Projects selected in the 2nd edition of the Science4Policy (S4P-24) call

This document summarises the main information (project title, thematic line, principal investigator, institution, and abstract) about the 18 projects selected in the 2nd edition of the Science4Policy call launched by FCT and PlanAPP. The abstracts presented were written by the investigators.

Project title:

Innovation in Arts and Culture Public Policies Evaluation (A&C-IMPACTPP)

Thematic line:

Digitalisation, innovation, and skills / Culture: Monitoring the impact of the Sustained Support Programme

Principal investigator:

José Soares da Silva Neves

Institution:

Iscte – Instituto Universitário de Lisboa

Abstract:

The study focuses on the four-year Sustained Support Programme (PAS4) implemented by the Directorate-General for the Arts (DGARTES) / Portuguese Ministry of Culture. Based on the construction of the Sustainable Support Programme's Theory of Change, the study's main objective is to design a framework of monitoring and evaluation indicators to support PAS4's decision-makers and management structures.

Project title:

Contribution to the development of Public Policies in Early Childhood Intervention (PS4Child)

Thematic line:

People First / Early childhood intervention

Principal investigator:

Cristina Raquel Batista Costeira

Institution:

IPLeiria – Instituto Politécnico de Leiria

Abstract:

Childhood appears at the center of public policies, with a focus on preventing and combating poverty and social exclusion, placing children and families at the center of priorities, trying to ensure equal opportunities. In this alignment, the leading team with experience in research and monitoring of children and families with specific needs, has the general objective of contributing to the development of public policies that strengthen the performance of the Portuguese National Early Childhood Intervention System (SNIPI), aiming to improve the accessibility and quality of responses to the individual needs of children and families, within the scope of early intervention, ensuring the effectiveness and sustainability of implemented interventions. Specifically, the aim are (1) To assess the scope of coverage in terms of groups of eligible children, knowing which groups are more or less covered; (2) To highlight the causes associated with different levels of intervention, particularly in terms of coordinating the action of services and entities from the various sectors involved in the intervention, in order to identify the needs perceived by professionals and families; (3) To compose recommendations and proposals for improving SNIPI intervention, based on results and analysis of good practices existing in Portugal and other countries. For its operationalization, a research study will be developed that is characterized by understanding the needs of teams and families, through the application of a questionnaire that will have a national scope. This identification of these needs will allow comprehensive knowledge about real needs and contribute to the foundation of public policy priorities in the area.

Project title:

Monitoring the impact on Ecosystem Services through different land management practices to inform sustainable land-use policies (MonLand)

Thematic line:

Climate transition and sustainable resources / Soil: Soil Biodiversity

Principal investigator:

Eduardo Gomes

Institution:

IGOT-UL – Instituto de Geografia e Ordenamento do Território da Universidade de Lisboa

Abstract:

Assessing land practices' impacts on biodiversity is crucial for preserving ecosystem services (ES) capacity and promoting human well-being. Across the European landscape, activities like intensive agriculture and urbanization have historically altered soil, water, and biotic systems significantly, emphasizing the need for a deeper understanding of their ecological repercussions. Despite growing awareness of biodiversity concerns, there still needs to be a notable gap between land use management practices and effective biodiversity conservation. This underscores the need for a robust theoretical framework that integrates ecological principles, landscape ecology, and conservation biology to inform land management strategies effectively. Sustainable land use management aims to balance human needs with biodiversity conservation, emphasizing proactive measures to prevent biodiversity loss and mitigate negative impacts on natural habitats. Evaluating habitat quality and delineating suitability maps are crucial within this framework, providing insights into biodiversity distribution and facilitating targeted conservation efforts. Understanding landscape dynamics is essential for developing effective monitoring mechanisms to assess the ecological implications of land practices over time. The MonLand project aims to assess the intricate interplay between land management practices and biodiversity conservation. Throughout Europe's historical trajectory, the dynamics of land use and cover changes (LULCC), including intensive agriculture, and urbanization, have profoundly impacted soil composition, hydrological systems, and ecological communities. Despite heightened awareness of biodiversity imperatives, a notable misalignment persists between prevailing land management strategies and conservation objectives. The primary thrust of the MonLand project revolves around two fundamental goals: first, to conduct a comprehensive evaluation of land ecosystem health vis-à-vis sustainable land management practices; second, to quantify the ramifications of these practices on ES. These practices encompass various domains, ranging from urban development and water resource management to agricultural intensification and deploying infrastructural assets such as photovoltaic panels. Leveraging a diverse repertoire of expertise spanning quantitative and qualitative geography, geospatial modelling, ES analysis, LULCC modelling, and

spatial planning, the MonLand project team is uniquely poised to tackle the multifaceted challenges inherent in this research domain. Central to the project's goals is a strategic incorporation of stakeholder engagement, statistical and modelling analysis, and ES mapping and assessment using different spatial models. By harnessing these methodological frameworks, the project endeavours to yield novel insights into biodiversity impact assessment, particularly within the distinctive context of mainland Portugal. What distinguishes MonLand is its adaptive and forward-thinking methodology, engineered to bridge existing research lacunae and furnish actionable insights into prospective environmental trajectories. Envisioned outcomes encompass a holistic appraisal of biodiversity impacts and formulation of resilient monitoring mechanisms poised to track landscape dynamics over temporal scales. In summary, MonLand assumes paramount significance at local and global echelons, aligning harmoniously with national, European, and global imperatives for biodiversity preservation and sustainable land management. The project heralds a pivotal stride towards fostering a symbiotic coexistence between human activities and ecological integrity by furnishing indispensable insights for national policy formulation and decision-making paradigms. Moreover, MonLand aligns with prominent international and European policies and strategies, including the Sustainable Development Goals (SDGs), the Biodiversity Strategy for 2030, and The Decade on Ecosystem Restoration (2021-2030). These frameworks underscore the global imperative of restoring and preserving ecosystems, thereby underscoring the project's relevance and impact on a broader scale.

Project title:

Long-Term Strategy for Building Renovation, Rehabilitation and Reconversion: habitability, energy, water and materials (ECO_HELPRE)

Thematic line:

Climate transition and sustainable resources / Long-Term Strategy for Building Renovation in Portugal (ELPRE): Implications for habitability, comfort, health and salubrity in building rehabilitation

Principal investigator:

Joana Mourão

Institution:

IST-ID – Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento

Abstract:

In the European Union, 85% of buildings were built before the year 2000 and 75% have poor energy performance. The recent "wave of rehabilitation" of buildings has boosted energy renovation, but also the conversion of buildings, in the face of the housing crisis and aiming to respond to the transition to circularity, regeneration and low carbon. However, the annual renovation rate in the EU remains low (in the order of 11%) and, in general, construction is based on an economic model that promotes the demolition of buildings and the disposal of the resulting material.

The Long-Term Strategy for Building Renovation (ELPRE) aims to meet the European and national objectives of carbon neutrality and energy efficiency of existing buildings, future NZEB buildings. However, the environmental performance of buildings is not only represented by their operational energy performance and comfort indices, which ELPRE's indicators monitor well (primary energy consumption; renewable energy consumption/production (local and total); CO2e emissions; renovated building area; renovated buildings; hours of discomfort; investment in rehabilitation; savings). In the light of the European Green Deal, the renovation, rehabilitation and/or conversion of buildings should ensure a climate-neutral impact, which includes efficiency in terms of operational energy, used in the use and comfort of buildings, but also in terms of embodied energy, used in materials and (re)construction processes, and should also include water efficiency. Thus, other indicators (e.g., embodied energy, water reuse) are relevant to track the renovation wave, as well as the new Energy Performance of Buildings Directive.

