curricula, and the implementation of inclusive and supportive workplace policies.

SUSTAINABLE TAX POLICY FOR THE REHABILITATION OF HISTORICAL, ARTISTIC AND CULTURAL HERITAGE: A COMPARATIVE STUDY BETWEEN THE MUNICIPALITIES OF PORTO/PT AND SALVADOR/BR

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Abstract

This study aims to analyse tax policies designed to encourage the rehabilitation of historical, artistic and cultural heritage in the municipalities of Porto (Portugal) and Salvador (Brazil). The relevance of the research is substantiated by the fact that both cities have edifices and monuments recognised as world heritage sites on a global scale by the United Nations Educational, Scientific and Cultural Organisation (UNESCO). Conversely, the cities examined demonstrate evidence of tax policies that are oriented towards the preservation of heritage. Moreover, beginning in 2026, Salvador will experience the implementation of the Brazilian tax reform, while in Portugal, the green tax reform has been enforced since 2014. In this sense, it is important to understand how other nations are adopting tax policies to promote urban rehabilitation and the protection of historical and cultural heritage. This study adopts an approach that has been employed in previous research, as evidenced by the works of Azevedo (2025), Carvalho (2024), Carvalho et al. (2024), Fernandes et al. (2023), Igreja (2024), Igreja and Conceição (2021), and Neto et al. (2014). The study adopts a methodological strategy based on incorporated bibliographical and documentary research, with official electronic platforms accessed to obtain relevant documentation and legislation on the subject. The relevance of this subject extends beyond academia, influencing corporate strategies and practices as well. It is positioned as an urban sustainability practice that aims to improve living conditions in cities and aligns with the SDGs, particularly SDG 11, which outlines ten commitments for achieving sustainable urban development (United Nations, 2015; Azevedo, 2017). It is hoped that the study's findings will contribute to public governance in tax policy strategies and encourage business organisations to include actions aimed at the urban rehabilitation of historical, cultural and artistic heritage in their strategic planning.

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SPATIAL DETERMINANTS OF SOLAR POWER PLANTS LOCATION IN PORTUGAL: A GEOSPATIAL AND MACHINE LEARNING APPROACH

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Abstract

Purpose | The energy transition towards renewable energy sources is increasing the land footprint of energy production, but the siting of renewable energy facilities is far from being a consensual issue (Bolonio et al., 2024; Silva, 2023; Susskind et al., 2022; Valera et al., 2022). Understanding the spatial drivers that shape the geography of renewable energy facilities is essential for data-informed land-use planning. This study investigates the location patterns of utility-scale solar energy in continental Portugal.

Methodology/Approach | A combination of geographical analysis methods and explainable machine learning techniques, including Random Forest with feature permutation importance and partial dependence plots, were employed to evaluate the relationship between the spatial distribution of solar power plants and a range of potential location determinants. Variables such as land use and cover, proximity to infrastructure, topography, and policy-related spatial designations were included based on relevance for utility-scale solar photovoltaic project development.

Expected Results | The classification model achieved 94% accuracy (based on ten-fold cross-validation), highlighting the dominance of techno-economic and policy-related factors over purely geographical factors in siting decisions in continental Portugal. The most influential variables include distance to substations with state subsidies, proximity to the national electrical grid, distance to protected areas, and photovoltaic output potential. These findings contribute to ongoing debates about how spatial planning can reconcile energy development with sustainable land-use goals in the context of the energy transition, as it suggests that factors related to policy support, techno-economic characteristics, and regulatory constraints emerged as the most critical, outweighing the influence of geographical and market dimensions.

Keywords | Renewable energy; solar power plants; location patterns; machine learning; spatial modelling.

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THE POETICS OF PLACE: ORALITY AND MUSIC AS A NETWORK IN CROSS-BORDER CULTURAL TRANSMISSION

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Abstract

Throughout the years and all over the world, the art has not only been a human tool for expressing feelings and sensations, but has also become a philosophical, social, historical, and political means of communication during the times.

The artistic practices play a meaningful function in fostering mutual understanding and tolerance among diverse cultural groups. In a similar vein, Laborinho (in OEI, 2022) highlights the importance of languages and arts as “internationalization strategies”, as well as “their contribution to social cohesion and critical thinking”. Associated with the idea of cultural commons, the authors refer the concept of heritage as a common resource. A cultural territory is therefore a geographic repository of a cultural expression or a culturally specific product, whose culture often depends on the local tangible and intangible resources of a given area (Euler, 2015, 2018; Santagata et al. 2011; Setti e Garuti, 2018).

For example, as stated by Secretary-General of the United Nations (2019), the Portuguese language “play a crucial role in promoting understanding, affection, mutual respect, and coexistence among peoples and citizens of the most distinct geographical origin”. In this sense, this study aims to explore artistic practical interventions for cultural dissemination based on orality and music as a network in cross-border cultural transmission. The following question arises: How can the boost of artistic projects foster good practices in the dissemination of the immaterial heritage of places?

Through qualitative research (literature review) and the collected and organized information (ground theory) we prospect to better understand the phenomenon of studying (the arts as a mechanism of statement and spreading of the immaterial heritage in cross-border cultural transmission).

In this field, our article also presents two artistic projects - Umbral and Mina - in which through music, lyrics and traditional orality they describe the natural and cultural landscapes of the Trás-os-Montes region. From side to side on tours in Portuguese territory, as well as in concerts and festivals in international context, artists - as ambassadors of Portuguese culture and language - promote the places and the intercultural dialogue.

In terms of expected results, this work will not permit the generalization of results to other contexts but will allow for launching hypotheses for an innovation model in rural environments, which encourages setting up artistic and creative networks to promote the visibility of the immaterial heritage of these territories.

Keywords | Orality, Music, Immaterial Heritage, Cultural Transmission.

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SUSTAINABLE DEVELOPMENT OF THE CÔA VALLEY AND SMART VILLAGES: ANALYSIS AND PERSPECTIVES**Lucas Sena Dembogurski**Centre for Transdisciplinary Development Studies (CETRAD), University of Trás-os-Montes e Alto Douro (UTAD),
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Purpose | This article analyzes the sustainable transition potential of the Côa Valley, a rural and low-density region in northern Portugal that presents a combination of structural fragilities and strategic opportunities. Marked by demographic decline, land fragmentation, and ecological vulnerability, the region also concentrates a set of endogenous resources, including two UNESCO World Heritage designations. Within this context, the research investigates how the Smart Village concept, originating from European territorial development policies, can be adapted and operationalized as a strategy to promote sustainable development, territorial resilience, and institutional innovation. Rather than proposing a standardized model, the study explores how place-based solutions can emerge from the articulation between local knowledge, participatory governance, technological innovation, and long-term strategic planning. It engages with the Smart Village concept as a flexible and systemic approach, capable of integrating environmental, social, and economic dimensions of rural transformation. The research adopts a multi-theoretical perspective, combining insights from sociotechnical transitions, socioecological systems, techno-ecological integration, and Transition Design, allowing for a holistic understanding of the dynamics and drivers of rural sustainability transitions in vulnerable territories.

Methodology/Approach | A qualitative and exploratory methodology was employed, focusing on a case study of the Côa Valley. The research combined documentary analysis, direct field observation, and twenty semi-structured interviews with key stakeholders, including public officials, NGO representatives, entrepreneurs, and residents across the four municipalities in the region. Data were coded and analysed thematically, following the principles of interpretive content analysis and supported by Atlas.ti software. The theoretical foundations were aligned with adaptive systems thinking and transition frameworks, ensuring coherence between data and interpretation.

Expected Results | The findings reveal an interplay between structural limitations, such as fragmented land tenure, weak connectivity, and limited access to services, and strategic opportunities based on local capacities, inter-institutional partnerships, and community-led innovation. Emerging practices in sustainable agriculture, ecotourism, and ecological restoration suggest that a context-sensitive Smart Village model could be a viable alternative to traditional development strategies. The study offers a strategic framework of challenges and recommendations to guide future territorial planning and public policy, reinforcing the importance of integrated governance, digital inclusion, and social learning processes for rural sustainability transitions.

Keywords | Smart Village, sustainable transition, rural development, participatory governance, Côa Valley.

DESIGNING LIVING LABS FOR SUSTAINABLE TOURISM DEVELOPMENT: A SCOPE REVIEW

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Abstract

Purpose | Living labs are co-creation environments that bring together diverse stakeholders, such as businesses, universities, government entities, and civil society, to develop practical solutions in real-world settings. In sustainable tourism, these labs play an essential role by fostering innovation, social inclusion, and sustainability, addressing complex challenges in both urban and rural areas. Given the pressures of population growth and sustainability challenges, living labs provide collaborative alternatives that engage local communities actively. According to UN data (2024), the global population is projected to increase to approximately 10.3 billion, which further stresses urban and rural systems to pursue sustainable development. In design, these labs are notably impactful as they transform collaborative practices into a platform for social and civic innovation. Focusing on tourism, a sector marked by seasonality and varied impacts, this article explores how living labs can help mitigate issues of tourist concentration during peak seasons, revitalize less explored regions, and involve communities in development processes.

Methodology/Approach | The methodology adopted is a scoping review, as outlined by Arksey and O'Malley (2005), to map the contributions of living labs to sustainable tourism development and to understand the role of design within this context. This method allows for identifying knowledge gaps and synthesizing varied information, providing a comprehensive overview of living labs in sustainable tourism.

Expected Results | The findings suggest that living labs foster engagement and co-creation among stakeholders, enabling the experimentation of tourism sustainability-oriented proposals. Active resident participation, along with the use of digital technologies and collaborative practices, amplifies the impact of these initiatives. Within educational contexts, living labs encourage creative ideas and entrepreneurial solutions in tourism by exploring ICT-based methods.

Regarding destination governance, living labs strengthen this dimension by integrating communities into territorial management and planning, thus aligning urban planning with tourism development. In this context, the designer acts as a facilitator, organizing collaborative processes and incorporating stakeholder perspectives. Furthermore, designers function as innovation catalysts, applying design methodologies to explore tourism models and co-create experiences that foster new tourism services. Living labs adopt the Quadruple Helix model, integrating academia, government, industry, and civil society, promoting practices that balance economic growth, environmental preservation, and cultural appreciation, thus benefiting the economy and fostering sustainable tourism development.

The study concludes that living labs are valuable tools for sustainable tourism, advancing the experimentation of innovative solutions, stakeholder engagement, and broader sustainability goals. These collaborative practices strengthen community governance, encourage entrepreneurship, and contribute to a more responsible and inclusive tourism sector, establishing a solid foundation for regional development and cultural and environmental conservation.

Keywords | Living Labs, Sustainable Tourism, Co-creation, Social Innovation, Participatory Design.

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**UNPACKING THE GREEN WAGE PREMIUM: THE ROLE OF OBSERVABLES
AND UNOBSERVABLES IN THE WAGES OF THE GREEN JOBS****João Cerejeira**

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In this paper, we aim to study the impact of both observable and unobservable worker characteristics on the wage premium associated with green jobs. We use linked employee-employer longitudinal data from Portugal covering the period from 2010 to 2019. Our findings suggest that workers in green jobs earn, on average, between 20% to 50% more than their counterparts in non-green jobs, with a wage compensation for transitioning to a greener job ranging from 3% to 7%. Furthermore, our models can explain up to 60% of the income gap. However, we discovered that green jobs are associated with a reduced income return on unobservable worker abilities. Our results remain consistent when examining a sample of displaced workers from 2013 to 2015.

