

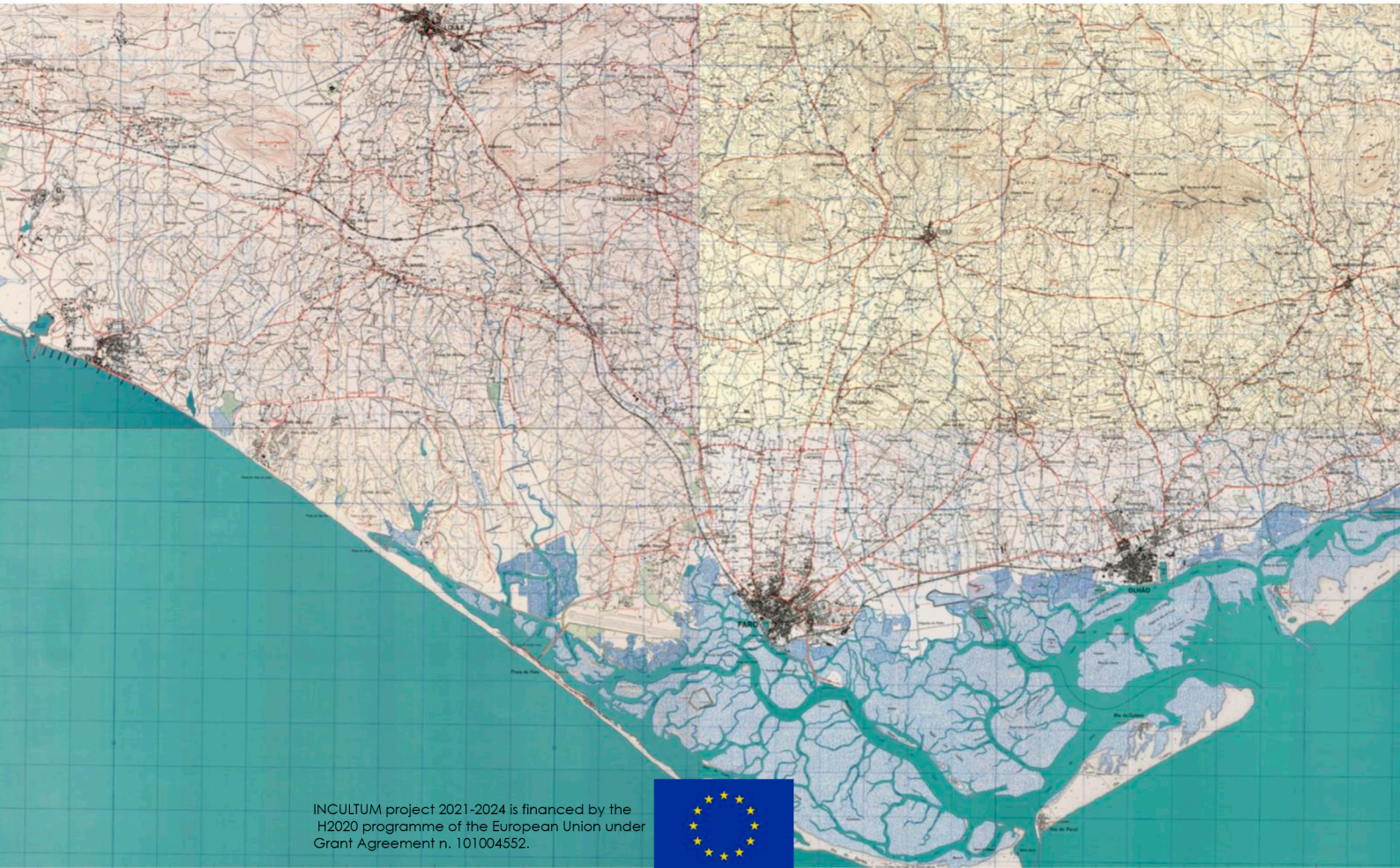
Visiting the Margins.