"*Rehabilitating and making buildings more energy efficient enhances the achievement of multiple objectives, such as reducing the country's energy bill and dependence, reducing greenhouse gas emissions, improving indoor comfort and air quality levels, combating energy poverty and extending the useful life of buildings*". However, most of the building rehabilitation interventions in

Portugal do not include this energy renovation, which has been the main focus of ELPRE since its inception.

The current rehabilitation of buildings is mainly aimed at their constructive repair and updating or spatio-functional conversion, and in these activities the embodied energy can be optimized. At the same time, in energy renewal, materials tend to be energetic. In addition, in any intervention in a building, especially for residential use, it may be opportune and feasible to invest in increasing water efficiency, reducing water consumption in the use/operational phase.

When one observes in Portugal the residential building stock or with housing potential in need of rehabilitation or reconversion and compares it with the indicators that ELPRE monitors, it is concluded that it will be difficult to optimize it only with energy renovation (intervention in the surroundings and introduction of air conditioning systems and renewable energies). It should be noted that saving energy may not be enough of a stimulus to carry out works on buildings, in a country where little heating is consumed and where the construction market has become more expensive. Energy renovation accompanied by aesthetic-functional adaptations and improvements in buildings, proposes an additional stimulus, creating more and better housing supply, and contributing not only to alleviating energy poverty but also housing poverty.

In the view of this proposal, a joint vision of rehabilitation, functional reconversion and energy renovation – aiming at operational, embedded, and water efficiency – can increase the quantity and quality of interventions in existing buildings aiming at the objectives of the renovation wave and also those of housing supply. In this context, it is intended to establish a set of recommendations and indicators for a national program for the renovation and conversion of buildings, aiming to improve habitability, comfort, health and salubrity, meeting the future national plans for the renovation of buildings provided for in the new EPBD, in an adequate and accessible way. This program will expand ELPRE's monitoring field to housing rehabilitation and reconversion, allowing incentives for spatial-functional transformations that optimize environmental performance by conserving buildings, saving energy and emissions, materials and water, and obtaining more and better housing. To this end, the proposal has as its main objective the identification of recommendations and indicators, and is developed in analytical, exploratory and propositional phases, with sequential tasks and a transversal task of disseminating activities.

Project title:

Study on models for integrated social services in Portugal (MAASIP)

Thematic line:

People First / Models for integrated social services in Portugal

Principal investigator:

Heloísa Perista

Institution:

CESIS – Centro de Estudos para a Intervenção Social

Abstract:

There have been efforts for the development and implementation of innovative methodologies aiming at the integration of social services at the European level (ex: Lara Montero et al., 2016; EC/DG EMPL, 2022). This has also been the case in Portugal (ex: CET-ISCTE/CESIS, 2005; Tomás, 2012; CESIS/CET, 2015; Bracons, 2017; Marques, 2017), concretising in public policies such as the Programme "Rede Social", the PNS 2030 or the PAIMH 2023-2026.

However, the models for the integration of social services in Portugal lack mapping, as well as assessment and evaluation regarding its configurations, methodologies, results and impacts, which limits learning possibilities.

The "Study on models of integrated social services in Portugal" (MAASIP) will be developed by CESIS in cooperation with the National Association of Portuguese Municipalities (ANMP). After its approval, the preliminary contacts made with the Institute of Social Security (ISS, IP) will be resumed with the objective of it joining the project.

The research team proposed has extensive experience in the field of applied research and as regards participation in expert groups for analysis and support to decision-making, as well as in the development of methodologies for integrated social services and follow-up of its implementation.

Heloísa Perista, the team's principal researcher, has a professional experience of 37 years, currently acting as Portuguese representative in networks for analysis and support to decision-making of Eurofound and DG Employment, Social Affairs and Inclusion of the European Commission.

Ana Cardoso, the co-principal researcher, has extensive experience in this field of study. She was a pioneer in the development and validation of methodologies for integrated social services in Portugal. She has been involved in the study and development of integrated social approaches and in the formulation of recommendations for public policy throughout her career. Additionally,

she has been playing a relevant role as trainer, contributing to capacity building in public administration.

Project MAASIP will last for 12 months. It will map, systematise and analyse the experiences of integrated social services in Portugal, building up a knowledge base and identifying which experiences were successful and which were not. In this way, it will be able to support future decision-making regarding the adoption of models of integrated social services at the local level. It will also contribute for the design and implementation of new measures and for the respective resource allocation, including financial resources.

To this end, the project will develop a set of activities, including:

i.   documentary collection and analysis regarding integrated social services, notably regarding the "serviços de atendimento e acompanhamento social integrado" (SAASI);

ii.   designing, testing, conducting and analysing the results of an online survey, to be answered by all the Portuguese municipalities;

iii.   designing, conducting and analysing the results of semi-structured interviews with SAASI coordinators before the transfer of competences, with users of SAASI and with professionals currently responsible for SAAS in territories with experiences deemed successful before the transfer of competences;

iv.   designing, conducting and analysing the results of focus group with professionals of the SAASI experiences deemed successful;

v.   practical sessions with decision-makers and professionals with the twofold aim of discussing/validating results and of participants' capacity-building;

vi.   training/capacity building sessions with professionals of the SAAS.

This will result in a set of deliverables:

i.   methodological guide for integrated social services. This document aims at defining the criteria and at clarifying the conditions needed for the implementation of integrated social services, according to different methodological approaches. It also aims at supporting decision-making regarding the adoption of models for integrated social services at the municipal level;

ii.   proposal for an interactive atlas of integrated social services in Portugal. The proposal will prepare the information and set the basis for the development of a digital resource which will not only map the experiences identified but it will also provide its characteristics and features. The proposal will be made available to the ANMP for the future creation of the digital resource;

iii.   three factsheets and associated press releases on the implementation of the study;

iv.   policy brief, a document with recommendations for public policy, based on the results of the study, with the aim of clearly contributing for the design and implementation of new measures and for the respective resource allocation, including financial resources;

v.   final report;

vi.   final seminar for the wide dissemination of the results of the study;

vii.   proposals of papers for publication and for presentation in scientific events.

Project title:

Evaluation of public policies supporting firm productivity and internationalization: the Portuguese case (CREDIT)

Thematic line:

Digitalisation, innovation and skills / Competitiveness and Internationalisation of Portuguese companies

Principal investigator:

José Manuel Peres Jorge

Institution:

FEP.UP – Faculdade de Economia da Universidade do Porto

Abstract:

Portuguese policymakers often argue that the success of the internationalization of Portuguese firms depends on firm size. According to this view regularly conveyed in the press, the global economy demands innovative products that rely heavily on technology and brands, and only large companies can finance the large investments required for these types of innovation. It follows from this widespread idea that the right policies for supporting internationalization ought to favor large firms or create incentives for firm growth, as large firms are better prepared for internationalization than small firms. This goal could be achieved, for example, by creating incentives for firms to reinvest their profits. The article "Indústria: capitalizar e internacionalizar" by João Neves (Negócios, 26 February 2023, see attached file), former Secretário de Estado da Economia of the Portuguese government, epitomizes this view.