DO PLANEAMENTO À AVALIAÇÃO DA POLÍTICA DE COESÃO NO ALENTEJO CENTRAL: AS REALIDADES MUNICIPAIS E SUPRAMUNICIPAIS**João Marques**

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Objetivo | O desenvolvimento económico e social dos territórios constitui uma das principais preocupações das sociedades modernas e é por esse motivo que os principais focos das políticas públicas são a promoção da equidade, competitividade e coesão territorial. Em Portugal, as diferenças do desenvolvimento entre o litoral e o interior são uma realidade, tornando este problema persistente e revelando uma maior desigualdade de oportunidades. A disparidade verifica-se também ao nível da perda de população, fruto do despovoamento e do envelhecimento, da incapacidade de captar oportunidades económicas de relevo, que resulta na estagnação das regiões, ou até da necessidade de maior investimento no sector socioeconómico, como forma de compensar as desigualdades sociais que se verificam. O Alentejo Central encontra-se dentro desta problemática. Por essa razão, o presente estudo surgiu como uma necessidade de analisar até que ponto estas desigualdades têm implicações na eficiência e na justiça das políticas públicas implementadas, particularmente no que se refere à política de coesão da UE, cujos instrumentos financeiros visam precisamente mitigar disparidades regionais e promover um desenvolvimento equitativo entre as regiões do território europeu. Assim, coloca-se como questão central a forma como a política de coesão tem sido aplicada no contexto territorial do Alentejo Central, em particular no que respeita ao papel das Câmaras Municipais e da CIMAC na mobilização e execução dos fundos comunitários no período compreendido entre 2000 e 2020. A recolha destes dados irá permitir avaliar e projetar algumas das orientações do acordo de parceria do PT2020, desde logo, se considerarmos a forte aposta da EU no princípio da governação multinível, onde as estruturas de governação regional têm vindo a assumir cada vez mais preponderância na gestão da aplicação dos fundos comunitários nas regiões. Esta abordagem, tem tido em consideração a mudança que a EU tem vindo a realizar, desde logo, ao invés de ser a EU a adaptar-se aos territórios, devem ser as estruturas territoriais a adaptarem-se aos objetivos da EU.

Metodologia | No que diz respeito à metodologia utilizada para conseguir atingir o objetivo preconizado inicialmente, a mesma consistiu num estudo de caso, de carácter descritivo e quantitativo, na revisão de outros artigos e trabalhos desenvolvidos pelos diversos autores com impacto na área, bem como na análise documental, com foco nas Listas de Operações cedidas pela Agência para o Desenvolvimento e Coesão. A análise de resultados e as considerações sobre os dados foram realizados com base nas médias dos resultados, métodos comparativos, entre outros mecanismos de análise crítica, como gráficos de dispersão e mapas coropléticos.

Num primeiro momento, foram analisados os ciclos de programação financeira e as alterações que sofreram, de ciclo para ciclo. Num segundo momento, o estudo focou-se em avaliar a realidade dos Municípios, através do financiamento obtido e das operações realizadas. Num terceiro momento foi considerado o impacto e a influência que a CIMAC tem no âmbito do desenvolvimento territorial.

Resultados | Os resultados da investigação revelam, em primeiro lugar, a preponderância das Câmaras Municipais como principais agentes na captação de financiamento, tendo sido os Programas Operacionais Regionais Alentejo os instrumentos financeiros privilegiados para a concretização dos investimentos. Em segundo lugar, concluímos que existiu uma evolução constante e equilibrada do planeamento dos quadros comunitários. Em terceiro lugar, concluímos ainda que, apesar de existir algumas situações de exceção, quanto mais operações realizadas, maior o volume de financiamento recebido. Em quarto lugar, verificamos que não existe uma consistência quanto aos resultados das Câmaras Municipais e os quadros comunitários, indicando incapacidade na estratégia local e política local. Por fim, a CIMAC tem vindo a ter cada vez mais preponderância na realidade territorial e o seu impacto tem sido crescente, principalmente na captação de fundos comunitários estratégicos. Outra das conclusões retiradas tem sido a forte abordagem da EU na governação multinível tem levado a que a metodologia de gestão dos fundos tenha seguido um princípio de hierarquização,

abrindo portas a que nos quadros comunitários que estão para chegar a responsabilidade das entidades regionais e locais aumente, obrigando estas a que definam as suas estratégias locais e regionais indo ao encontro dos objetivos da EU, situação essa que não se verificou nos quadros comunitários estudados.

Palavras-chave | Política de Coesão; Desenvolvimento Regional; Alentejo Central; Comunidade Intermunicipal; Municípios.

PYROTUR – UNCOVERING THE RELATION BETWEEN WILDFIRES AND TOURISM ACTIVITIES IN PORTUGAL

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Abstract

Tourism is an important activity for the socioeconomic dynamics of rural areas. In Portugal, the high season for tourism coincides with the critical period for wildfire occurrence, bringing specific challenges for both tourism operators and civil protection entities. Despite the general recognition of this intersection, the relation between wildfire and tourism activities is not yet well understood. The project PYROTUR intends to bridge this gap by: i) analyzing the effects of past wildfires in tourism activities; ii) to estimate the current and future wildfire exposure of tourism assets, considering climate change scenarios; iii) to identify suitable mitigation and adaptation strategies to increase the resilience of tourism infrastructures and activities. To achieve this purpose, the project combines three main lines of research: the assessment of wildfire risk based on environmental conditions; the analysis of the effects of wildfires in tourism activities based on the experience of tourism operators, which provide the required data; the definition of innovative adaptive strategies, together with tourism operators, tested in a Living Lab in Geopark Estrela. First results regarding wildfire hazard show that about 15% of tourist accommodation establishments, namely hotels and short-term rentals (Alojamentos Locais-AL) are located in the most hazardous areas, considering the two highest classes of structural wildfire hazard. Analyzing burned areas in 2017 alone, 230 short-term rentals and 166 hotels were located in areas affected that year. For AL, the most affected NUTS3 region was the Metropolitan Area of Porto (33%), in particular the municipality of VN Gaia, followed by the Region of Coimbra (21%). For hotels a rather distinct pattern was found, with 47% of the establishments affected belonging to the region of Coimbra and 23% to Beira Baixa, with Oleiros, Oliveira do Hospital and Seia being the most affected municipalities. The analysis of the environmental conditions that influence the fire-proneness of tourism areas, and the potential effect in tourist accommodation establishments, is crucial to identify priorities for the implementation of mitigation measures.

SMART GOVERNANCE FOR THE COMMONS: DIGITAL INNOVATION AND POLYCENTRIC MANAGEMENT IN MOUNTAIN NATIONAL PARKS

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Abstract

Purpose | This paper analyzes the Smart Poqueira initiative in the Sierra Nevada National Park (Spain) as a case study of digital governance applied to the management of environmental commons. Drawing on Elinor Ostrom's theory of polycentric governance (Ostrom, 1990; McGinnis & Ostrom, 2012), the project addresses the challenge of managing tourism pressures in fragile mountain ecosystems by integrating community participation, real-time data, and multi-level decision-making structures.

Methodology/Approach | The project adopts a socio-technical approach combining digital technologies (e.g., mobility sensors, open-data platforms) with participatory governance models. Through a polycentric framework (Ostrom, 2009), local actors—residents, visitors, and park authorities—co-manage the resource based on shared norms and data-driven decision-making. The methodological design includes real-time visitor monitoring, spatial flow analysis, and stakeholder consultations. Ostrom's institutional design principles guide the evaluation of governance robustness.

Expected Results | Smart Poqueira demonstrates how digital tools can strengthen, rather than replace, community-based governance of commons. It contributes to sustainable tourism strategies by identifying congestion patterns, optimizing visitor flows, and promoting adaptive capacity at the local scale (Pérez & Moreno, 2023). The project offers transferable insights for other protected areas confronting similar socio-ecological dilemmas. Its integration of Sustainable Development Goals (SDGs), digital infrastructure, and Ostromian governance positions it as a replicable model for the sustainable management of mountain parks under climate and tourism pressures (Smart Poqueira Project, 2025).

Keywords | Commons governance, polycentric management, smart tourism, digital sustainability, mountain national parks.

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TOURIST INFORMATION OFFICES AS INTERFACES BETWEEN VISITORS AND RESIDENTS: INSIGHTS FROM A PRELIMINARY SURVEY-BASED STUDY

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Abstract

Tourist Information Offices (TIOs) have traditionally served as gateways for visitors seeking orientation, recommendations, and local knowledge. However, their role has been evolving in response to shifts in tourist behavior, the digitalization of travel planning, social networks, and the increasing importance of community-based tourism models. In this context, TIOs are no longer passive information providers but expected to be active agents in collecting data, shaping visitor experiences and mediating between different stakeholders in tourism systems. This paper aims to explore the emerging role of TIOs as interfaces - both physical and symbolic - between visitors and residents, particularly in small to medium-sized municipalities where these points of contact may represent one of the few institutionalized spaces for dialogue and interaction. Based on ongoing empirical research, this study presents preliminary findings from a short survey administered by some TIOs of the Alentejo Region. The survey aimed to characterize the profile of their users, including demographic information, origin and motivations for using the TIOs services. The survey was planned in a participatory approach. While the primary users of TIOs are typically visitors (tourists and same-day-visitor), preliminary data also reveal the presence of some local residents using these facilities for various purposes, such as accessing cultural programming, or obtaining logistical information for hosting visiting friends and relatives.

This dual usage highlights a less examined but increasingly significant function of TIOs - as mediators not only between destinations and visitors but also between local communities and the cultural and tourism ecosystem. In this sense, TIOs can be conceptualized as 'soft infrastructure' that supports both visitor engagement and community involvement, fostering more sustainable and inclusive tourism development. They offer a physical space where different forms of interaction take place, such as welcoming visitors, sharing local knowledge, and presenting the community's identity. These interactions contribute to shaping how both visitors and residents experience and understand the place, making TIOs important grounds for reinforcing local identity and creating meaningful tourist experiences together.

By analysing who approaches TIOs and why, this study contributes to a more nuanced understanding of their relevance in contemporary tourism local governance. The study further discusses how the data can inform policy and planning decisions at the municipal level, particularly in terms of strengthening TIOs as multi-stakeholder platforms. Moreover, it proposes a framework for rethinking the role of the TICs (e.g. not simply as service points but as social interfaces that facilitate mutual understanding between residents and visitors). As tourism dynamics continue to evolve, especially in the post-pandemic context or in face of other unexpected challenges, TIOs may play a pivotal role in bridging gaps between residents, visitors and authorities supporting local development strategies.

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AS BARREIRAS À INTERNACIONALIZAÇÃO DO VINHO DE TALHA: ESTUDO DE CASO DA GERAÇÕES DA TALHA**João Marques**Universidade de Évora (Portugal)
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Objetivo | O vinho de talha é uma tradição milenar que foca a produção de vinho com recurso a uma talha de barro, tendo ganho adeptos ao longo dos últimos anos e criando um nicho de mercado dentro do setor dos vinhos. Tema pouco estudado na vertente económica, o vinho de talha tem gerado interesse de empresários e empreendedores, quer pelas características tradicionais, quer pela oportunidade de negócio que desperta. Por ser pouco estudado a informação disponível é reduzida, pelo que este estudo procurou dar os primeiros passos na análise do processo de internacionalização e das barreiras identificadas por uma empresa de vinho de talha na região Vila de Frades, Beja. O objetivo é compreender o desenvolvimento do setor do vinho de talha enquanto produto de exportação através do estudo de caso da empresa Gerações da Talha, que tem na sua génese a produção e comercialização deste vinho.