INnovative CULTural ToUrisM in European peripheries

Campina de Faro (Algarve): The Agrarian Landscape and Water Heritage as a basis for community-based Cultural Tourism



INNOVATION FACTSHEET
2023/03



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Integrated in the Central Algarve Coastal landscape unit (Cancela d'Abreu et al. 2004, 205), the **alluvial plain between the historic cities of Faro, Olhão and Loulé, commonly known as Campina de Faro, reveals an ancient and continuous humanization process.**

Historically, it is associated with the **Roman occupation**, whose most important legacy is the *villa rustica de Milreu*, near the town of *Ossónoba* (Faro) (Fabião 1999), and the **Islamic occupation**, from which it **inherited the mastery of water for irrigating vegetable gardens and orchards** (Ribeiro 1991). This **legacy was consolidated and evolved based on the constant adaptation of communities** to natural conditions and socio-cultural circumstances, the basis for the (trans)formation of the **cultural landscape of the Campina.**

The **use of groundwater for irrigating agricultural crops** is at the origin of the development, by historical societies and local communities, of an evolving and adaptable irrigation system consisting of **a complex and diversified set of hydraulic structures**.



Figure 1. Different expressions of water heritage

Water appears, in fact, as **a primordial element in the historical process of construction and transformation of the Campina's landscape**, from an inherited strategy and ingeniously perfected contemplating its capture, conduction, storage and distribution by the irrigated fields. Based on the **historical irrigation system**, consisting by **norias, aqueducts, tanks and canals**, a great diversity of vegetables (potatoes, green beans, tomatoes, lettuces, onions, carrots, etc.) was produced until the 1970s, in addition to cereals, forage crops and fruit, especially citrus fruit (sweet oranges were introduced to the Campina in the 17th century, albeit sporadically) and some pomegranates, quinces and loquats.

The **historical model of organization and management of the Campina's landscape persists**, in a certain way, despite recent changes in the landscape pattern and in irrigation systems and agricultural production. The changes that have occurred since the 1980s in production processes (greenhouses), cultivation (over-intensive with the use of agrochemicals) and irrigation (sprinkling and drip irrigation from boreholes), and in the varieties of species cultivated (avocado trees, red fruits, etc.) have contributed to an important set of functional and ecological imbalances, and environmental and landscape dysfunctions. These imbalances and dysfunctions are related to the contamination of water and soil, and the increasing artificialisation and degradation of the landscape, also motivated by the strong urban-tourist pressure. The riverside condition of Campina, bordering the lagoon system (*Ria Formosa Natural Park*), has given it a high degree of vulnerability regarding marine intrusion phenomena due to the over-exploitation of groundwater resources through the large concentration of increasingly deeper boreholes and the consequent exposure to salinization phenomena of the soil and aquifer (Almeida et al. 2000).

However, the **historic farms and rural houses with traditional vegetable gardens** scattered in the Campina, are still a **repository of an architectural and hydraulic heritage of inestimable cultural and environmental value**, despite its growing disuse and abandonment. Associated to it is the natural and cultural history of the landscape of the Campina whose identity, at risk of being

lost, continues, however, strongly rooted in **ancient structures, practices and techniques related to the management and use of water and horticultural production**. Traditional irrigation is a delicate and courageous way of accepting a challenge, associated with the scarcity of rainfall, overcome with the use of the most complex resources in obtaining and distributing water in irrigation of crops that without it would produce nothing (Ribeiro 2011, 75).

In the Campina, this system is (was) based on the capture of underground water through bucket-wheels driven (*norias*), first by animals (cows and mules) and later by pumps and motors (diesel, in a first phase, and electric), which poured it into aqueducts (more or less extensive) that, in turn, led, always by gravity, to tanks (single or double, predominantly square) from which it was distributed to the fields to be irrigated by canals. This **ancient irrigation system is an agrosystem with a long tradition and an essential part of the cultural landscape and the material and immaterial heritage of Campina**.