But this popular view among Portuguese policymakers is disputed by many academics (based for example on the work of Melitz, 2003). Careful analysis of the dynamics of firm growth suggests that productivity precedes growth, with more productive firms growing faster and then seeking internationalization to sell their products. More specifically, highly productive small firms with a strong competitive advantage grow faster than large firms (and eventually become large) and are responsible for successful internationalization. These dynamics are well documented in the field of "Economics of Strategy," with the case study of WhatsApp illustrating these dynamics. At the time Facebook acquired this messaging firm in 2014, Whatsapp belonged to the top-20 social networking apps in the U.S. App Store but had an astonishingly small team of just 55 employees.

These two contrasting views of internationalization have different implications for economic policy. On the one hand, the supporters of the "size leads to internationalization" view argue for policies that favor large firms. These policies could be implemented in various ways, such as through more favorable tax treatment to large firms or measures that induce firm investment and firm growth. Size per se will give a competitive advantage to firms in international markets. On the

other hand, supporters of the "productivity leads to internationalization" argue that a "large firm with a bad product" will never be successful internationally. Policies should target highly productive firms with a strong competitive advantage, and successful internationalization will arrive in due time.

It is thus important to identify the causal link that leads to successful internationalization, if policymakers wish to encourage the internationalization of the Portuguese economy. Causal analysis requires comparing a treatment group with a control group. Yet, experimental data is seldom available in social sciences and this limitation rules out obvious experimental designs that would elicit causal relationships. For example, the researcher must not compare the effects of policies on small firms versus the effects of the same policies on large firms as the treatment and the control groups are not comparable for the universe of Portuguese firms. Hence, the researcher must rely on quasi-experiments to build the treated and the control groups.

In this project, we rely on two quasi-experiments to help us identify the causal link that leads to internationalization. In the first quasi-experiment, we rely on a natural disaster that creates an exogenous shock to productivity (aka the "build back better" effect). We compare a treatment group of firms with high productivity with a control group with low productivity. We then investigate if the shock to productivity promotes the internationalization of the firms (in terms of exports). In the second quasi-experiment, we investigate the effect of a government program that "randomly" assigns cheap credit across firms. We compare a treatment group of firms that obtain cheap credit with a control group of firms that obtain expensive credit. We then investigate if relieving the financial constraints of firms (i.e. cheap credit) leads to increased productivity and exports.

The project has two parts, each corresponding to a quasi-experiment/paper.

PAPER1 PRODUCTIVITY CAUSES INTERNATIONALIZATION We compare the internationalization of firms with different levels of productivity in the aftermath of the Portuguese October 2017 wildfires.

PAPER 2 SIZE CAUSES INTERNATIONALIZATION The Portuguese official credit guarantee scheme provides cheap credit to firms. We compare the internationalization of firms with access to cheap credit with those with access to more expensive credit.

The FINAL REPORT WITH A POLICY BRIEF describes the Portuguese internationalization policies in the past 20 years, framing the results of the papers in the national context and drawing lessons for the future.

Project title:

Co-participatory Modeling of Soil Districts using Machine Learning (ML-SOIL)

Thematic line:

Climate transition and sustainable resources / Soil: Elements for a soil strategy - How to define "soil districts"?

Principal investigator:

Fernando Jorge Pedro da Silva Pinto da Rocha

Institution:

IGOT-UL – Instituto de Geografia e Ordenamento do Território da Universidade de Lisboa

Abstract:

The European Union (EU) Soil Monitoring Directive (SMD) is a pivotal legislative instrument aimed at fostering sustainable soil management practices across member states. The directive outlines the establishment of Soil Units (SU) within designated Soil Districts, serving as fundamental entities for soil monitoring and governance. However, the heterogeneous nature of soil typology and land use-cover within member states presents significant challenges in delineating these units effectively. Addressing this complexity requires sophisticated methodologies and interdisciplinary collaboration.

Recent advancements in statistical techniques and modeling have provided novel opportunities for accurate SU delineation. Machine learning algorithms, geostatistical analyses, and geographic information systems (GIS) have emerged as valuable tools in this regard. Various numerical approaches, including fuzzy clustering and principal component analysis, have been proposed for SU delineation, leveraging diverse environmental and soil data sources.

Nonetheless, achieving truly multi-purpose SUs remains a challenge due to the intricate interactions among soil properties. In response to these challenges, a dynamic methodology integrating soil quality assessment and stakeholder engagement is proposed. Co-participatory strategies involving stakeholders from science, politics, and civil society aim to define SUs considering national soil diversity, climate variations, and agricultural practices. This collaborative approach ensures alignment with EU directives and fosters ownership among key stakeholders.

Central to the proposed methodology is the utilization of machine learning algorithms and the integration of diverse datasets. Climatological data, land use-cover maps, soil property data, and lithological information are among the key inputs considered. Tasks focusing on lithological mapping, climate response units, and clustering of soil units are integral components of the proposed framework, aiming to develop a robust SU delineation methodology.

Harmonization of monitoring systems at the national level is emphasized, alongside the establishment of a comprehensive soil observatory. These initiatives enhance data reliability and facilitate the evaluation of soil health, contributing to evidence-based decision-making in soil management. Furthermore, the project underscores the importance of stakeholder participation and collaboration, particularly among rural development agents.

By creating an information system for recording soil sample results and cultural practices, the project aims to support evidence-based decision-making at the farm level and inform rural development policies. Ultimately, the project seeks to advance sustainable soil management practices through interdisciplinary collaboration and innovative methodologies tailored to the diverse contexts within the EU. Through these concerted efforts, the EU aims to safeguard soil resources for future generations while promoting agricultural sustainability and rural development.

Project title:

Shifts in Portuguese Marine Ecosystem Services under Climate Change Scenarios: Impacts on Coastal Tourism (SHIFT-MARES)

Thematic line:

Climate transition and sustainable resources / Climate change and tourism in Portugal

Principal investigator:

Irene Isabel da Cruz Martins

Institution:

CIIMAR - Centro Interdisciplinar de Investigação Marinha e Ambiental

Abstract:

Ocean and coastal areas host key ecosystem services (ES) that sustain a wide range of blue economy activities and human settlements worldwide. Tourism is among these activities, showing an increasing trend in the Mediterranean and Southern Europe, particularly in coastal areas, which attract a high volume of visitors. In fact, coastal tourism has been identified as one of the five priorities of the European Union (EU) Blue Growth Strategy.

In 2022, Portugal experienced a nominal increase of 72.7% in the Gross Value Added generated by Tourism (GVAGT) compared to 2021, with revenues accounting for 12.2% of the national Gross Domestic Product (GDP), with the most significant increase (96%) occurring in coastal areas.

However, the intense pressure from tourism and other human activities on coastal areas can contribute to the degradation of marine ecosystems and services, potentially leading to significant consequences for destinations. Research has revealed that tourists may alter their decision-making regarding coastal destinations if the quality of marine and coastal habitats is negatively impacted.