Metodologia | Para atingir os objetivos propostos, optou-se pela revisão literária, um inquérito e um questionário à Sócio-Gerente. Numa primeira fase é descrito o contexto da empresa e a sua internacionalização, enquanto na segunda e terceira fase é analisada a posição da empresa perante as barreiras que a Organização para a Cooperação e Desenvolvimento Económico (OCDE) identificou para as Pequenas e Médias Empresas (PME), bem como as barreiras do setor do vinho. Posteriormente, analisam-se as barreiras à internacionalização da Gerações da Talha, enquanto num último momento são consideradas as Políticas de Coesão (PC) e de Agrícola Comum (PAC) como políticas públicas de influência no processo de internacionalização da empresa.

Resultados | A internacionalização é um processo na qual as empresas expandem as suas operações, através da venda dos seus produtos, sou seja, apesar das barreiras verificadas, a internacionalização pelo método de exportação direta da Gerações da Talha está a seguir um círculo positivo, pelo facto de 59% das vendas serem direcionadas ao mercado internacional. O estudo permitiu verificar que as barreiras tanto da OCDE, como do setor do vinho, são igualmente identificadas nesta empresa do setor do vinho de talha e com níveis de impacto elevados. Numa visão estratégica, concluiu-se que apesar de não existir um planeamento definido, a forte estratégia de posicionamento e de preço permitem à empresa minimizar os riscos com as operações de exportação, possibilitando que as mesmas não sejam consideradas barreiras. Considerando que a escolha dos mercados externos foi realizada de forma aleatória, fruto das oportunidades conseguidas nos momentos de desenvolvimento de negócio, sem qualquer preparação prévia, aumentou a dificuldade em fazer face às barreiras. Como empresa, a Gerações da Talha identifica principalmente barreiras associadas ao vinho de talha em si, como o teor alcoólico, o nível de sulfitos ou os vinhos estruturados. Contudo, é possível compreender que quando colocadas as barreiras de estratégia, as mesmas são identificadas com alguma intensidade, por exemplo, a língua, a falta de tempo dos gestores e a falta de formação dos recursos humanos. Por fim, apesar da empresa nunca ter beneficiado de instrumentos financeiros para a internacionalização e/ou expansão do negócio, os mesmos têm noção de que acontece pela falta de recursos humanos e excessiva burocracia. A manutenção da aposta da PC na área da internacionalização é uma oportunidade identificada, que vê com alguma preocupação alterações que se possam vir a verificar no âmbito da PAC, como por exemplo uma possível redução da quota de produção.

Palavras-chave | Vinho, vinho de talha, internacionalização, desenvolvimento regional.

GOVERNAÇÃO MULTINÍVEL E POLÍTICA DE DESENVOLVIMENTO REGIONAL: UMA ALIANÇA DE FUTURO NA GERAÇÃO DE POLÍTICAS PARA A COESÃO

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Abstract

Ao longo do primeiro quartel do século XXI observa-se, em Portugal, um conjunto de processos de reforma administrativa do Estado que, fortalecendo mecanismos de governação entre distintos níveis administrativo-territoriais, progressivamente vêm legitimando escalas subnacionais de coordenação, planeamento e prossecução de políticas públicas.

Esta comunicação atenta à fase mais recente deste percurso, referente à desconcentração de competências operada em 2023, que reforça o envolvimento do layer regional - representado pelas Comissões de Coordenação e Planeamento Regional (CCDR) - no ciclo da política pública.

Fá-lo propondo-se aclarar os contornos do modelo de governação multinível (GM) decorrente da implementação da reforma, que em traços gerais passam:

- pela reconfiguração do estatuto e atribuições das CCDR, com reforço e/ou alargamento da sua intervenção no planeamento e coordenação de respostas de nível regional, num relevante conjunto de áreas setoriais;
- pela reformulação de dois órgãos estruturantes do modelo i) o Conselho de Concertação Intersetorial no seio das CCDR, I.P. (na coordenação técnica da execução e monitorização das políticas sectoriais ao nível regional), ii) o Conselho de Coordenação Territorial como plataforma institucional de nível nacional, de concertação entre Governo e entidades políticas regionais e sub-regionais;
- pela introdução da figura do contrato-programa enquanto mecanismo inovador, que regula o compromisso entre Governo e regiões em torno de objetivos de desenvolvimento e coesão, promovendo o alinhamento e articulação entre medidas de política pública nacional e sua concretização a nível regional – permitindo aferir o contributo das regiões no atingir dos mesmos.

Reconstituído o percurso e delineado o modelo de GM implementado por meio da reforma, assinala-se que, além de sucessivas determinações legais, esta configura um processo de transformação que importa compreender e gerir. Defende-se, como tal, que o acompanhamento do mesmo requer o ultrapassar o foco na ótica/dimensão de recursos (administrativos e financeiros), importando investir tanto no diagnóstico de desafios, constrangimentos e gaps (Charbit e Michalun, 2009) que a obstaculizam, como em dimensões críticas para o seu sucesso, nomeadamente, a capacitação dos Atores e a construção concertada de sistemas adequados de monitorização.

Nota-se a particular oportunidade desta reflexão ante uma eventual reconfiguração da Política de Coesão pós-27 – reconhecendo-se o papel da integração europeia enquanto motor da cooperação multinível em Portugal (Monteiro e Romão, 2018; Ferrão, 2011; AD&C, 2018).

Independentemente do que possa ser a evolução da Política de Coesão, contudo, conclui-se pela centralidade da GM enquanto condição de viabilização de uma Política de Desenvolvimento Regional (PDR) participada por distintas escalas administrativas – através da qual interesses e especificidades socio-territoriais alcançam

expressão e ganham palco de atuação no ciclo da política pública. A qualidade dessa governação é condição de sucesso da territorialização das políticas públicas, favorecendo o alinhamento frutuoso entre desideratos supranacionais, nacionais e legítimas estratégias de desenvolvimento subnacionais - e constituindo oportunidade de integração coerente de políticas setoriais desejavelmente mais eficazes, eficientes e próximas das comunidades.

À luz destes considerandos, argumenta-se que a GM é estrutural de uma PDR que, comprometida com o projeto europeu, possa planejar e prevalecer ex ante e além dos seus respectivos ciclos de programação, protegendo uma ideia de "coesão virtuosa" – focada no objetivo de redução de assimetrias, promotora do progresso da qualidade de vida das populações, protegendo a possibilidade de efetiva participação e influência na construção e acesso a oportunidades para todos, em benefício do bem-comum.

Palavras-chave | Governança multinível; Desenvolvimento Regional; Política de Coesão; Região.

A INDÚSTRIA 4.0 NOS AÇORES: PERSPETIVA QUALITATIVA SOBRE A TRANSFORMAÇÃO DIGITAL E A SUSTENTABILIDADE

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Resumo

Objetivo | Este estudo teve como objetivo compreender, numa perspetiva qualitativa, de que forma as organizações dos setores estratégicos da RIS3-Açores — Agricultura, Agroindústria, Mar e Crescimento Azul — estão a encarar os desafios da transformação digital no contexto da Indústria 4.0, articulando-os com práticas de sustentabilidade e com os apoios públicos disponíveis. Complementarmente, integrou-se a perspetiva de empresas e entidades que prestam apoio técnico, tecnológico e logístico, reconhecidas como atores fundamentais na viabilização e consolidação dos processos de digitalização. A investigação procurou analisar a maturidade digital das organizações, os fatores motivadores, os constrangimentos sentidos, o grau de integração de práticas sustentáveis, o nível de interação entre os setores, e a perceção sobre a eficácia dos apoios públicos. Assume-se que a região se encontra num “limbo tecnológico” (De Propriis & Bailey, 2020), o que torna essencial analisar de que forma a transição pode ser operacionalizada num contexto insular, caracterizado por limitações estruturais, mas também por oportunidades de experimentação e inovação territorial.

Metodologia | A metodologia baseou-se em entrevistas semiestruturadas a representantes de empresas, associações e entidades de inovação, organizadas em dois grupos (Grupo A e Grupo B), tentando captar uma diversidade de perspetivas, nomeadamente a nível dos constrangimentos e potencialidades existentes nos setores estratégicos da região, bem como avaliar o impacto dos fundos europeus na aceleração da inovação, digitalização e sustentabilidade. As respostas foram analisadas segundo cinco categorias: Transformação Digital, Liderança e Cultura Organizacional, Sustentabilidade e Responsabilidade Social, Interação com o Ecossistema e Apoios Públicos, com recurso a técnicas de análise de conteúdo como a nuvem de palavras.

Resultados Esperados | Os resultados revelam diferentes níveis de maturidade digital e integração estratégica da sustentabilidade entre os grupos analisados. O Grupo A evidencia uma adoção ainda incipiente - presença no online - marcada por dificuldades técnicas, escassez de recursos humanos e limitações de escala. Já o Grupo B apresenta maior consolidação digital, sobretudo nas entidades com foco em I&D. A formação, a liderança informada e a cultura organizacional emergem como fatores críticos de sucesso. Os resultados apontam ainda para uma perceção generalizada de desarticulação nos apoios públicos: os programas PO Açores 2020 e PRR são vistos como pouco adaptados à realidade das micro e pequenas empresas açorianas, comprometendo a eficácia da transição para a Indústria 4.0.

Palavras-chave | Indústria 4.0, transformação digital, sustentabilidade, políticas públicas, Açores.

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SEGREGATION IN MOTION: INCOME-BASED MOBILITY SEGREGATION IN U.S. CITIES

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Abstract

Purpose | Over the last 25 years, the traditional view of socio-spatial segregation, primarily understood as residential segregation, has shifted towards dynamic approaches that can capture how segregation is experienced by individuals in their daily activities and movements. The shift extends beyond segregation as a static, spatial separation to the broader concept of segregation as restrictions on contact, proposed by social network theorist Linton Freeman (1978), as a crucial approach to understanding the actual lack of exposure individuals have to socially different groups and how social segregation is reproduced in urban life. As the new paradigm became increasingly recognised, it has also been subject to different approaches and a naming game: dynamic segregation, activity-space segregation, trajectory-based segregation, experienced segregation, and mobility segregation. Given data restrictions, previous mobility segregation analyses have been limited to single-city studies. This paper focuses on segregation in the daily movement of people in a sample of American cities.

Methodology/Approach | We explore Longitudinal Employer-Household Dynamics (LEHD), Origin-Destination Employment Statistics (LODES), and income data to infer urban trajectories of different groups of individuals in the 35 most populous Metropolitan Statistical Areas (MSAs) in the United States. We analyse each MSA within a 20-mile buffer zone centred on the Central Business District (CBD), offering a consistent and robust comparative framework. Our analysis includes (i) preliminary spatial assessments using satellite imagery and building footprints; (ii) socio-economic profiling through residential median income distributions and Moran's I spatial autocorrelation; and (iii) mobility pattern analysis based on inferred commuting trajectories. Trajectories are derived using Python's NetworkX and OSMnx libraries to compute optimal (least driving time) routes between randomised origin-destination pairs, stratified by low-, middle-, and high-income groups using LODES data.

Expected Results | After collecting the trajectories, we perform a segment-wise dominant group analysis to identify the income group most frequently present on each route segment, and route segments used exclusively by one income group, thereby generating a comprehensive view of the distribution of segregated trajectories. Additionally, we conduct an overlay analysis and apply an entropy-based measure to detect shared segments where income groups overlap, indicating the level of social diversity in the streets and potential exposure between different income groups. We also analyse the links between residential segregation and mobility segregation by correlating city-level indices and distributions to assess whether the former predicts the latter, mediated by urban morphology and employment distribution. Finally, we analyse the levels of income group mobility through measures of path fractality and commuting distances. This paper offers the first large-scale mobility segregation study across a statistically significant sample of cities in a single country, where mobility segregation patterns may become recognisable. By integrating large-scale mobility data with socio-economic context, the study aims to demonstrate that mobility segregation is shaped not only by where people live but by how—and where—they move.