Figure 2. Map of the water heritage of Campina (represented by red dots)

Like other historical irrigation systems responsible for **providing different ecosystem services to society** (Civantos et al. 2021), the **irrigation system of the Campina** has a relevant set of heritage and environmental values, and a cultural importance that comes exactly from those services: the **cultural service associated with recreation and leisure**. It is, in this perspective, that one of the challenges faced today by the hydro agricultural heritage of Campina as the basis of memory of the landscape, is to rescue **its role and importance in the construction of collective identity**,

giving it visibility and protagonism integrated into cultural itineraries associated with community-based cultural tourism.

The **proposed water heritage routes** have the following **main objectives related to SDGs** (8, 11, 12, 15 and 17):

- (i) **recover/rehabilitate and enhance the natural and heritage resources of the Campina** associated with traditional agriculture and historical irrigation, **(re)activating and inspiring a sustainable community** around the cultural routes on hydro agricultural heritage.
- (ii) **create an alternative tourism offer** to the established tourism offer (sun, beach, and golf), **a new sustainable tourism product around the water heritage and the Mediterranean diet**, targeting new segments of tourists and visitors - lovers of heritage and local culture.
- (iii) **develop the pilot case within the scope of an integrated territorial project** that, by **reconciling agriculture and tourism**, will promote the **sustainable development of Campina from an environmental, cultural, and socio-economic point of view.**

In this factsheet we propose to explore the **main innovations developed** within the cultural routes associated to the water landscape and heritage:

- (i) **Use the knowledge of older inhabitants about the landscape and material and immaterial heritage, authentic guardians of memory**, having the Storytelling method and Story Map as a support for **the cultural routes as a vector of territorial and social cohesion.**
- (ii) **Create a territory intelligent** (Giovanella, 2014) **connecting agroecology and agrotourism** through a shared diagnosis and proposals, and ultimately through the constitution of an **active and participatory heritage community.**
- (iii) Ensuring the coherence, robustness, and resilience of the **territorial project** through an **inclusive approach using entrepreneurship and territorial marketing** as a tool to reactivate the functioning of different complementary activity sectors that by shaping the landscape and socio-economy, **differentiate the Campina as a sustainable tourism destination.**

1. REACTIVATING COLLECTIVE MEMORY FOR A FUTURE WITH PAST

The future of the Campina requires solutions based on the agrarian landscape and water heritage as a support for community-based cultural tourism that is expressed in the participation-collaboration of residents in the creation of benefits for the whole community.

The production landscape of the Faro Campina was based, until recently, on a **historical irrigation system** revealing a **technological unit** (hydraulic infrastructures) and a **social unit** (local community, farmers association). For this system (in abandonment and disuse) to survive, its **study and rehabilitation is essential**, as is the **dissemination of its importance and added value for society and the environment.** In both cases, **the role of residents is crucial as they hold ancient knowledge and know-how** and it is on them that the improved management of natural (water, soil) and cultural (food products and goods, heritage) resources depends.

It is in the perspective of **the importance of the community of farmers and local producers as the main actor and decision-maker in the planning, development, and management of resources** to serve the objectives of both horticultural production and the enjoyment of the agrarian landscape, that **the key role of the hydro agricultural heritage of Campina and the active participation of local communities** is recognized as a potential basis for the **development of sustainable tourism.**

In this sense, **the fieldwork has played an essential role.** It has comprised **two main purposes: the survey of hydraulic structures** with exceptional historical interest and cultural and environmental value, and the **collection of oral information** about the ancient practices and techniques of cultivation and irrigation.



Figure 3. Fieldwork: survey of water infrastructures and collection of oral information

The first objective is related to **the study and diagnosis of hydraulic heritage as a basis for the development of rehabilitation projects** that enable their owners to carry out **rehabilitation works** for the subsequent organization of **guided tours** by themselves, aimed at visitors as part of the **heritage routes**. The case of *Bela Salema* illustrates this process of on-site survey, rigorous drawing in AutoCAD, preparation of the rehabilitation project <https://www.notion.so/incultum/incultum-Portuguese-pilot-Campina-Bela-Salema-a67784263f0a468fb2d2b1e3f0ada2e2> and delivery to the family that will proceed, very soon, to the recovery works.