In the current scenario where the Portuguese economy relies significantly on tourism on one hand, and faces the challenges of the climate crisis on the other, it becomes essential to assess the risks posed to national tourism by climate change and extreme weather events, particularly when combined with other existing environmental stressors

Tourism strongly relies on ecosystem services. Provisioning services provide food, water, and energy, among other essentials; regulating services play a vital role as ecosystems regulate weather patterns, which is pivotal in tourists' destination selection. Likewise, many tourist activities are situated in regions prone to natural hazards like floods or hurricanes. Ecosystem services may considerably decrease risks from natural hazards by enhancing coastal protection. Additionally, cultural ecosystem services are paramount for visitor satisfaction providing aesthetic appreciation, recreational activities, or spiritual and religious experiences.

Food web models account for both structural aspects, such as biomass, and functional components, such as energy flows between ecological groups. Consequently, they provide valuable insights into ecosystem functioning, being able to account for direct and indirect effects on the food web, which are then reflected on ecosystem services.

Results from food web modelling allow the direct measurement of certain ecosystem services (e.g., food provisioning from fishing) and enable the evaluation of ecosystem properties that are interconnected with ecosystem services. For example, there is a strong and positive correlation between the resilience of ecosystem services and the robustness of the food web. Additionally, ecological resilience, which indicates the ecosystem's capacity to sustain its initial state and provide ecosystem services despite external influences, can be assessed through metrics such as Average Path Length (APL), Finn Cycling Index (FCI), Mean Trophic Level (MTL), Total Transfer Efficiency (TTE), and Ascendency (A), among others.

Therefore, by examining the interplay between food web modelling, ecosystem services, and tourism, the objective of the SHIFT-MARES project is to predict the impacts of climate change and extreme weather events, as well as other anthropogenic pressures, on coastal tourism in Portugal. This will involve assessing the ecosystem services associated with coastal tourism by comparing present conditions with future scenarios.

Given the one-year timeframe, the project will focus on a pivotal coastal area for national tourism, the Ria Formosa lagoon situated in the Algarve region. The project implementation will involve collaboration with stakeholders from the public sector. Some of these stakeholders expressed their support to the project (APA, ICNF, municipality of Olhão) and, along with others, will be consulted during the project.

The project's outcomes, including a policy brief, a technical report, and a participatory workshop, will significantly aid decision-making regarding the adaptation and resilience of the Ria Formosa lagoon to climate change and extreme weather events, in combination with other existing environmental stressors. Once calibrated for the Ria Formosa, the same methodology can be applied to other coastal and marine areas in Portugal.

The accomplishments of the SHIFT-MARES project fully align with the National Strategy for the Sea 2021-2030 (integrated sustainable management of coastal and marine areas), the EU Blue Growth Strategy (sustainable tourism), EU Biodiversity Strategy (reversing the degradation of ecosystems, resilience to climate change impacts), Mission STARFISH: Restore Our Ocean and Waters (zero pollution, revamping governance), and the United Nations (UN) Sustainable Development Goals (SDG) 2030 Agenda (SDGs 8, 13 & 14).

Project title:

Climate change, public policy and inequalities (ClimatEquality)

Thematic line:

Climate transition and sustainable resources / Impacts of climate change on inequalities: labour income and taxation

Principal investigator:

Frederico Cantante

Institution:

CoLABOR - Associação Laboratório Colaborativo para o Trabalho, Emprego e Proteção Social

Abstract:

Climate change poses an existential challenge to humanity, the response to which implies very significant changes on a global, national, regional and local scale in a wide range of spheres or areas of life in society. The political and academic debate around these responses are typically based on two assumptions: on the one hand, the fact that the distribution of responsibility for climate change, resulting from the emission of greenhouse gases into the atmosphere, is quite asymmetrical from a territorial, categorical and/or sectoral point of view; on the other hand, the fact that the impacts of climate change that have already occurred or are expected to occur in the short, medium and long term are also quite unequal, whether between countries or regions of the world, between socio-economic categories or between sectors of economic activity.

Climate change has social and economic impacts that stem directly from the very process of increasing the temperature of the atmosphere: for example, the rise in the average sea level and the consequences this has for people living on the coast or on islands; water shortages in some regions; the gradual desertification of some regions; the increase in extreme weather events, such as hurricanes, droughts, heat waves or floods; or the rise in temperature, jeopardizing labour productivity and the stability of energy systems. According to the Intergovernmental Panel on Climate Change, Portugal, like most southern European countries, is particularly exposed to the impacts of climate change, such as soil erosion, desertification, forest fires and water scarcity. These impacts can also result from public policies to mitigate and adapt to climate change: the Green Transition policies. Climate change and public policies aimed at addressing it can have a variety of effects on inequalities: reproduction, mitigation, deepening and/or production of new inequalities.

Bearing in mind that the distribution of responsibilities for the human induction of climate change, but also the fact that the impacts of these changes are unequal, it is important to ensure that public policies aimed at combating and/or mitigating climate change are shaped by principles of

justice. In this sense, policies aimed at boosting the transition to a low-carbon economy must be calibrated so that this process is fair.

The ClimatEquality project aims to develop an integrated and comprehensive diagnosis of the impacts of climate change on inequalities in the field of labour income and taxation, as well as contributing to the design and evaluation of public policies in this area. The analytical and methodological perspective of this project is based on the following assumption: work and employment play a central role in the constitution of societies, so the negative impacts of climate change pose structural political challenges.

This project aims to develop a diagnosis of the impacts of climate change and the public policies aimed at addressing them on inequalities in the field of labour income and taxation, taking the Portuguese reality as the object of analysis, but contextualizing it in cross-cutting and multidimensional trends seen on a European and global scale. This exercise will be based on a sequential and articulated research plan, supported from the outset by a theoretical, conceptual and statistical framework, but also by a benchmark of national, European and international policies aimed at adapting to climate transitions.

Based on these theoretical-conceptual and normative references, an analysis of the vulnerability of employment in Portugal to the impacts of the transition to a low-carbon economy will be carried out, with reference to the sector of activity and the turnover per employee of companies, as well as the socio-professional, contractual and remuneration profile of workers. The fundamental aim of this analysis is to measure the vulnerability of the Portuguese economy and the different territories to the transition to a low-carbon economy.

In a complementary way, and in conjunction with institutions participating in ClimatEquality and other stakeholders, a reflection will be developed on the challenges that the Just Green Transition poses to tax policy, to the Social Security system and to the offer of training and re-qualification of the active population. This exercise will be an important dimension of the diagnosis and proposals that will emerge from the project.

The theoretical-conceptual review, methodologies and procedures adopted in the execution of ClimatEquality will contribute to the calibration of an instrument for assessing the impact of public policies on inequalities.

Project title:

Better Deep Technology Tools for Gambling Harm Prevention, Early Detection and Personalized Intervention (BET-DeTECH)

Thematic line:

Digitalisation, innovation, and skills / Deep tech: national ecosystem

Principal investigator:

Artemisa Agostinha Monteiro da Rocha Dores

Institution:

P.Porto – Instituto Politécnico do Porto

Abstract:

Digitalization brings numerous benefits, including increased access to information, communication, leisure, and eHealth. However, it also presents new challenges and risks (Dores et al., 2020). In the contemporary landscape, the proliferation of online platforms has led to unprecedented accessibility to various forms of entertainment and activities, including gambling. However, alongside this accessibility comes the alarming rise of gambling disorder (GD), recognized as a behavioral addiction (APA, 2013; WHO, 2023), with individual and societal detrimental consequences (Fineberg et al., 2018; OHIDPH England, 2019), and becoming a matter of public health (Ukhova et al., 2023).