Keywords | Experienced mobility segregation, income groups, potential exposure, segregated trajectories, residential segregation.

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DILEMAS EM REGIÕES PORTUGUESAS DE FRONTEIRA: GOVERNAÇÃO LOCAL, SUSTENTABILIDADE E COESÃO TERRITORIAL**José M G Pereira**

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Os municípios portugueses de fronteira são caracterizados por desafios socioeconómicos, demográficos que a sua localização geográfica lhes impõe, exigem a implementação de políticas públicas adaptadas às suas especificidades. É neste contexto, e tendo como ponto de partida os dilemas enfrentados pelos municípios portugueses de fronteira em relação à governação local, sustentabilidade e coesão territorial que a problemática deste estudo assenta e que analisa o modo como a governação local pode equilibrar a necessidade de desenvolvimento económico, sustentabilidade e coesão territorial, num contexto marcado por limitações de recursos e capacidades institucionais.

Este trabalho tem como objetivos identificar os principais dilemas enfrentados pelos municípios fronteiriços na sua governação, e como os tentam mitigar no equilíbrio entre a sustentabilidade e a coesão territorial; analisando-se o impacto da descentralização nas desigualdades territoriais; e refletir acerca do modo como as políticas públicas podem integrar as preocupações destes municípios com a sua sustentabilidade a longo prazo, sem comprometer as necessidades imediatas de crescimento e de desenvolvimento. Para alcançar esses objetivos, será realizada uma revisão sistemática da literatura, mapeando modelos de governação e estratégias de desenvolvimento territorial observadas em territórios de fronteira.

A revisão da literatura será complementada com apresentação de dados de municípios portugueses de fronteira considerando a descentralização, a implementação de políticas públicas aplicadas a áreas de governação como o ambiente, a saúde ou a educação, e sua relação com os desafios específicos para uma melhor coesão territorial. O tratamento dos dados considerará uma avaliação das práticas políticas que favorecem a sustentabilidade e a coesão territorial.

Como conclusões são identificadas as práticas de governação que têm potenciado a coesão territorial em municípios de fronteira, bem como a elaboração de recomendações para a integração de uma visão mais sustentável nas políticas públicas locais. Em última instância, pretende-se discutir da necessidade de políticas públicas integradas e adaptadas às características particulares dos municípios de fronteira, de modo a promover um desenvolvimento equilibrado e sustentável, não só aplicadas localmente como recorrendo a programas de cooperação transfronteiriça.

Paravras-chave | municípios de fronteira, governação local, sustentabilidade, coesão territorial, políticas públicas.

A INDÚSTRIA 4.0 NOS AÇORES: PERSPETIVA QUANTITATIVA SOBRE A TRANSFORMAÇÃO DIGITAL E A SUSTENTABILIDADE**Rui Ataíde**

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Objetivo | Esta investigação teve como objetivo avaliar o estado de desenvolvimento da Indústria 4.0 na Região Autónoma dos Açores, através da perceção dos profissionais envolvidos nos setores estratégicos (RIS3-Açores) da Agricultura, Agroindústria, Mar e Crescimento Azul. Complementarmente, integrou-se a perspetiva de empresas e entidades que prestam apoio técnico, tecnológico e logístico, reconhecidas como atores fundamentais na viabilização e consolidação dos processos de digitalização. O estudo procurou compreender a maturidade digital, as motivações para a transformação digital, os constrangimentos sentidos e a articulação com práticas de sustentabilidade. Parte-se do pressuposto de que a região se encontra num “limbo tecnológico” De Propriis & Bailey (2020), sendo essencial analisar de que forma esta transição pode ser operacionalizada num contexto insular, marcado por limitações estruturais, mas também por oportunidades de experimentação e inovação territorial.

Metodologia | Foi aplicado um questionário estruturado, constituído por doze construtos validados após a respetiva adaptação a partir de modelos de maturidade digital existentes (e.g., Ardiansyah & Alnoor, 2024, Coelho, 2022, Michelotto & Joia, 2024, Weber et al., 2022), a diferentes categorias de colaboradores das organizações, desde cargos de gestão de topo, até funções operacionais, abrangendo os três setores estratégicos. A análise quantitativa envolveu nomeadamente: estatística descritiva (permitiu caracterizar os participantes no estudo relativamente às variáveis sociodemográficas e organizacionais, bem como descrever os resultados obtidos nos construtos em análise); testes não paramétricos (teste de Kruskal-Wallis, com o objetivo de identificar diferenças estatisticamente significativas entre grupos (segmento de mercado, dimensão da organização e tempo de atividade) para os diferentes construtos analisados); modelação de equações estruturais com mínimos quadrados parciais (PLS-SEM, com o propósito de avaliar e testar as hipóteses de investigação colocadas) e análise multigrupo (PLS-MGA, com o intuito de verificar a existência ou não de diferenças estatisticamente significativas entre subgrupos organizacionais).

Resultados Esperados | Os resultados apontam para um ponto de partida digital ainda incipiente, com elevada perceção da importância da transformação digital, mas limitada capacidade de concretização prática. As respostas foram heterogéneas, refletindo diferenças estatisticamente significativas consoante o setor de atividade, dimensão e tempo de existência das organizações. A prontidão e o alinhamento estratégico da liderança revelaram-se determinantes na satisfação com a adoção tecnológica. As tecnologias emergentes e a sustentabilidade são reconhecidas como oportunidades futuras, embora ainda pouco consolidadas nas práticas das organizações.

A análise multigrupo (PLS-MGA) confirmou diferenças relevantes entre setores de atividade, perfis organizacionais e níveis de maturidade digital, evidenciando que a transformação digital segue trajetórias diferenciadas, moldadas por fatores contextuais. Esta diversidade reforça a necessidade de estratégias sensíveis às especificidades de cada organização.

Palavras-chave | Indústria 4.0, transformação digital, sustentabilidade, políticas públicas, Açores.

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**CREATIVE TOURISM AND ECONOMIC SUSTAINABILITY: WHAT DRIVES
LOCAL BUSINESS DIVERSIFICATION IN UNESCO CREATIVE CITIES?****Marta De Alexandre**

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This research aims to identify which aspects of creative tourism development contribute most significantly to the diversification of local businesses in UNESCO Creative Cities in Portugal. The preservation of both tangible and intangible heritage, reinforced by the storytelling capacity of creative tourism, may strengthen local identity, foster a sense of belonging, and promote business diversification (Duxbury et al., 2021). Creative tourism can be seen as a regenerative element when it positions tourism as a tool for well-being, revitalisation, and local sustainability (Duxbury et al., 2020). The UNESCO Creative Cities Network seeks to enhance international cooperation among cities that have recognised creativity as a strategic factor in their sustainable development (UNESCO, 2023). Within this network, several Portuguese cities have implemented creative tourism strategies aligned with the three pillars of sustainability. A literature review guided the selection of variables related to creative tourism and urban sustainability.

The study adopts a quantitative methodology through a structured questionnaire distributed across all ten Portuguese UNESCO Creative Cities. The sample includes 301 validated responses from residents, stakeholders in the tourism sector, creative industries, and public institutions. Given the exploratory nature of the study and the initially broad range of variables drawn from the literature, a stepwise regression approach was applied to reduce the number of predictors and improve model parsimony. This approach identified 14 variables with the strongest statistical association with local business diversification, which were then included in the final regression model.

The regression model was statistically significant and explained 60.1% of the variance in the perception that creative tourism contributes to local business diversification. Four variables stood out as significant predictors: Diversity of activities promoted by creative tourism ($\beta = 0.333$, $p < .001$), Cultural regeneration of the city through creative tourism ($\beta = 0.204$, $p = .004$), Presence of learning opportunities in tourism activities ($\beta = 0.237$, $p = .003$), Importance of sharing experiences with other Creative Cities ($\beta = 0.091$, $p = .043$). These findings suggest that creative tourism initiatives that are diverse, educational, collaborative, and culturally revitalising are most likely to foster economic diversification in cities.

**A DESCENTRALIZAÇÃO COMO DESÍGNIO CONSTITUCIONAL E REALIDADE
POLÍTICA EM PORTUGAL: ENTRE O PRINCÍPIO E A PRÁTICA****Carlos Barros Abreu**

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Decorridas cinco décadas desde a consagração do princípio da descentralização e da regionalização nos artigos 6.º, n.º 1, e 236.º da Constituição da República Portuguesa a materialização efetiva destes princípios permanece limitada. Ao longo de vinte e quatro legislaturas, os esforços de implementação de políticas de descentralização revelam-se fragmentários, caracterizados por políticas públicas de concretização morosa e frequentemente descontinuada. Esta realidade posiciona Portugal, segundo a Organização para a Cooperação e Desenvolvimento Económico, entre os países mais centralizados no conjunto dos seus membros.

A persistência deste modelo centralizador tem repercussões estruturais profundas, contribuindo para o agravamento dos desafios relacionados com a coesão territorial e o aprofundamento das assimetrias regionais em Portugal. Torna-se, por conseguinte, pertinente questionar as causas subjacentes à persistência deste modelo de descentralização em Portugal bem como as dinâmicas que influenciam a formulação e implementação das respetivas políticas públicas. A estreita dependência destas em relação aos diversos níveis do poder político bem como às vontades que os moldam, levanta questões críticas que poderão, eventualmente, elucidar os fatores que contribuem para este modelo de políticas de descentralização.

Este estudo tomará como base três momentos: (i) o processo político que culminou no referendo à regionalização em 1998; (ii) o processo de descentralização iniciado em pela Lei nº 73/2013 e Lei nº 75/2013; (iii) o processo de descentralização iniciado com a Lei nº 50/2018 e a Lei nº 51/2018. Partindo da análise destes três processos, pretende-se desenvolver um modelo de análise do discurso político aplicado às políticas públicas de descentralização. Admitindo que os discursos políticos constituem realidades vastas, complexas e heterogêneas, mas que espelham, simultaneamente, ideologias e orientações estratégicas determinantes para o desenho das políticas públicas, este estudo recorre à análise das intervenções dos deputados em plenário da Assembleia da República.

Este modelo permitirá avaliar de que forma os discursos políticos — e, subsequentemente, a formulação e execução destas políticas — são condicionados por fatores de natureza política (tais como a proximidade de atos eleitorais), económica (nomeadamente períodos de crise) e social (incluindo os desafios relacionados com a coesão territorial). Desta forma, considera-se possível a identificação de padrões nos discursos políticos e de obstáculos institucionais e ideológicos que influenciam a implementação das políticas de descentralização em Portugal abrindo caminho para a compreensão da existência e das razões da resistência à descentralização por parte do poder político.

Palavras-chave | Regionalização; Descentralização; Discurso Político; Poder Político; Políticas Públicas.

NOVAS COMPETÊNCIAS NOS MUNICÍPIOS E OS SEUS IMPACTES NA GESTÃO FINANCEIRA: O CASO DOS TERRITÓRIOS DE BAIXA DENSIDADE DA NUT II NORTE**Diana Mariano**

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A descentralização de competências para os municípios, no contexto português, tem sido uma política central na procura pela melhoria da coesão territorial e redução das assimetrias regionais. Nos municípios de baixa densidade, onde as características territoriais, socioeconómicas e institucionais apresentam especificidades únicas, este processo assume desafios adicionais, particularmente no que se refere à gestão financeira.