The second objective is related to **exploratory interviews and semi-structured interviews conducted with old farmers, guardians of memory**, as faithful depositaries of ancient knowledge and expertise. The semi-structured interviews, based on a script with topics that resulted from the literature review, were recorded, and then transcribed, serving as the **basis for the Story map** (under development) that **will tell the natural and cultural history of the Campina's landscape. The cultural routes will reveal this history, reactivating and enhancing the memory of the landscape and cultural identity, constituting a privileged means of territorial and social cohesion**, in the sense that it revives the technological unit (hydraulic infrastructures) and the social unit (local community) of the Campina.

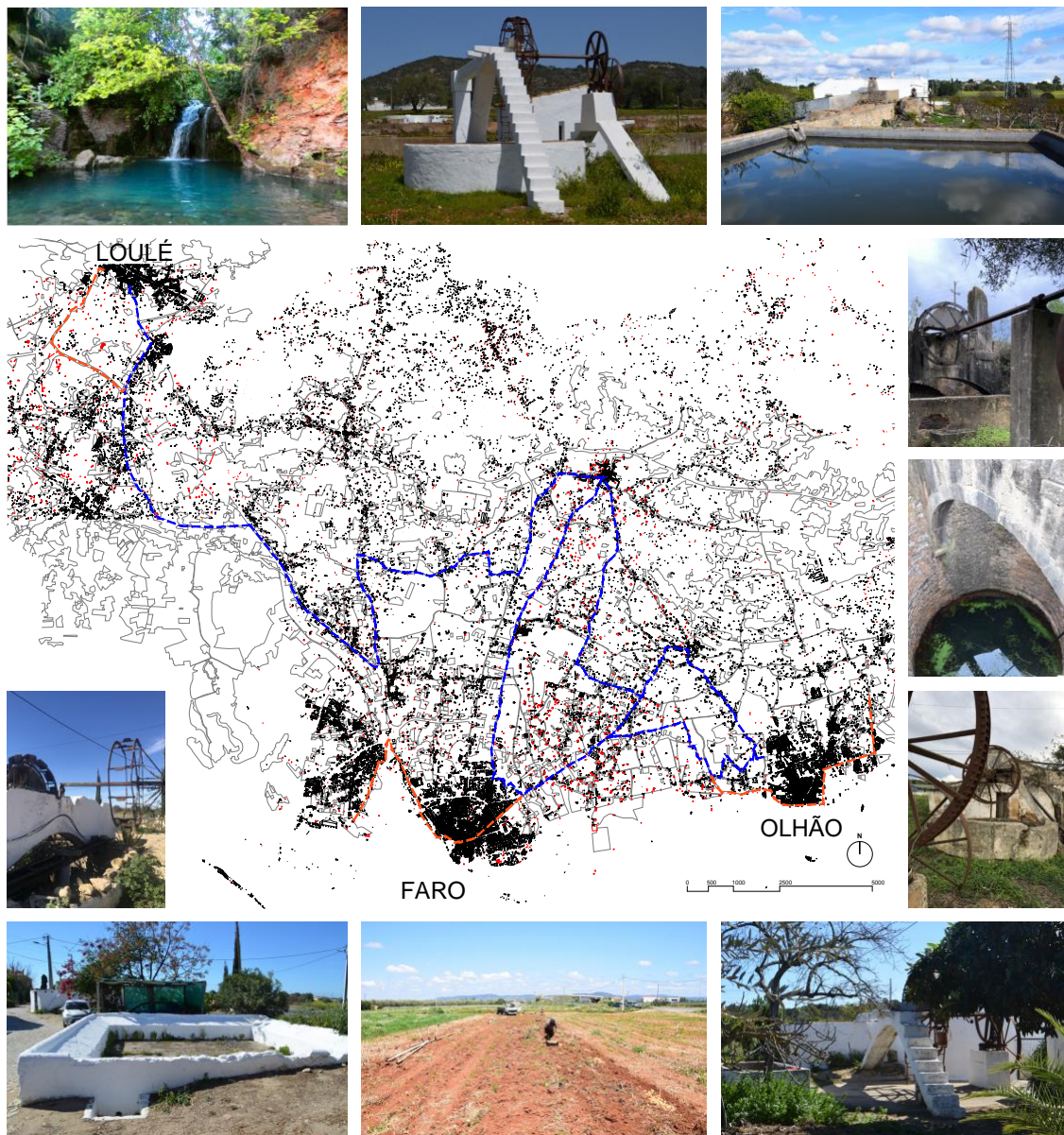


Figure 4. Proposed cultural routes: extensive routes (car or public transport), and local routes (walking or by bicycle)