The public health sector has urged governments to acknowledge the adverse effects of gambling and to incorporate population-wide harm prevention strategies into gambling policies. Although gambling policies are evolving globally, and in Portugal is a regulated activity, the integration of gambling as a public health concern into comprehensive policy measures across various jurisdictions remains incomplete (Ukhova et al., 2023). In today's rapidly evolving technological landscape, understanding the implications of Deep Tech applications in the gambling domain is crucial for policymakers to boost effective regulations and actions.

Under the Science4Policy initiative, the thematic strategy for 2030 within Digitalization, Innovation, and Qualification sets out a comprehensive framework to leverage technology and human capital to create a more prosperous, inclusive, and sustainable future. By aligning policies, investments, and initiatives with digitalization, innovation, and qualification principles, Portugal can unlock new opportunities for economic growth, social progress, and human development. Deep Tech plays a pivotal role in this context, offering innovative, evidence-based solutions to address complex challenges such as behavioral addictions and gambling faced by the Public Administration. Advanced technologies such as artificial intelligence, machine learning, data analytics, and biometrics have the potential to revolutionize this reality, promoting better public health, potentiating the national ecosystem.

The main objectives of the BET-DeTECH project are as follows:

- Generate scientific knowledge and best practices to address current needs in public policy within the domain of utilizing deep tech applied to gambling.
- Foster the growth of the national ecosystem by applying deep tech in the gambling sector, identified as an area with high potential for development.
- Contribute to a culture of science production for public policy within the scientific community, at both national and international levels.
- Promote the utilization of knowledge generated by the Bet-DeTech project among decision-makers and decision-support communities.
- Encourage more integrated approaches in the conceptualization and design of policies based on the knowledge produced within the Bet-DeTech project.
- Promote new transdisciplinary, translational approaches to address problematic internet usage, particularly gambling disorder.
- Enhance science and technology communication.

Conducting a comprehensive approach that includes a systematic literature review and qualitative study with stakeholder interviews is expected to provide invaluable insights into the multifaceted impact of these technologies and the measures that could potentiate them. This information will give rise to a policy brief as the final output.

The established consortium, as part of the NeuroGambling strategy, will involve a transdisciplinary team consisting of professionals in cognitive and affective neuroscience, clinicians/psychiatrists, Deep Tech experts, and representatives from the Public Administration/policymakers

The relationship between Deep Tech and the national ecosystem is symbiotic. A strong national ecosystem can provide the necessary environment for Deep Tech companies to thrive, while the innovations of these companies can drive the growth and competitiveness of the national economy.

Project title:

Gender Equality in the Digital Transition in Portugal: what place for Women? (Women4Digital)

Thematic line:

Digitalisation, innovation, and skills / Digital skills: women in the digital transition

Principal investigator:

Rosa Monteiro

Institution:

CES-UC – Centro de Estudos Sociais da Universidade de Coimbra

Abstract:

The Women4Digital project aims to contribute to the understanding, characterization, and monitoring of Portuguese public policies to promote women's participation and combat horizontal segregation in the digital since 2017. These policies are relevant as women's participation in Information and Communication Technologies (ICT) is not only exceptionally low but has also exhibited a decreasing trend: the proportion of female graduates in ICT dropped from 26% in 1999 to 20.1% in 2020, while women's participation in the ICT workforce decreased from 24% to 22% between 2020 and 2005. This reality hampers the overcoming of constraints in the supply of ICT qualifications, essential for the success of digital transition based on human rights, and significantly contributes to exacerbating income inequalities between men and women, as women tend to be concentrated in less dynamic lower average remuneration activities compared to those in the realm of ICT.

Since 2017, there is evidence of a strong public policy initiative in Portugal to put women's participation in the digital on the political and public agenda. These efforts have been driven and developed under the auspices of government's Equality cabinets, which began with the launch of a specific program - Engineers for a Day. The theme has been increasingly taken up by other spheres and sectors, also due to a series of European regulations and programs aimed at promoting gender equality in Science, Technology, Engineering, and Mathematics (STEM), now expanded to STEAM to include the Arts. Thus, a gender mainstreaming policy or the integration of a gender equality perspective in this field has been gradually consolidated, through the creation of various programs, the introduction of specific strategic objectives in planning instruments (e.g., the National Strategy for Equality and Non-Discrimination [ENIND 2018-2030]), and the establishment of targets and indicators in digital transition policies (e.g. Action Plan for Digital Transition). These initiatives have generated synergies among various sectoral players, including the business sector, associative sector, schools, higher education and scientific institutions, as well as networks in the technological and digital domains. However, there are no systematic studies addressing these policy dynamics, identifying and analysing the diversity of gender mainstreaming instruments and action measures being developed. The design of mechanisms

and the formulation of indicators for the integrated monitoring of these measures and evaluation of their impacts, are therefore particularly relevant, both to assess their scope and to support planning exercises for adjustments or formulation of new public policy measures. These are gaps that this project aims to fill.

In addition to mapping them, the project will analyse public policy initiatives in the light of models that typify and monitor the impact of gender mainstreaming programs in the digital and the factors determining their success (Marcelle, 2002; Lagesen et al., 2022). To achieve the abovementioned objectives, a set of complementary tasks will be carried out: review and mapping of actions and public policy measures adopted in Portugal to promote women's participation in the digital; collection and systematization of regulations and indicators from international bodies; critical content analysis of perspectives on "gender mainstreaming" and "specific actions" present in national public policies; stakeholder consultation through focus groups with those responsible for/representing public policy areas (e.g., digitalization, equality, education, labor). We also intend to ensure a strong participatory and training component, through coordinated work with the entities supporting this research - the Commission for Citizenship and Gender Equality and the Directorate-General for Statistics in Education and Science -, and a workshop with stakeholders.

The diversity of backgrounds, skills, and professional and academic experience of the researchers on the Women4Digital team guarantees their ability to achieve the proposed objectives. It is a team with training in various scientific areas (sociology, economics, psychology, and law), most of whom have a marked specialization in gender studies and previous work aimed at analyzing, characterizing, and developing or implementing measures aimed to overcome gender segregation in ICT, as well as experience in implementing public policies for equality and the digital transition.

Project title:

Parental Leave, Social Inequalities and Child Well-Being (CareChild)

Thematic line:

People First / Parental leaves – analytical framework

Principal investigator:

Susana Atalaia

Institution:

ICS-ULisboa – Instituto de Ciências Sociais da Universidade de Lisboa

Abstract:

Over the last two decades, the implementation and strengthening of the right to paternity leave, subsequent fathers only parental leave, as well as the possibility offered to mothers and fathers to share parental leave time, have contributed to greater equality between women and men in childcare. At the same time, the increase in female participation in the labour market has reduced the gender employment gap. However, this growth has been closely accompanied by an increase in precarious employment, especially among women, with implications for the take-up of parental leaves. As an employment-based right, the take-up of well-paid parental leave (equal to or greater than 66% of the reference income) are not following the continuous changes in the labour market in terms of non-standard employment (e.g. temporary work, part-time work, etc.) and self-employment, making it more difficult for mothers and fathers to benefit (in full or in part) from social protection in parenthood. As a result of the lack of interconnection between eligibility criteria for parental leave and labour market conditions, today many men and women face growing social inequality with regard to accessing, taking and sharing parental leave and corresponding benefits. This inequality between workers necessarily translates into another one: the inequality between children of protected and unprotected or only partially protected workers. Consequently, there might be an impact on children's well-being and development in terms of care, configuring a situation of inequality since birth.