A descentralização administrativa, ao conferir novas competências às autarquias, exige também a descentralização fiscal, o que implica desafios significativos em termos de gestão orçamental. O objetivo deste estudo enquadrado na NUT II Norte, é analisar o impacto da descentralização das competências nas finanças locais, com ênfase na sustentabilidade financeira dos municípios destes territórios de baixa densidade e explorar a necessidade de políticas de financiamento adequadas para assegurar a continuidade dos serviços essenciais e promover uma maior eficiência administrativa.

A pesquisa realizou-se segundo três eixos, respetivamente, a identificação e caracterização dos municípios de baixa densidade, considerando fatores como a população, a estrutura económica e outros indicadores sociais; a análise detalhada do processo de descentralização de competências para estas autarquias locais, observando as áreas de governação mais impactadas, como a educação, a saúde, a mobilidade e gestão ambiental, e a adoção de políticas públicas de base territorial; e finalmente, a avaliação do impacto das finanças locais na coesão territorial, focando-se, quer no plano nacional, com a criação do fundo de financiamento da descentralização, quer no plano externo, por via do financiamento comunitário.

Os resultados esperados incluirão a identificação de desafios financeiros específicos enfrentados por aqueles municípios, especialmente em relação à transferência de competências para áreas que exigem uma maior capacidade de gestão financeira. A pesquisa evidenciará como a descentralização, embora potencialmente positiva, poderá agravar as desigualdades regionais e a pressão financeira, caso não haja uma compensação orçamental suficiente.

A cooperação transfronteiriça será analisada como um potencial mecanismo para otimizar recursos e promover políticas públicas integradas, que poderão beneficiar os municípios de baixa densidade da região norte e contribuir para o desenvolvimento regional sustentável, tendo em conta a proximidade e a interação com os municípios espanhóis. Espera-se que os resultados obtidos possam vir a contribuir para o desenho de políticas públicas mais ajustadas à realidade destes territórios, nomeadamente em matéria de financiamento adequado e de suporte à implementação de competências descentralizadas.

Palavras-chave | Descentralização, Gestão Financeira, Coesão Territorial, Financiamento Público, Políticas Públicas.

**AI FOR RESILIENCE: ENVIRONMENTAL AND HEALTH DATA AS DRIVERS OF
SUSTAINABLE DEVELOPMENT IN EUROPEAN REGIONS**

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Abstract

In an era marked by economic, environmental, and social uncertainty, Artificial Intelligence (AI) is emerging as a transformative tool for promoting regional resilience. This paper explores how AI can be leveraged to address pressing challenges in turbulent times, focusing on its applications in regional and urban planning, predictive analytics, and sustainable governance. Drawing on a case study from Italy and European regions, we examine the role of AI in analyzing complex systems, predicting health and environmental trends, and supporting evidence-based decision-making. We also discuss the challenges associated with AI, including data quality, ethical considerations, and the risk of widening inequalities. By highlighting best practices and successful experiments, this paper aims to foster a dialogue on how AI can contribute to sustainable, inclusive, and adaptive regional development.

RESIDENTS' PERCEPTIONS TOWARDS TOURISM IN COASTAL HERITAGE DESTINATIONS

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Abstract

Purpose | This study explores how communities perceive tourism, its socio-environmental impacts and understand the key challenges and prospects confronting coastal heritage destinations. Through participatory design approach, the study emphasises the need for participatory governance and inclusive decision-making processes that reflect community engagement. It provides a pragmatic and innovative approach towards effective tourism management of coastal heritage destinations and supports the development of a coastal heritage tourism destination model as perceived by local communities in Praia da Barra and Costa Nova, to ensure long-term sustainability and competitiveness.

Methodology/Approach | The study applies participatory design approach using 'focus groups' that gathered residents' perceptions, experiences and opinions towards tourism in the case of Praia da Barra and Costa Nova, as popular coastal heritage destinations in Aveiro region. The focus group sessions took place on 12 April 2025 in two separate venues, in Praia da Barra and Costa Nova. Focus groups involve group interactions that stimulate discussions and reveal contrasting views on several issues (Krueger & Casey, 2015). This participatory design approach cultivates a sense of ownership and commitment to tourism initiatives, ensuring that all stakeholders have a voice in decision-making. Participatory design actively engages stakeholders in the process, fostering greater mutual understanding, transparency and collaboration elements essential for the effective governance of ecosystem services (Barraclough et al., 2022).

Expected Results | Residents' participation reveals a bottom-up, place-based approach that prioritises community engagement. Participants' insights offer critical knowledge regarding the impacts of tourism and sustainable tourism development in Praia da Barra and Costa Nova. Results contribute to the formulation of a proposed coastal heritage tourism destination framework which aims to strengthen the transformation of coastal heritage destinations into ideal models of sustainable tourism ecosystems. This framework emphasises the preservation of distinctive tangible and intangible cultural and environmental heritage through community involvement and adoption of innovative practices.

Keywords | Residents' perceptions, participatory design, coastal heritage tourism, territorial development, destination management

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CONTRIBUTOS DOS SIG PARA O PLANAMENTO DA MOBILIDADE ATIVA PEDONAL E PARA A INCLUSÃO SOCIAL

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Resumo

Objetivo | O objetivo desta comunicação é partilhar os resultados de uma investigação que recorreu aos Sistemas de Informação Geográfica (SIG) para melhorar a metodologia de avaliação das redes prioritárias para realizar investimentos na mobilidade ativa pedonal (Ribeiro & Remoaldo, 2009; Ribeiro et al., 2015a; Ribeiro et al., 2015b). Os SIG são as ferramentas mais utilizadas na análise espacial. A sua utilização na elaboração de índices de caminhabilidade tem vindo a aumentar (Jabbari et al., 2021; Telega et al., 2021), embora raramente se incorporem as características dos indivíduos, por grupo etário, ou a circulação através dos passeios e das passeadeiras. Ao invés, os estudos recorrem à modelação através dos eixos de via e com velocidades constantes para todos os grupos etários. Com a publicação da Estratégia Nacional para a Mobilidade Ativa Pedonal surgiu a necessidade de aprofundar o potencial dos SIG na moldação de redes na criação de cenários mais realistas e adequados à sociedade atual. A perceção da caminhabilidade depende de vários fatores como o tipo de pessoa, de via ou do espaço envolvente (Ewing & and Handy, 2009; Knapskog et al., 2019).

Metodologia | De modo a melhorar a informação para integrar nas análises de redes recorreremos às tecnologias móveis e ao trabalho de campo para recolher as velocidades de circulação a andar a pé segundo os vários grupos funcionais no município de Guimarães. Para avaliar as vantagens da modelação através da rede de passeios/passeadeiras em vez dos eixos de via recorreremos ao levantamento de campo e à vectorização destes elementos geográficos. Para realizar a modelação geográfica recorreremos aos modelos automáticos (model builder) para melhorar a criação dos diferentes cenários.

Resultados Esperados | Os resultados desta investigação são úteis para os elementos técnicos dos municípios com responsabilidades na área do trânsito ou da Mobilidade Ativa. Os resultados das velocidades por grupo funcional são uma referência para usar nas análises de rede. Neste estudo exploratório avaliamos as diferenças obtidas na modelação a partir da rede de passeios/passeadeiras comparativamente com os eixos de via como habitualmente.

Palavras-chave | Caminhabilidade; Estratégias de Mobilidade Ativa Pedonal; Sistemas de Informação Geográfica, Análise de Redes, velocidade a andar-a-pé.

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BARCELOS CREATIVE CITY OF CRAFTS AND FOLK ARTS: AN ANALYSIS OF LOCAL PERCEPTIONS AND IMPACTS

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Abstract

Purpose | Established in 2004, the UNESCO Creative Cities Network aims to foster international cooperation among cities that recognize creativity as a strategic factor for sustainable urban development. Barcelos, a municipality at northern Portugal mainland, became part of this network in 2017 under the category of Crafts and Folk Arts. The city's rich heritage, ongoing innovation, and certified artisanal practices—such as pottery, figurative art, and embroidery—have contributed to reinforcing its cultural identity while supporting sustainable growth.

Methodology/Approach | This study seeks to explore how local service providers perceive Barcelos's designation as a Creative City, particularly regarding activities associated with Creative Tourism, their awareness of the UNESCO title, and the perceived benefits and challenges linked to this status. A quantitative approach was employed, using two structured surveys to collect data. Between May and June 2024, 204 questionnaires were completed by individuals working in various sectors that cater to visitors.

Expected Results | The findings reveal that gastronomy stands out as the most promising area for Creative Tourism development, cited by 65.7% of respondents. More than half of participants (56.9%) are aware that Barcelos is part of the UNESCO network, and nearly half (48%) consider the designation significant for local development. Positive impacts—mentioned by 47.5%—include economic benefits and the revitalization of traditional practices. In contrast, concerns often linked with tourism, such as increased waste, pressure on infrastructure, or conflicts between tourists and residents, were not widely perceived as issues by respondents.

However, a notable 43.1% of participants were unaware that they operate within a UNESCO-designated city. This highlights a communication gap that may hinder the full potential of the title in enhancing Barcelos's appeal as a tourist destination. Strengthening local engagement and improving communication strategies are therefore essential steps to ensure that the recognition effectively supports both cultural promotion and sustainable tourism development.

Keywords | UNESCO Creative City; Crafts and Folk Arts; Barcelos; Local impacts; Local perceptions.

Acknowledgments | This initiative was supported by the Multiannual Financing of the Landscape, Heritage and Territory Laboratory (Lab2PT), Reference UIDP/04509/2020 financed by national funds (PIDDAC) through FCT/MCTES and by the Foundation for Science and Technology (FCT) with the reference UI/BD/153375/2022.

CIDADE INTELIGENTE, DIREITO E INOVAÇÃO: O PLANO DIRETOR DIGITAL E AS ZONAS LIVRES TECNOLÓGICAS COMO CATALISADORES DE GOVERNAÇÃO DIGITAL

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Resumo

Propósito | O presente artigo defende a necessidade de planificação e que um Plano Diretor Digital (PDD) pode desempenhar um papel tão estruturante na era digital quanto o Plano Diretor Municipal (PDM) teve no domínio do ordenamento físico, precisando de ser regulamentado. A par do PDD, as Zonas Livres Tecnológicas ZLTs oferecem um campo de experimentação normativa que permite testar soluções legais inovadoras, fomentar regulação flexível e aproximar o Direito dos ritmos tecnológicos, sem abdicar da proteção de direitos fundamentais. A articulação entre estes dois instrumentos pode permitir um modelo de governação digital mais democrático, eficiente e resiliente, com fundamento jurídico claro.

Metodologia/abordagem | O presente trabalho é uma pesquisa meramente exploratória assente numa pesquisa qualitativa e revisão literária recolhendo artigos científicos interdisciplinares, constantes das bases de dados “Google Scholar”, “SciELO”, “Scopus”, “EBSCO”, “IEEE”, “researchgate”, “repositorium.sdum.uminho.pt” e “Esmerald”, procurando um amplo conjunto de documentos e identificar os autores mais relevantes e os posicionamentos mais atuais sobre a temática. O objetivo foi ter um procedimento organizado, transparente e possível de replicar verificando as fontes indicadas. Para uma mais rigorosa revisão literária, adotámos a sistematização do processo através do método “SSF – Systematic Search Flow”.

Resultados esperados | Os resultados esperados incluem: (i) a sistematização das vantagens do PDD enquanto instrumento de governação digital; (ii) a clarificação do papel jurídico das ZLTs na regulação experimental; (iii) a identificação de lacunas normativas no quadro legal português; e (iv) a formulação de um conjunto de princípios orientadores para futura regulamentação jurídica do ecossistema digital urbano, contribuindo para o avanço do campo jurídico das cidades inteligentes.