The **small open-air markets that will take place in the villages** of Campina during spring and summer this year will also contribute to the fulfilment of this aim. This is an **excellent opportunity to bring together tourists and farmers / local producers** who have here another business possibility in the **direct sale of their vegetables and fruits to resident and visiting consumers**.

2. CREATING AN SMART TERRITORY BY CONNECTING AGROECOLOGY AND AGROTOURISM THROUGH AN ACTIVE HERITAGE COMMUNITY

Create territorial intelligence, in the production and circular economy sectors, through the **shared construction of a diagnosis and proposals that combine the perception of visitors in survey methods**, and support in the development of **business ideas to revitalise and enhance cultural and hydraulic heritage**, exploring the connection to agroecology and agrotourism.

About the **Perception of cultural itineraries/water heritage routes**, the data was collected from December 2022 to January 2023. A convenience non-probabilistic sample was used in this single-case study (Yin, 1993) to administer an **online questionnaire to residents and visitors in the Algarve region** (Bryman, 2012). The questionnaire was organized into two sections. The first section was composed of a set of questions related to respondents' habits on using trails/routes, as well as attitudes and perceptions of cultural and water heritage routes in Faro Loulé, Olhão, with a focus on Campina de Faro. A second section was designed to collect sociodemographic information. A pre-test was conducted with 5 respondents to ensure questionnaire clarity.

We obtained a final sample of **134 valid questionnaires**, mainly woman (around 70%) under 45 years old (56%) and residents in Portugal (88%). **Our survey results show that almost 70% of respondents visit or walk using trails/routes frequently. Most respondents (more than 85%) agree or strongly agree that they would like to go hiking/visit water heritage routes** (e.g., waterwheels/*norias*, aqueducts, tanks, canals) in Campina de Faro. Residents under 65 years old are the segment that shows more interest in going hiking/visiting cultural trails/water heritage routes. The percentage of respondents who would like to visit cultural routes/water heritage routes, accompanied by a specialized guide from the community is slightly lower (around 70% agree or strongly agree) but accentually lower if they must pay for it (about 52 % agree or strongly agree). More than 20% of the respondents already knew cultural routes/water heritage routes in Campina, 16% had already visited, and more than 30% didn't visit but had already heard about it.

The participants who visited Campina were asked about the unique attributes and benefits that this place can offer to potential visitors, considering tourism development in this area. In general, the respondents perceive that the surroundings of Campina allow creating "routes" connecting nearby "rural" localities. **These localities include "vegetable gardens", "orange orchards" and "hydraulics infrastructures", where "water-based heritage" is "rich" (e.g., waterwheels/*norias*, aqueducts, etc.) and can be used as a theme.** "Expert guides" could interpret and "value" this heritage. **The "history" around "water-based cultural heritage" (including "traditions") is specific to "local communities", which is a unique feature of this area.** These aspects are "unknown" to general population. The proximity of the littoral and mountains, together with the "richness nature" in the Campina, with a focus on "endemic flora", is also highlighted by the participants. The proximity to "salt" mines and **the "Mediterranean landscape" associated to Campina are mentioned as well. The atmosphere is classified as "peaceful" and "safe".**



Figure 5. Different expressions of the Campina`s landscape

Considering the results of the survey that highlight the potential of the water heritage of Campina as a basis for cultural tourism routes, two Workshops will be organized later this month and in April with the aim of empowering and inspiring the local community and stakeholders for the sustainable management of natural and cultural resources, as a premise for community-based cultural tourism.