With regard to situations of inequality and discrimination in access to, use of and sharing of parental leave in Portugal, the CareChild project has two goals. Firstly, it aims to map and identify situations of inequality and discrimination in the use of parental leaves, associating them with the type of contractual relationship and professional situation of working mothers and fathers. We will therefore endeavour to answer the following questions: Who are the workers without access to parental leave? What links connect them to the labour market? In what situations is it possible to have access to leave (time) without the appropriate monetary compensation (benefit)? Who are the workers with access to leave who only use the compulsory component (42 days for mothers and 28 days for fathers)? Who are the workers who don't share initial parental leave? And who are the workers not covered by the contributory system? To answer these questions, we will

analyse labour legislation on social protection in parenthood, taking into account the diversity of professional situations, as well as secondary data (official and administrative) on employment and parental leave take-up; and hold focus groups with experts and stakeholders in the areas of labour, social protection and public policies.

Secondly, it aims to understand and systematise the impact that inequality in the exercise of leave rights can have on the child's well-being and development. Although children and their well-being appear to be one of the aims of parental leave policy, in reality it is a right of working mothers and fathers and not a right of the child. In this sense, it is important to know the repercussions of the current policy on the child's well-being and development: How do families organise childcare in the first year of life, especially in the first 6 months, when they cannot benefit, in part or in full, from initial parental leave under the contributory system? What formal and/or informal solutions (crèches, childminders, relatives, leaving the labour market) do they resort to when they are unable to take part or all of their parental leave? How do they experience parenthood, reconciling family and work and their child well-being? Thinking about the centrality of parental care in the child's first year of life, which parental leave provides especially in the first 6 months, how do childhood specialists assess situations in which this doesn't happen? What impacts do they perceive in the child well-being? To answer these questions, we will conduct in-depth interviews with fathers and mothers "on the margins" of the parental leave system, and we will hold focus groups with childhood specialists and professionals who, on a daily basis, work in the field of childcare.

In summary, adopting an interdisciplinary perspective that combines different areas of knowledge (sociology, public policy and health), the CareChild project seeks to gather empirical evidence on situations of inequality and discrimination against workers in accessing, taking and sharing parental leave, in order to better understand its impact on children's well-being and make recommendations for a more inclusive policy

Project title:

Functional urban regions: a challenge for territorial cohesion and competitiveness (RUF_CC)

Thematic line:

Competitiveness and cohesion / Land planning – functional urban regions

Principal investigator:

Teresa Sá Marques

Institution:

FLUP – Faculdade de Letras da Universidade do Porto

Abstract:

The project supports the need to increase territorial knowledge with a view to building a polycentric territorial organisation capable of strengthening urban development and integration between territories – inter-urban and rural-urban – in order to reduce socio-economic disparities between and within regions (PNPOT, 2019).

This project aims to study territories from the perspective of relational spaces in order to identify opportunities, constraints, and possibilities for innovation in public policy organisational models. The main objective of the project is therefore to identify and characterise functional urban areas and regions (FUA and FUR) that meet the challenges of territorial cohesion and territorial competitiveness.

Territorial cohesion, as a guiding principle of public policy, is essential to ensure the balanced and fair socio-economic development of all territories, valuing diversity and complementarity, and enabling the population to make the most of the specific features of each territory. For this reason, one of the objectives of this project is to identify functional, multidimensional areas that can support the territorialisation of public policies in different sectors (housing, education, health, transport, environment, etc.) that have multiple impacts on the promotion of territorial cohesion.

Territorial cohesion, as a guiding principle of public policy, is fundamental to ensuring the economic growth of all territories by exploiting the potential of different places. It is therefore necessary to identify functional regions capable of supporting territorial public policies for innovation and economic growth, taking into account the size and diversity of resources and existing weaknesses, with a view to promoting territorial competitiveness.

Social Network Analysis (SNA), also known as Network Science (NS), will support the methodology to identify FURs and to understand how individuals, groups and entities interact in complex networks. SNA is a preferred method for identifying communities and analysing the structure, dynamics and characteristics of networks of functional urban regions in order to understand the interactions and flows between different urban regions, inter alia through

identifying the patterns and structures that emerge from these flows of interaction between urban regions. Multivariate statistical treatments will be used to characterise the functional areas or regions. These are supported by a base of municipal indicators.

In terms of results, provision is made for a synthesis of the theoretical and methodological references, as well as the creation of a relational and municipal characterisation database. In the spirit of open science, an online platform will be set up to disseminate a series of national maps delineating and depicting the FURs. Two articles will also be submitted to indexed international journals.

For the development of each of these outputs, the implementation / dissemination / publication process will be carried out with the aim of involving partners according to their areas of expertise. To this end, the Regional Coordination and Development Commissions (CCDR) will be involved. They will be responsible for monitoring the progress of the project and for organising a series of workshops to strengthen the involvement of regional institutions in view of the challenges of competitiveness and territorial cohesion. At national level, the project will also be followed by the Directorate-General for Territory (DGT). A conference will be organised at the end of the project and a technical report and policy brief will be produced.

Project title:

AquaTariff: Better tariff schemes for the water services from economic, social and environmental perspectives

Thematic line:

Climate transition and sustainable resources / Water: tariffs

Principal investigator:

Jaime Melo Baptista

Institution:

LIS-Water – Lisbon International Centre for Water

Abstract:

This project aims to identify innovative solutions that improve the application of tariffs for water supply and wastewater and stormwater management services in Portugal (hereinafter referred to as water services), based on international best practices. Different types of users, use and services will be considered, and the aim will be to maintain the perspective of the economic and financial sustainability of the services, while continuing to ensure economic accessibility and promoting greater equity between tariffs, and also encouraging a more efficient and sustainable use of water, in the face of the current challenge of water scarcity resulting from climate change.

The timing is especially opportune, as the Strategic Plan for Water Supply and Wastewater and Stormwater Management 2030 (hereinafter referred to as PENSAARP 2030) was recently approved. The tariff scheme advocated in the Plan is expected to have a positive impact on its four overarching objectives (effectiveness, efficiency, sustainability and added value). This project seeks to address these four overarching objectives, as well as three specific objectives, economic and financial sustainability, effectiveness in equity and affordability, and societal enhancement.

The state-of-the-art on tariffs focuses on the challenges of economic and financial sustainability, equity of access and efficient management of water resources, that is: (1) the trend recovery of expenses arising from the provision of services is sought, in conditions to ensure their quality and the sustainability of the managing entities, operating in a scenario of efficiency; (2) the aim is to ensure proper user protection, including through the affordability of these services, in order to promote universal access to them for citizens; (3) it is sought that tariffs contribute to the sustainable use of water resources, through the internalization of the expenses and benefits associated with their use, encouraging good practices and penalizing waste and excessive consumption, in the face of the challenge of climate change and consequent water scarcity.

The strategy of this project is to find the balance solution that ensures the economic and financial concerns of cost recovery, the social concerns of economic accessibility and the environmental

concerns of sustainable use of water resources, seeking innovative solutions for their improvement.

The methodology is based on the survey of solutions developed in three regions of the world, Europe, Latin America and Africa, where it is possible to find some good practices regarding the formation of water service tariffs, joining some other countries with extreme water scarcity problems.