Palavras-chave | Cidades inteligentes, Plano Diretos Digital.

TOURIST TAXES AND LOCAL SUSTAINABILITY: TRENDS IN POLICY INTEGRATION ACROSS PORTUGUESE MUNICIPALITIES

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Abstract

Purpose | This study aims to analyse the recent evolution of municipal regulations regarding tourist taxes in Portugal, focusing on how these taxes are integrated into local public sustainability policies. It seeks to understand how municipalities are utilising these taxes as tools to mitigate the negative impacts of tourism (Carvalho et al., 2024; Göktaş & Çetin, 2023) and to promote more sustainable local development across economic, social and environmental dimensions. Additionally, the research aims to identify best practices and emerging trends in allocating revenues generated by these taxes, contributing to the ongoing discussion about their strategic role in sustainable tourism planning and management.

Methodology/Approach | A systematic analysis of the 42 municipal tourist tax regulations currently in effect in Portuguese municipalities was conducted. This analysis updates the conceptual framework proposed by Carvalho et al. (2024), which is based on several variables, including tax incidence, the age of taxpayers, criteria for total or partial exemptions, tax amounts, maximum payable amounts, collection commissions, administrative offenses, and the economic and financial rationale behind the tax, including its sustainability dimension. By examining these variables, we can assess how tourist tax revenues are allocated to mitigate the negative externalities of tourism activities and, as a result, support the sustainability of the tourism sector.

Expected Results | The study aims to demonstrate how tourist taxes can be utilised to mitigate the negative impacts of tourism and promote sustainable tourism practices. The analysis emphasises the potential for adjusting these taxes to support environmental preservation, enhance sociocultural well-being, and generate local economic benefits (Adedoyin et al., 2023). Additionally, the study seeks to understand how public decision-makers allocate tourist tax revenues to address the externalities associated with tourism and strengthen tourism sustainability (Pazienza, 2011; Derek, 2021). It examines the use of these funds across economic, social and environmental dimensions.

Keywords | Local taxes, tourism taxation, tourism externalities, public policies, sustainability of tourism.

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CONTRIBUTOS DAS FERRAMENTAS DE MACHINE LEARNING E DOS SIG ONLINE PARA A GESTÃO DO CADASTRO DO ARVOREDO URBANO**Bárbara Marques**

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Resumo

Objetivo | A publicação a Lei Nº. 59/2021 de 18 de agosto de 2021 regula o regime jurídico de gestão do arvoredo urbano e impõe aos municípios a obrigação de possuírem o cadastro do arvoredo. No contexto da sustentabilidade dos espaços urbanos o arvoredo assume um papel determinante quer na mitigação das alterações climáticas, na melhoria da qualidade de vida e de conforto dos utilizadores quer nos aspetos paisagísticos.

De acordo com “O Guia de Boas Práticas para a Gestão do Arvoredo Urbano” do ICNF (2022), as árvores são elementos fundamentais nos ecossistemas urbanos. Elas desempenham, de forma direta ou indireta, funções ecológicas indispensáveis para uma maior qualidade de vida da população. Este elemento natural possui um valor patrimonial essencial para a sustentabilidade das cidades, sendo fundamental geri-los de um modo mais eficiente. De acordo com o Regime Jurídico de Gestão do Arvoredo Urbano (2021), publicado em Diário da República, defina as características do inventário municipal do arvoredo.

Assim, o cadastro do arvoredo urbano desempenha um papel essencial no planeamento das cidades sustentáveis. Os recentes desenvolvimentos dos Sistemas de Informação Geográfica (SIG), designadamente com a componente web, e da Inteligência Artificial vieram dotar os técnicos com ferramentas que nos permitem realizar um cadastro mais realista, simplificado e em tempo real (Pinheira et al., 2017; Remoaldo et al., 2017; Remoaldo et al., 2019; Ribeiro, 2022; Ribeiro et al., 2020).

O principal objetivo deste trabalho é o cadastro do arvoredo urbano pertencente ao domínio público do município de Amares através dos Sistema de Informação Geográfica (SIG), com auxílio na Inteligência Artificial (IA), permitindo uma melhor gestão dos espaços verdes do município.

Metodologia | Para alcançar este objetivo exploramos as potencialidades das tecnologias para SIG móveis, designadamente para o cadastro simplificado e em tempo real, dos dashboards para promover o engagement e das ferramentas de Machine Learning para a deteção automática do arvoredo.

Resultados esperados | A plataforma desenvolvida permite que os cidadãos acessem a toda a informação sobre o arvoredo urbano do município, numa base de dados atualizada e concisa. Por um lado, permite o acesso de utilizadores menos habilitados a utilizar os SIG e, por outro, explorou-se o potencial da classificação de imagens através das ferramentas de Machine Learning.

Palavras-chave | Cadastro do arvoredo; SIG; Machine Learning; Dashboards; App.

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EVALUATION OF THE TYPE OF INTERACTION BETWEEN RESIDENTS AND PILGRIMS OF THE PORTUGUESE CENTRAL WAY OF SANTIAGO.**Paula Remoaldo**Lab2PT/University of Minho (Portugal)
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Purpose | This study investigates the dynamics of interaction between pilgrims and between residents and pilgrims on the Portuguese Central Way of Santiago. Interaction plays a key role, as the dynamics between pilgrims and residents are essential to the experience and range from warm receptions to reserved attitudes. In many cases, these interactions transcend language and cultural barriers, resulting in genuine and enriching exchanges. Pilgrims bring cultural and economic diversity to the regions they pass through, which can have positive effects in these places.

Methodology/Approach | The project also analyzes the social, cultural, landscape and heritage impacts of the Way, through systematic research of studies indexed in the Scopus and Web of Science databases, corresponding to secondary sources. Variables such as the type and year of publication, the subjects covered, the methods, the techniques and the country of publication were considered. The primary sources include direct observation along the 120km (Porto-Valença Cathedral) of the Portuguese territory. Through direct observation, thematic maps were prepared using Geographic Information Systems (GIS).

Expected Results | In terms of results, this project can serve as a reference for many areas that intend to study the Camino de Santiago or pilgrimage in general. The data collected so far seem to suggest complex and multifaceted patterns of interaction, highlighting the importance of the Camino not only as a religious route, but also as a possible catalyst for cultural exchange and local development. In addition, the ongoing analysis of the socio-economic impacts in the different locations traveled by pilgrims seems to provide extremely relevant information for the future sustainable management of this remarkable cultural and religious heritage.

Keywords | Portuguese Central Way of Santiago, Pilgrims, Residents, Interaction.

DETERMINANTS OF LOCAL GOVERNANCE MECHANISM CHOICES IN THE PROVISION OF OFFICIAL COMPANION ANIMAL SHELTERING SERVICES IN PORTUGAL

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Abstract

Purpose | This study aims to identify the key factors that influence the selection of governance mechanisms employed by local governments to deliver public services through official collection centres (CRO) for companion animals in Portugal.

Methodology/Approach | The research will utilize a non-experimental cross-sectional design, encompassing all 308 municipalities in Portugal. It is important to note that 82 of these municipalities currently lack any governance structure related to this service, despite its classification as mandatory in national legislation. For the operationalization of the model, three dependent variables will be examined: (i) whether the municipality provides the service; (ii) whether the service is offered through inter-municipal cooperation; and (iii) the specific governance mechanism that is adopted. In terms of independent variables, the analysis will include factors that the literature has recognized as influencing governance choices. These factors include municipal size, population density, financial constraints, and the ideological orientation of local executives (Camões et al. 2021; Peixoto et al. 2024).

Expected Results | The findings of this research are expected to align with existing academic literature, which suggests that larger municipalities with greater financial resources are more likely to manage CRO directly (Rodrigues et al. 2012). In contrast, smaller municipalities often tend to outsource services or share them, either out of necessity or as a strategic choice (Bel et al. 2013). Politically, it is anticipated that left-leaning local governments will prefer public or cooperative solutions, while right-leaning officials will be more inclined to adopt market-based approaches (Tavares & Camões, 2010). This study aims to address a significant gap in the literature, particularly due to the limited number of studies on the provision of CRO public services (Ilukor, 2017), and it contributes to a better understanding of municipal decision-making in this area.

Keywords | Official companion animal sheltering, Governance mechanisms, Local governments, Economic factors, Political factors.

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**LIMITS OF ACCEPTABLE CHANGE IN COASTAL HERITAGE TOURISM
DESTINATIONS: A SYSTEMATIC LITERATURE REVIEW****Rogelio Jr Flores**

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Abstract

Purpose | This study critically reviews Limits of Acceptable Change (LAC) themes and issues in coastal heritage tourism literature, analyses the current state of knowledge and outlines directions for future research. LAC plays a critical role in natural resource management and tourism destination planning (Frisell & Stankey, 1972; Stankey et al., 1985). LAC determines the maximum level of visitor use or impact that an area can sustain without causing unacceptable environmental or social degradation. On the other hand, coastal heritage tourism is considered a tourism niche, offering a unique opportunity for travellers to experience the rich cultural and historical aspects of coastal regions that shape the identity of coastal communities over time (Silva et al., 2022). LAC in coastal heritage tourism research is recognised as an essential topic in sustainable coastal tourism development. Accordingly, this study offers a valuable contribution to tourism specifically to coastal heritage tourism literature.

Methodology/Approach | A systematic literature review was conducted to examine LAC themes and issues in coastal heritage tourism research. A qualitative thematic analysis of selected published articles exclusively from Scopus database was carried out from September 2024 to February 2025. Scopus is considered as the world's largest abstract and citation database of peer-reviewed scientific literature.

Expected Results | This study presents key findings related to LAC with reference to sustainable indicators that are critical for coastal heritage tourism destinations. The identified themes and issues further emphasise the significance of coastal destination policy, planning and management approaches which warrant careful consideration from stakeholders, destination management organizations (DMOs) and policymakers. Furthermore, the study provides a basis for scholars and practitioners in tourism and social sciences to examine sustainable tourism in coastal heritage destinations based from LAC principles.

Keywords | Limits of Acceptable Change, Coastal Heritage Tourism, Destination Policy, Planning & Development, Sustainable Tourism, Systematic Review.

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**AGRITOURISM, PUBLIC POLICIES AND SOCIAL INNOVATION IN ALENTEJO:
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Agritourism in the Alentejo region has experienced significant growth in recent decades, emerging as an alternative in response to the decline of traditional agricultural activities. In this context, public policies have played a decisive role in promoting and supporting the development of agritourism (Faísco et al., 2021; Gôja et al., 2021). In Alentejo, agritourism has emerged as a strategic response to the need for rural revitalization. It offers a sustainable business model that contrasts with mass tourism by preserving rural spaces, enhancing cultural and natural heritage, and aligning with increasing tourist demand for authentic and meaningful experiences (Ndhlovu & Dube, 2024; Sangnak et al., 2025). Social innovation stands out as a critical element in this process ensuring that agritourism not only contributes to local economic sustainability but also delivers concrete social benefits to rural communities, fostering inclusion, cooperation, and resilience (Partanen, 2024; Yüzbaşıoğlu et al., 2020).

In Alentejo, a region marked by demographic and socioeconomic challenges, the potential of agritourism goes beyond tourism: it represents a tool for social transformation. Understanding its impacts and limitations is essential to guide more effective public policies and strengthen community-based initiatives aimed at regional development. Thus, this study intends to examine the role of agritourism as a driver of sustainable development and social innovation in rural areas of Alentejo, focusing on economic, social, and environmental contributions and the influence of public policies. The literature review became possible to establish five assumptions.