The first Workshop to be held with the support of the Loulé municipality aims to provide training to develop agroecology and food sovereignty by revitalizing cultural and hydraulic heritage. The second Workshop to be held at the University of the Algarve aims to provide training to enable the local community and stakeholders to create a tourism offer focused on the landscape and water heritage, and to develop business ideas to leverage the cultural, material, and immaterial heritage, exploring the connection to the agrarian landscape, the hydraulic heritage and cultural tourism, rural tourism and agrotourism.

The integrated mapping of water heritage, local accommodation, and traditional food restaurants, materializes the key idea of connecting the production (agroecology) and consumption of food goods (food sovereignty and Mediterranean diet) with the stay in old farms and rural houses (rural tourism, agrotourism). The elaboration of this collaborative map, which counted on the participation of the heritage community, allows to simultaneously document, and disseminate the traditional irrigation system, the restaurants and local accommodation that together appear associated with the cultural tourist routes of Campina.

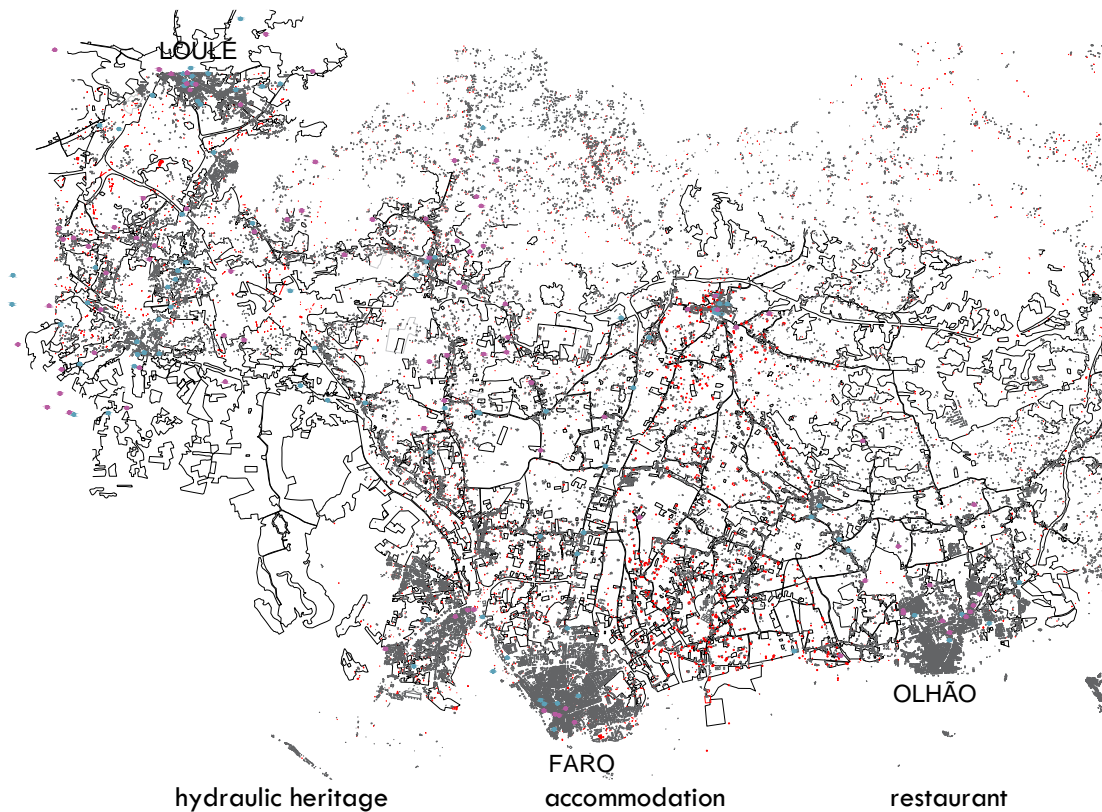


Figure 6. Integrated map of water heritage, local accommodation, and Mediterranean food restaurants

3. PROMOTING HOLISTIC THINKING AND AN INCLUSIVE AND INTEGRATIVE APPROACH TO ENTREPRENEURSHIP AND TERRITORIAL MARKETING

The development of the **integrated tourism and territorial project** for Campina is based on a **set of pilot actions** that adopts a **holistic and systemic thinking** that connects **society, environment, culture, and economy**. And relies on the **concepts of entrepreneurship and territorial marketing in building and offering a differentiating tourism product and destination that promotes quality of life and environmental and landscape quality**.