The main factors to be analysed are the scope of the tariffs, the incidence of the tariffs, the tariff structure, the tariffs for ancillary services, the tariffs for special services, the tariff schemes and the tariffs for specific cases, costing, economic efficiency and financial sufficiency, performance indicators, risk level assessment, reward through profitability par excellence of the quality of service and the tariff discounts for poor quality of servisse.

To this end, a sequence of 18 tasks will be developed, grouped into characterization of tariffs, survey of good practices, improvement of tariffs and administrative and financial management of the project.

As for the knowledge and skills of the team, it consists of four elements, three with PhDs, with degrees in civil and health engineering, public administration, political sciences and economics, to ensure a multidisciplinary execution of the project.

Jaime Baptista is a Coordinating Researcher and a professional with 48 years of activity dedicated to water services, in public policies, governance, regulation, design, mathematical modelling, rehabilitation, quality of service and performance evaluation. He was President of the Regulatory Authority for Water and Waste Services (ERSAR) between 2023 and 2015 and was technical coordinator of PENSAARP 2030

Rita Amaral holds a PhD and a Master's degree in Civil Engineering, with a specialization in hydraulics and water resources, with a postgraduate degree in Management. She has 13 years of experience in water services, having collaborated as a consultant and researcher in the development of studies and projects on public policies, regulation and management of these services.

Jorge Gonçalves holds a PhD and a Master's degree in Civil Engineering. He has 8 years of experience as a researcher, operational manager in water utilities and engineering consultant.

Julio Aguilera holds a degree in Public Administration and Political Science, with a Master's degree in Economics and Regulation of Public Services. With 30 years of experience, he was Executive Director of the Commission for the Regulation of Drinking Water and Basic Sanitation of Colombia.

Project title:

Planning interventions to mitigate soil sealing impacts and to improve climate change adaptation in urban areas (UnSealingCities)

Thematic line:

Climate transition and sustainable resources / Soil: Soil sealing

Principal investigator:

Maria Beatriz Marques Condessa

Institution:

IST – Instituto Superior Técnico

Abstract:

The UnSealingCities project aims to propose innovative recommendations and interventions to control soil sealing in cities and increase their resilience to climate change, thereby contributing to improving Portuguese local planning policies and practices. By assessing soil sealing levels and territorial vulnerability to excessive heat events, floods and peaks in atmospheric pollution at a municipal scale, the project aims to prioritise intervention needs within urban areas and present proposals for changing land use or implementing Nature-Based Solutions (NBS) for the most vulnerable sites. These proposals are intended to curb or reverse soil sealing impacts and increase the resilience of urban areas to climate change. Thus, the project will identify intra-urban spaces with the potential to reverse soil sealing (such as brownfields, vacant and derelict buildings or parking lots with non-permeable pavements), as well as those that would benefit from the development of NBS (e.g. the creation of green/blue infrastructure or the interconnection of existing infrastructure).

The research also aims to:

i.   Identify data sources, indicators and methodologies for evaluating and monitoring the processes in appraisal;
ii. Compile national and international best practices to address the vulnerabilities considered;
iii. Produce a set of recommendations concerning soil sealing in urban areas to support Municipal Territorial Plans and reinforce the Legal Framework for Urbanisation and Building.

The municipalities to be studied will be selected based on soil sealing indicators from the National Observatory for Spatial Planning and Urbanism.

The most vulnerable intra-urban areas in the target municipalities will be identified by integrating and spatially analysing the following datasets: a) Municipal Master Plans base maps; b)

Vulnerability maps to events of interest produced by the Climate Change Adaptation Plans and Flood Risk Management Plans; c) Air quality data provided by the QualAR system; d) Land use and land cover maps; e) Estimates of soil sealing density for 100m2 pixels (Imperviousness Density), produced by the Copernicus Land Monitoring Service; and f) Additional contents considered relevant by municipalities.

Intervention proposals in the most vulnerable sites will be grounded in the national and international practices listed in ii) and the European guidelines on sustainable urban development while considering the territorial development strategy outlined by each municipality.

The project team will include researchers and experts from the central administration with recognised experience in the topics covered and members of the town planning departments of chosen municipalities.

Project title:

The Future of Lisbon Port-City Interactions (CidadeportoTejo)

Thematic line:

Competitiveness and cohesion / Land planning – main ports and surroundings areas

Principal investigator:

Ana Morais de Sá

Institution:

IST – Instituto Superior Técnico

Abstract:

Ports are key elements in national contexts, connecting the local and the global. Besides serving as vital hubs for transportation, ports and their associated infrastructure also shape the urban landscape and, especially waterfronts. However, their operations can also generate negative externalities, impacting nearby populations and adding to global challenges. Therefore, it's essential to recognize that ports have a significant role beyond transportation, and can actively address local and global issues. One such pressing concern is the energy crisis and the imperative for transitioning to sustainable practices. Ports have a pivotal role to play in adopting measures to meet these challenges and adapt to the changing paradigm.

The paradigm shift towards energy transition, decarbonization, and climate action has significant implications for local communities and populations, triggering sociodemographic shifts that can demand essential changes in infrastructure and services, like housing, healthcare, education, and transportation. Anticipating these changes and their impacts is crucial for urban planning to align with projected needs and ensure sustainable development.

The CidadeportoTejo project builds upon this foundation. Focused on the Port of Lisbon (PL), the project aims to lay groundwork for urban planning in port-cities in response to sociodemographic shifts amid ports' energy transition. Central to this approach is the effective and efficient integration of land-use plans, ensuring coherence across various sectors and fostering synergy between port and municipal initiatives.

The CidadeportoTejo project lasts 12 months and comprises six tasks (T). T1 entails project management and communication. Task 2, spanning three months, involves a literature review on the port-city relationship, focusing on territorial dynamics and Lisbon's unique characteristics, also analyzing the Port of Lisbon's Strategic Plan (SP). T3, lasting seven months, estimates future sociodemographic changes by characterizing the current situation, projecting necessary inputs, and, finally, forecasting sociodemographic shifts. T4, also seven months long, analyzes comparative policies to develop an ex-post analysis methodology, characterizes Lisbon's present and future land-use and services, evaluates backcasting scenarios in relation to the current

situation and defines the policies and measures that could bridge the identified gaps, and compiles all insights gained. Notably, T2, T3, and T4 begin simultaneously in the first month. The final five months are dedicated to T5, which employs co-creation processes to synthesize findings from all tasks towards achieving the project's aim.

The project also includes six milestones (M). M1, stemming from T2, consists of the listing of projected activities of the port's SP. M2, tied to T3, outlines prospects for sociodemographic changes. M3 and M4 arise from T4, with M3 linked to the ex-post analysis of public policies, and M4 related to land-use mapping. M5 corresponds to T5 and involves the creation of a policy brief addressing the port's energy transition and urban planning's response to sociodemographic changes. M6, associated with T1, marks the conclusion of the project with a closing seminar.

As a multi-sectoral project, CidadeportoTejo requires a diverse team with a range of expertise and different skills. The team comprises institutions capable of addressing various project requirements. IST contributes with a team focused on territorial and urban planning and public policies (CiTUA), alongside expertise in Geographic Information Systems (GIS) and regional and urban supply chains (CERIS). IGOT provides expertise in socio-demographic analyses. CCDR-LVT offers insights into the region's future, particularly in urban planning. As an important partner, APL oversees the administration of the port which serves as the case study, providing valuable information. Additionally, support from AIVP, a prominent association in port-city related matters, will be key in dissemination efforts. AIVP's support is also guaranteed through the project's consultant, José Sánchez, director of the AIVP's Agenda 2030.