The methodology followed a qualitative research strategy based on case studies (Yin, 2014). The research involved ten companies, identified via the SABI database, forming a non-statistical sample. Data collection included interviews with the managers of companies. The transcribed interview data were examined through a cross-case comparative approach, allowing the identification of recurring patterns and key contrasts across the cases. This process contributed to the validation of the five theoretical assumptions defined.

The results indicate a general consensus regarding the environmental, economic, and social benefits of agritourism. In contrast, perceptions related to social innovation and public policies showed greater variability. The analysis confirmed the theoretical premises concerning economic, social, and environmental development, while those related to social innovation and public policy were only partially supported. Nevertheless, the findings suggest that agritourism has an overall positive impact on the region, acting as a driver of sustainable development and social innovation. However, government support remains insufficient to fully sustain this development.

Keywords | Agritourism, Alentejo, Public Policies, Social Innovation, Sustainable Development.

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UNPACKING BLUE ENTREPRENEURIAL POTENTIAL IN COASTAL FISHING COMMUNITIES: CHALLENGES, OPPORTUNITIES, AND POLICY DIRECTIONS IN GREECE"**Dimitrios Ierapetritis**

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In the preceding two decades, blue entrepreneurship has emerged as a pivotal proposition for Europe's coastal fishing communities, as these communities have sought to diversify and reinvigorate their local economies. The present study seeks to shed light on the driving forces and obstacles to the development of blue entrepreneurship in fishing communities. The results of a qualitative survey, conducted through a questionnaire addressed to representatives of 80 stakeholders (private companies, local authorities, development companies, Local Fisheries Action Groups, organisations, NGOs, academics, and research bodies) based in and around coastal fishing communities, explore the driving forces and obstacles to the development of blue entrepreneurship. The research was conducted by selecting stakeholders from five distinct coastal regions of Greece. These regions are dependent on fishing and have local CLLD/LEADER programs that were funded by the Operational Program Fisheries and Maritime Affairs 2014-2020 during the 2014-2020 programming period. Ultimately, upon the formulation of the primary conclusions of the research, policy proposals will be advanced to promote and fortify blue entrepreneurship in Greek coastal fishing communities.

REGIONAL GREENWAY SYSTEMS: A STUDY OF BEST PRACTICES IN SOCIO-ECOLOGICAL GOVERNANCE

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Abstract

Purpose | Parks and open spaces are critical to greenway networks. However, completing greenway networks is more complex than designating individual urban spaces as parks. The main research question is the extent that local and regional ecological advocacy has contributed to the self-reinforcing of greenway elements and processes to accomplish continuity of socio-ecological features. The paper examines two regional greenway systems (i.e., large-scale regional socio-ecological systems - LSRSES) with emblematic parks in geographically distinct regions of the United States of America, New York: Central Park - Hudson River Valley National Heritage Area - Washington and Lincoln Parks, and in Arizona: the Papago Park - the Tempe Town Lake - Indian Bend Wash Greenbelt.

Methodology/Approach | Both LSRSESs are anchored in large parks (Central and Papago Parks), are connected by longitudinal water bodies (Hudson River and Salado River) and continued by ecological patches at the other end (Washington and Lincoln Parks in Albany and the Indian Bend Wash Greenbelt in Scottsdale). The methods comprise an analysis of planning instruments, planning conflicts, best practices and recent developments involving this pairwise triad of parks.

Expected Results | The working argument is that governance arrangements aimed at creating socio-ecological continuity among neighboring jurisdictions ought to address at a minimum land use, transportation, water, biota, participatory and funding mechanisms. The key expected finding is an up-to-date examination of best practices in the ecological governance of greenway systems in two climatically contrasting states of the country.

Keywords | Greenways, open space, natural resources conservation, large-scale regional socio-ecological systems, governance.

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THE TOURISM AND SPORTS AS OPPORTUNITIES FOR RURAL AREAS

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Tourism in Portugal is currently a highly relevant economic activity. On the other hand, sports can be used to leverage part of this demand, for example through events/competitions/training. Therefore, the main objective of this research is to identify sustainable and integrated alternatives for rural growth, especially in the face of challenges such as depopulation, seasonality and infrastructure deficiencies, through tourism and sports.

Of the more than 126 million academic articles indexed in Scopus journals, we chose to analyze 10 empirical studies, whose cases focus on the following countries: Portugal (7), Brazil (2) and Spain (1), which explored the relationship between rural tourism, sports activities and territorial development. In this context, based on the principles of sustainability, the following analysis criteria were defined: economic growth; social revitalization; environmental sustainability; infrastructure development; cultural preservation; seasonality management; partnerships; innovation and creativity; population retention; and regional branding. As such, the studies were analyzed through their impact on tourism, sports and in a combined manner.

In this sense, the main results indicate that rural tourism contributes significantly to economic revitalization (job creation, income generation and appreciation of local products), social (reducing isolation and improving community life) and cultural (exchange between residents and tourists). In addition, the cases analyzed show that nature sports tourism offers a viable model for economic diversification, with the potential to mitigate the seasonality of traditional tourism.

On the other hand, structural challenges persist, such as the lack of effective governance, limited infrastructure and unequal distribution of economic benefits — with residents traditionally excluded from the tourism sector being displaced. It was also noted that environmental issues are not given much priority by the local community, which reinforces the urgency of sustainable and participatory approaches.

The research concludes that, in the cases analysed, the promotion of integrated strategies between tourism and nature sports can represent a concrete opportunity to boost local economies, strengthen social cohesion and favour a more resilient and sustainable development model for rural areas. It was also identified that there is a lack of studies that explore in depth the integration between tourism and sport in rural contexts, despite the evidence pointing to promising synergies.

Keywords | Sports; Sustainable development; Rural Areas; Tourism.

WHEN ELECTRICAL SUSTAINABILITY COMPROMISES THE LANDSCAPE FOR TOURISM: GLASS FORESTS (PORTUGAL)

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Abstract

The energy transition has become a strategic imperative in the context of climate change, driving several countries, especially in Europe, to adopt renewable energy sources. In Portugal, the implementation of solar panels in forest areas — known as "Glass Forests" — represents an ambitious response to the need for decarbonization. However, this solution raises growing concerns about the visual, ecological and cultural impact on areas of high tourist and scenic value. This essay critically analyzes how the installation of photovoltaic infrastructures can compromise the visual and environmental integrity of natural landscapes, with direct consequences for the tourism sector.

The literature review was carried out based on studies on energy sustainability, territorial planning and sustainable tourism, between 2010 and 2025. Authors such as Rivera et al. (2023) and Urata et al. (2022) defend the importance of integrated planning that considers local ecosystems, while Távora et al. (2022) warn of the expected expansion of areas occupied by solar panels — between 29,000 and 31,000 hectares by 2050 in mainland Portugal. These data reinforce the urgency of a strategic approach that balances energy targets and the conservation of natural heritage.

The results suggest that, although solar plants promote the reduction of carbon emissions, their presence can significantly alter the landscape, reducing the aesthetic and tourist value of previously natural regions.

It is concluded that the real challenge lies in reconciling sustainable energy development with the preservation of natural and cultural resources that sustain tourist attractiveness. The absence of an integrated strategy could compromise both sustainability objectives and the competitiveness of tourism in areas such as the Glass Forests. As such, public policies lack effective measures, associated with community participation mechanisms and landscape impact assessment, since these are crucial to ensuring a balanced future between energy and tourism.

Keywords | Glass Forests; Electrical Sustainability; Tourism; Sustainable development.

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A INFLUÊNCIA DA LIDERANÇA SUSTENTÁVEL E DO COMPROMETIMENTO ORGANIZACIONAL SOBRE O COMPORTAMENTO AMBIENTAL NO ENSINO SUPERIOR: UM ESTUDO COMPARATIVO ENTRE BRASIL E PORTUGAL

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Resumo

Objetivo | A crescente demanda por práticas sustentáveis nas organizações tem levado as instituições de ensino superior a reavaliar seus modelos de gestão, cultura e liderança. Nesse contexto, a liderança sustentável surge como uma abordagem estratégica capaz de alinhar os objetivos organizacionais às exigências sociais e ambientais contemporâneas. Em universidades, esse tipo de liderança assume papel crucial, pois influencia tanto a formação acadêmica quanto o comportamento institucional dos colaboradores. Este estudo tem como objetivo analisar se o comprometimento organizacional (CO) medeia a relação entre os componentes da liderança sustentável (LS) e o comportamento sustentável ambiental (CSA) em instituições de ensino superior no Brasil e em Portugal.

Metodologia | A investigação adota uma abordagem quantitativa, de natureza exploratória e dedutiva. Os dados foram recolhidos por meio de um questionário aplicado online entre dezembro de 2024 e março de 2025. A amostra inclui universidades localizadas no Brasil e em Portugal, selecionadas com base nos rankings internacionais de sustentabilidade (QS Sustainability Rankings 2024 e UI GreenMetric). A unidade de análise foi o indivíduo em posição de liderança nas instituições de ensino superior. A amostragem foi não probabilística, baseada em critérios de acessibilidade e relevância dos participantes. A amostra final compreendeu 210 respostas válidas no Brasil (taxa de resposta de 51,98%) e 204 em Portugal (50,49%). A análise dos dados foi realizada por meio da modelagem de equações estruturais via mínimos quadrados parciais (PLS-SEM), utilizando o software SmartPLS 4.1.1.

Resultados Esperados | A análise comparativa entre Brasil e Portugal revela diferenças importantes na relação entre liderança sustentável, comprometimento organizacional e comportamento sustentável no trabalho. Os primeiros resultados revelaram que em ambos os países, a liderança sustentável exerce um impacto direto, positivo e altamente significativo sobre o comprometimento organizacional. O segundo foi confirmada apenas no Brasil, onde o comprometimento organizacional tem efeito positivo e significativo sobre o CSA, ainda que com magnitude reduzida. Em Portugal, essa relação não se verifica, o que pode indicar diferenças culturais, institucionais ou organizacionais na forma como o comprometimento se traduz em comportamentos práticos de sustentabilidade. Já o terceiro, também apresenta resultados distintos entre os países. No Brasil, o CO medeia a relação entre liderança sustentável e CSA, sendo o principal canal de influência da liderança sobre o comportamento sustentável. Já em Portugal, a influência da liderança sobre CSA ocorre de forma direta, sem mediação significativa por parte do CO. Esses resultados reforçam a necessidade de abordagens sensíveis ao contexto cultural e institucional na promoção da sustentabilidade em instituições de ensino superior, destacando que a efetividade dos mecanismos organizacionais pode variar consideravelmente entre países.

Palavras-chave | Liderança Sustentável. Comprometimento Organizacional. Comportamento sustentável ambiental. Ensino superior. PLS-SEM.