As part of the **territorial strategy** outlined and with a view to **the capacity building and empowerment of the local community and stakeholders**, the **water heritage routes are understood as an inclusive and relational means of agriculture and tourism**, revealing the **local entrepreneurship projects** associated with production (agro-ecology, organic farming), processing (jams, jellies, liqueurs, ice cream) and consumption of foodstuffs (traditional food restaurants, local grocery stores), handicrafts and local accommodation in farms and traditional houses.

Within the scope of the **co-creation of the cultural routes**, considering the **values and challenges associated with the landscape and water heritage**, we participated in the following **training, presentation, and dissemination actions of the pilot to reflect, discuss and share innovative ideas and good practices** with residents, civil society, governors and decision-makers, researchers, students, small tourism businesses, local producers and other stakeholders:

Training and networking

_Seminar on **“Cultural Landscape, Hydraulic Heritage and Sustainable Development”**, served as a space for **reflection and debate on the landscape and water heritage** in the Campina de Faro, and the role and importance that they may have in the context of a proposal for **cultural**

routes associated with community-based tourism.

<https://www.digitalmeetsculture.net/article/incultum-in-portugal-launching-the-pilot/>

_INCULTUM pilot in Portugal involves students at the University of Seville in fieldwork

<https://www.digitalmeetsculture.net/article/incultum-pilot-portugal-fieldwork/>

_Collaboration between University of Seville and Portuguese pilot. **Professors and students of Architecture work together with the objective of recognizing and analyzing the values and challenges of architectural and hydraulic heritage** at Quinta da Penha, Campina.

<https://www.digitalmeetsculture.net/article/collaboration-between-incultum-pilot-in-portugal-and-university-of-seville/>

_Portuguese pilot presented in **Workshop Arquitectura Iberia Sur at the University of Seville**. Talks about INCULTUM and Portuguese pilot, considering **the role and importance of the old Quinta da Penha (18th and 19th century farmhouse) and its hydraulic and agrarian heritage in the historical process of construction and transformation of Campina's landscape**.

<https://www.digitalmeetsculture.net/article/incultum-pilot-in-portugal-presented-at-taller-de-arquitectura-iberia-sur/>

_In course of **History of Algarve on “Uses and Memories of Water”**, talks about the role and historical importance of water and its heritage at the Campina related with agriculture and tourism (cultural routes).

<https://www.digitalmeetsculture.net/article/uses-and-memories-of-water-course/>

_Café com Letras at FNAC Forum Algarve and RUA Radio, speak about INCULTUM, and in particular about the **Portuguese Pilot**, providing **training on the promotion strategies that the Pilot experiments** in the area. This is an important occasion for the dissemination of the work developed so far on water heritage as a basis for community-based cultural tourism in the “Campina de Faro”.

<https://www.digitalmeetsculture.net/article/incultum-pilot-in-portugal-presented-at-cafe-com-letras-2023/>

This **training events** corresponded to important moments of **reflection and debate on ideas and innovative territorial strategies whose sharing with the local heritage community and outside experts**, have helped to design proposals and implement actions towards the **creation of a territory-intelligent promoting on the well-being of the resident population and visitors, the rehabilitation and enhancement of hydraulic heritage and the sustainability of the agrarian landscape**.

The **ideas and actions developed to reaffirm and communicate the attributes of Campina present themselves as an instrument at the service of territorial strategy**. This **promotes and enhances the local identity through co-created initiatives that project the Campina making it more qualified and attractive, promoting community-based tourism (cultural tourism, rural tourism, agrotourism) as a complement to the agri-food activity, in favors of sustainable development**.

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