Project title:

Impacts of desertification and drought in the Xévora transboundary Basin. Definition of methodologies and data collection tools to support decision-making (IDD-XB)

Thematic line:

Climate transition and sustainable resources / Strategies to combat desertification, soil degradation and drought (in the Iberian Peninsula)

Principal investigator:

Emanuel Dutra

Institution:

IPMA – Instituto Português do Mar e da Atmosfera, I. P.

Abstract:

Desertification and drought are increasingly prevalent and a growing environmental concern with significant impacts on agricultural production worldwide. According to the United Nations (UN), by the year 2050, land degradation could displace 143 million people due to the initial impacts of climate change. Defined by the UN as "land degradation in arid, semi-arid, and dry sub-humid areas resulting from various factors, including climatic variations and human activities" desertification requires a paradigm shift in sustainable land management. Drought, on the other hand, refers to prolonged periods of rainfall scarcity that can lead to water stress conditions in terrestrial ecosystems. However, it is far from being merely a meteorological phenomenon, rather forming one of the basis for a complex social, political, and economic crisis, exposing vulnerabilities in agricultural systems and highlighting the urgent need to develop resilient and sustainable adaptation strategies.

Portugal is among the European countries most vulnerable to desertification, particularly in the semi-arid zones of the southeast and northeast of the country. This threat has been expanding due to increased aridity in recent decades, caused by climate change, a concern shared with Spain. This issue is subject to ongoing dialogue in the context of the Luso-Spanish Summits, highlighted during the 34th summit held in March 2023, where Portugal and Spain reiterated the need to establish concerted strategies to combat desertification in order to address drought situations and harmonize drought and scarcity indicators systems in both countries.

To achieve the established political objectives, it is necessary to develop and stabilize models for understanding and managing the impacts of desertification and drought on agricultural production. This is the key objective of this project, which aims to develop, in a border region and based on a water resource shared between Portugal and Spain, a functional prototype for the integration of climate, soil, and crop data to improve the accuracy of agricultural risk forecasts and models. This prototype should serve as the basis for developing adaptive strategies that

consider climate change, its effects on desertification and drought, and their impacts on agricultural production conditions, aiming to strengthen the response and recovery capabilities of agricultural communities affected by these phenomena.

Various decision support tools have been developed to assist farmers, natural resource managers, and policymakers in making informed decisions. These include early warning systems for droughts, water and soil conservation programs, and agricultural risk management policies. However, despite advances in understanding and managing the impacts of desertification and drought on agricultural production, significant gaps still exist in current research. Some of these gaps include the need for a more comprehensive integration of climate, soil, and crop data to improve the accuracy of agricultural risk forecasts and models; the need to develop adaptive strategies that consider climate change and its effects on desertification and drought; the need to strengthen the response and recovery capacities of agricultural communities affected by these phenomena, and the importance of involving local communities and stakeholders in the development and implementation of adaptation and mitigation measures. The IDD-XB project aims to address some of these gaps, particularly concerning a more comprehensive integration model of climate, soil, and crop data to improve the accuracy of agricultural risk forecasts and models, aiming to strengthen the response and recovery capacities of agricultural communities affected by these phenomena.

Project title:

The levels of decentralisation in the fight against poverty: new municipal competences in social action (POV_LEVELS)

Thematic line:

People First / Poverty and the transfer of social action competences to municipalities: requirements and conditions

Principal investigator:

Renato Miguel Emídio do Carmo

Institution:

Associação Iscte Conhecimento e Inovação – Centro de Valorização e Transferência de Tecnologias

Abstract:

The aim of this study is to create a system of indicators for the minimum income scheme in Portugal (Rendimento Social de Inserção), serving as a basis for the creation of a model for evaluating the service provision of this policy by local authorities. The research question that will guide our work is to what extent does the decentralisation of competences to the local level contribute to alleviating the causes of poverty and improving the quality of the services provided? The decentralisation of competences has been seen as a mechanism for combating poverty. Several international organisations, such as the World Bank, the OECD and the European Union, refer to the potential of decentralisation to enable local authorities to develop sustainable development processes. Several authors such as Von Braun and Groot (2000) and Crawford and Hartmann (2008) argue in favour of decentralisation, pointing out that local governments are better informed about the needs of their populations than the central state. Proximity makes it easier to monitor the citizen-beneficiary and can also allow for easier and more effective evaluation of social workers. However, some questions arise, namely the fact that these positive impacts of decentralisation depend on two factors, namely the resources that are made available to local authorities (Jütting e Corsi, 2005 and Harris and Posner, 2022) and also how local authorities themselves implement programmes (Harris and Posner, 2022). In the Netherlands, for example, during the process of decentralisation of competences (2003 and 2015), the problem that emerged was related to the way social workers acted in the execution and monitoring of social assistance recipients, who adopted a welfare philosophy. And it was through the initiative of the municipalities that they were open to changing the paradigm of the social intervention model (Oliveira, 2024). In Portugal, there were those who opposed decentralisation on the grounds that local authorities had insufficient and inadequate financial resources, human resources or technical resources to carry out the competences assigned to them. If we add to this the already existing gaps in the literature on models for evaluating service provision, the need to evaluate

service provision in public policy and for political decision-makers becomes even greater. Studies on social intervention models include doctoral theses (Reis, 2020), but also the books by Sousa et al (2000) and the manual on Collaborative and Positive Practices in Social Intervention by Rivero et al (2013), which, when studying minimum income, end up addressing the social intervention models of social workers and some evaluation indicators. Of the various existing studies, they are assertive in referring to the collaborative approach as an empowering intervention, focused on the "reappropriating the capacity to act" (Soulet, 2007: 4). The phenomenon of poverty is multidimensional, not just limited to a lack of material means or economic circumstances, but to subjective perceptions and social bonds and identities (Ravaillon, 1997; Gordon et al., 2000, Specker, 2007, Carmo and d'Avelar, 2021). This study aims to understand how local authorities are operationalising these new competences in their approach to social intervention, and whether this is promoting a better quality of service in social policies, particularly in terms of mitigating the generational reproduction of poverty (Sousa, 2005). We propose to carry out this project along three structural lines. The first is to contextualise and frame the issue, where we will consolidate our theoretical-conceptual model by mapping the key dimensions of access and quality. A second, evaluating the processes operationalised by the municipalities. Lastly, the study's recommendations. The study follows an action research approach in four Portuguese municipalities, selected on the basis of socio-territorial typologies representative of the Portuguese reality (Carmo, 2023). The data will be collected using documentary analysis, namely administrative records from the social action departments of the municipal councils, interviews with the local authorities and the public. The aim of this study is to contribute with recommendations for improving public services at local level, while safeguarding the fact that these are case studies and therefore extrapolation should be taken into account. The team is multidisciplinary, made up of sociologists, social workers, human resources managers and public policy specialists, who have accumulated a significant amount of experience in research, evaluation, teaching and political contributions in different areas - analysis and evaluation of public policies, poverty and social exclusion, namely in the study of social minimum schemes and decentralisation of competences. The conditions are therefore in place to guarantee the implementation of this project.