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PREDITORES DAS INTENÇÕES EMPREENDEDORAS SUSTENTÁVEIS E MUDANÇAS SOCIAIS ENTRE UNIVERSITÁRIOS. A PERSPETIVA DE UM MODELO CONCEPTUAL

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Resumo

O conceito de “evolução verde” tem sido realçado nos últimos anos, nomeadamente nas sociedades contemporâneas. Vários investigadores consideram que a comunidade empresarial é a principal responsável pelas atividades que afetam negativamente o ambiente e explicam a importância crescente da sustentabilidade ambiental e o papel do empreendedorismo sustentável (ES) em resposta aos problemas sociais, às alterações climáticas e à sustentabilidade ecológica. Por conseguinte, é necessário dar ênfase à “evolução verde”, tanto nos domínios empresarial e do empreendedorismo como nas instituições de ensino superior. Embora o interesse pelo tema desta investigação esteja a aumentar, há ainda uma falta de literatura que reflita sobre as intenções empreendedoras sustentáveis (IE.S). De acordo com Zhang et al. (2024), os jovens de hoje (geração Z ou *millennials*), especialmente os recém-licenciados, têm fortes intenções empreendedoras e consciência social, dando prioridade à necessidade de preservar um futuro sustentável em detrimento dos lucros empresariais. A intenção de adotar um comportamento é o primeiro passo para o comportamento em si. De acordo com Cabana-Villca et al. (2024), o ES envolve a implementação de inovações sustentáveis para promover uma economia verde. Para os autores, o ES significa ter um impacto positivo através de atividades ambientais como a reutilização, a reciclagem, processos limpos e gestão de resíduos. De acordo com Rauch e Hulsink (2015), o ES contribui para o desenvolvimento de empresas sustentáveis que envolvem empresários e empresas empenhadas em promover a mudança social.

Assim, compreender e estudar os fatores que influenciam as IE.S é o objetivo crucial deste trabalho para fazer avançar a investigação. O estudo centra-se no impacto que fatores como a educação empreendedora, o apoio universitário e os incentivos ao empreendedorismo terão nas IE.S e consequentemente, nas mudanças sociais dos estudantes. Foi delineado o modelo concetual baseado na revisão de literatura. Para a recolha de dados foi utilizado um questionário online, dirigido a alunos pertencentes à ECAV da Universidade de Trás-os-Montes e Alto Douro. O questionário recolhe dados sociodemográficos e todos os construtos possuem uma escala de Likert. Na estatística descritiva, os dados foram analisados utilizando o IBM SPSS versão 29.

O estudo pretende oferecer conhecimentos valiosos para vários interessados, incluindo professores, estudantes, decisores universitários e empresários, para alinhar as iniciativas de empreendedorismo no ensino superior com os Objetivos de Desenvolvimento Sustentável (ODS). O instrumento de recolha também pode ser utilizado eficazmente em investigações futuras para aperfeiçoar e melhorar os itens do questionário para estudos futuros.

Palavras-chave | Intenções empreendedoras sustentáveis, educação universitária, apoio universitário, incentivos, mudanças sociais.

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THE COLLABORATION DETERMINANTS OF A MULTI-DESTINATION KNOWLEDGE NETWORK

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Abstract

Purpose | Knowledge exchange between destination tourism regions is essential for facilitating innovation processes, they serve as a key driver of sustainable transformation in tourism. However, collaboration in knowledge exchange remains underexplored and calls for cross-cutting analyses based on existing interregional networks. Moreover, as there is literature, on how knowledge exchange is organized within the region, much less is known about organized in the case of cross-regional regions. This study addresses this gap by exploring patterns of cooperation in knowledge exchange between members of the transnational multi-destination network - “Network of European Regions for Sustainable and Competitive Tourism” (NECSTouR). This is a network of organizations that represent their entire region. This type of network is different from studied networks. These members are individual members from destination regions.

Methodology/Approach | Since our study focuses on networks of tourism regions and the relationships between them, we apply Social Network Analysis (SNA) of hyperlinks to visualize and examine the knowledge interactions and their determinants. Additionally, using secondary data from Eurostat and websites of destination regions, we aim to determine shared variables—such as economic indicators, climate, seasonality, or tourism sector profiles—which serve as a lens for interpreting relational patterns and structures within the network.

Expected Results | We expect to uncover synergies and meaningful patterns within the network, highlighting knowledge exchange interactions between regions through inter-relating variables such as tourism sectors, climate, economic development, tourist arrivals, seasonality, and population size which can explain these collaboration patterns. We aim to understand *who collaborates with whom* and explore the potential reasons behind these partnerships. The findings may lead to practical recommendations to enhance knowledge transfer and foster more effective collaboration between regions. **The initial analysis** shows the seasonality factor of tourism regions does not significantly influence the network structure to the extent we initially assumed. Our findings also confirm the tendency of regions to group according to national affiliation within national borders, by forming well-connected and homogeneous clusters. Academic members tend to cluster based on spatial proximity, compared to destination regions which show spatial proximity and sectoral diversity in their clustering patterns. Moreover, the role of academic members in international collaboration is more important than the regions which tend to cluster with nearby destinations from the same country. The preliminary result raises some questions regarding to which extent the network is international.

Keywords | Tourism innovation systems, multi-destination cooperation, tourism knowledge networks, Social network analysis.

SIMPLE TECHNIQUES THAT CAN BE USED TO ENHANCE THE TOURISM
POTENTIAL OF RURAL VILLAGES**Veronika Jouke**

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Purpose | This paper outlines the achievements of the four stakeholders selected for the Portuguese 'living lab' of the Erasmus+ Project LEARNVIL - "Learning Villages: Citizenship, Entrepreneurship, Heritage & Environmental Education for Rural Sustainable Development": The President and her team from the Junta de *Freguesia* of Vila Marim; the parish residents; Ruralidade Verde, a local consultancy firm; and the nearby University of Trás-os-Montes and Alto Douro. According to the 2022 census, this political administrative structure is responsible for 1,517 inhabitants. The same dataset from the National Statistics Institute (INE) states that the population declined by 14% between 2011 and 2021, with 24% of people being over 65 in 2021. The predominantly rural setting allowed us to examine how collaboration between various interest groups could promote sustainable tourism development.

Methodology/Approach | Qualitative research conducted within a case study framework shapes this article. Through field work, participant observation, and action research techniques, the partners explored various challenges in adult education and community development that enhance the local tourism potential. The study focused on learning-by-doing scenarios related to active citizenship, health and safety, participatory budgeting, rural entrepreneurship, cultural heritage management, sustainable tourism, and environmental education. The participants designed strategies to enhance tourism appeal, cultural and landscape valorisation, social and environmental awareness, and community engagement. Furthermore, programmes promoting health, well-being, and active ageing were implemented among older residents.

Expected Results | Collaboration between the stakeholders involved was crucial in formulating solutions, identifying socio-economic parameters and improving quality of life and the tourism offering in these villages. This collaboration also enabled better access to collective services and support for strengthening social networks. The value of the heritage could be increased by promoting its agricultural, rural and cultural uses, for example by organising events, restarting the flax processing cycle and creating walking routes.

Keywords | Sustainable development, rural resilience, case study, learning by doing, active aging.

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FACTORS SHAPING INNOVATION PERFORMANCE: A COMPARATIVE ANALYSIS OF EUROPEAN COUNTRIES

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Abstract

Purpose | This purpose explores the relationship between innovation, migration and institutional factors, analyzing how different contextual factors influence innovative performance. The analysis is structured around four main dimensions: Risk Conditions, Educational Conditions, Institutional and Policy Conditions and Entrepreneurship Conditions. Variables such as migration balance, control of corruption, education levels, economic policy indices, government quality and university-industry collaboration are used to develop a solid analytical model. The results are intended to contribute to the discussion on the impact of migratory movements and institutional factors on innovation dynamics. The study focuses on the European Union countries and Switzerland between 2007 and 2017, with the aim of analyzing innovation dynamics in the period following the 2008 financial crisis.

Methodology/Approach | The methodology includes correlation analysis, the VIF test for multicollinearity and the estimation of random effects (RE) and fixed effects (FE) models, chosen via the Hausman test. Tests for autocorrelation (Wooldridge test) and cross-sectional dependence (Pesaran, Friedman and Frees) are applied. The robustness of the estimates was ensured by choosing between the PCSE and FGLS models according to the choice between FE or RE, respectively (Wooldridge, 2010).

Expected Results | Positive net migration (Hunt & Gauthier-Loiselle, 2010; Morrison, 2023; Lissoni & Miguelez, 2024), collaboration between industry and universities (Asmawi *et al.*, 2019; Abu & Asplund, 2025) and the expansion of higher education (Cai *et al.*, 2020; Kong *et al.*, 2022) are expected to have a positive impact on innovation, reflected in increased investment in R&D. On the other hand, a greater number of procedures for the creation of startups (Blank *et al.*, 2012; Mercandetti *et al.*, 2017; Marcon & Ribeiro, 2021) and excessive control of corruption (Goedhuys *et al.*, 2016; Riaz *et al.*, 2018; Sdiri & Ayadi, 2022) could have negative effects by hindering the business environment and inhibiting innovative dynamism.

Keywords | Innovation, Migration, University-Industry Collaboration, Corruption.

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EFFECT OF THE PESTICIDE 2,4-D ON THE COMPOSITION, RICHNESS, AND ABUNDANCE OF PLANT COMMUNITIES IN TEMPORARY PONDS: A CASE STUDY FROM BENSLIMANE PROVINCE, MOROCCO

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Abstract

Purpose | In Morocco, temporary ponds harbor a rich floral and faunal diversity with high conservation value (Grillas et al., 2004). These ecosystems are often located in agricultural areas where inputs, particularly herbicides, are used excessively. During the autumn-winter rains, a portion of herbicides runs off and accumulate in the wetlands, potentially affecting their biological diversity. In the province of Benslimane (NW of Morocco), farmers frequently apply the herbicide 2,4-D variable concentrations. However, the impact of these herbicide concentrations on the characteristic vegetation of these temporary ponds remains undocumented.

Methodology/Approach | In this context, an experiment was conducted using soil collected from four temporary ponds in the Benslimane province to evaluate the effect of three concentrations of the herbicide 2,4-D on the richness and abundance of plant species in the communities. After homogenization, the soil was distributed into 42 containers and treated with one of four pesticide concentrations of 2,4-D (Control: 0% pesticide, 100%: recommended concentration, 50%: half of the recommended concentration, and 150%: one and a half times the recommended concentration). The herbicide was applied at two different stages: before germination (18 replicates) and after plant development (18 replicates). During the six-month experiment, species were identified and their abundance measured every three weeks.

Expected Results | The statistical analyses revealed a significant reduction in plant richness and in the abundance of pond characteristic species across all three tested concentrations and both herbicide application timings. These results highlight the high sensitivity of the characteristic pond species to herbicides. This could severely reduce the diversity in plant communities and, consequently, the biological value of these ecosystems in the short term.

Keywords | Herbicides, temporary wetlands, species richness, plant communities, conservation.

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**EX POST ASSESSMENT OF THE ECONOMIC IMPACTS OF COVID-19
CLOSURES ON BORDER REGIONS****Andrea Caragliu**

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Purpose: The diffusion of the COVID-19 pandemic in EU territories caught European regions and cities unprepared to face this challenge. In the absence of vaccines or effective drugs, most EU countries reacted to the pandemic by closing borders. As the latter represent lines of rupture along the socio-economic space of territories, these closures are expected to cause asymmetric economic losses to regions along the borders. Early studies assessing the impact of COVID-19 on regional economic outcomes dealt with a structural lack of official EU statistics (Capello et al., 2023), particularly on the extent to which GDP and employment shrunk as a consequence of border closures.

Methodology/Approach: Thanks to data availability, I am now filling this gap, by exploiting EUROSTAT statistics for GDP, and aggregate employment, as well as employment by main NACE industries, to identify the effects of 2020 border closures on border regions. Estimates are based on projecting the medium-run evolution of GDP, manufacturing employment growth, service employment growth, and tourism growth, for the year 2020, and on interpreting the deviations from these trends as losses induced by COVID-19 restriction measures, under the assumption that the macroeconomic conditions that would affect these trends would have remained those of the pre-COVID period.

Expected Results: Results suggest that COVID losses in border regions were substantial, exacerbating the substantial disadvantage linked to the border location.

Keywords | COVID-19, regional impacts, border effects.

JEL classification codes: R11, I15, F13, R12.

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