

Research Article

# Multifunctionality and the Tradition-Innovation Relationship in Rural Areas – The Case Study of the Municipality of Cinfães

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## Abstract

Rural areas are recognized by type of settlement and the surrounding areas, where agricultural and forestry practice was performed. This settlement model lasted until the advent of industrialization, implemented at different rhythms for developed countries and that is also reflected in a long and severe process of rural depopulation for city cores. Currently, the urban population continues to increase, while rural decreases, reaching with frequency ratios that lead to concentration problems, given the scarce opportunities for development and innovation discoveries in rural areas, instituting a repulsive character to the fixing population in these spaces. Nevertheless, in the last 30 years or so, there have been models that support the maintenance and preservation of rural areas, especially multifunctionality models, in other words, the concentration of several different functions in these areas in an attempt to energize and attract young and skilled population, with city roots phenomenon titled naturbanizaçã. As it relates to the Cinfães municipality, in this territory since the middle of last century that the demographic decline is significant. However, Cinfães presents full potential, which are divided between the scenic beauty of the Montemuro mountains and unspoilt nature that surrounds the Bestança river. It is a town with numerous points of interest among which stands out the historical and cultural heritage, traditions still very marked by a full population of stories and memories, in addition to the tranquility and safety of small towns, but where there are still a number of specialized services. If we associate all these advantages to promote new opportunities, Cinfães municipality will gain new momentum.

## Keywords

Rural Areas, Rural Development, Multifunctionality, Cinfães

## 1. Introduction

Rural areas is a concept that assumes different perspectives between the countries in Europe, but in general described as spaces interconnected with the pace of urbanization that occurred at different times in different countries, consequently causing great territorial asymmetries. A clear example of these contrasts exist between Northern Europe and Medi-

terranean Europe, or even those evident between Western and Eastern Europe. In fact, the European territory is marked by notable differences between countries, or even from region to region, a fact visible in landscape, social, economic and cultural terms.

Given the multiplicity of scenarios, it is not surprising that

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definitions of “rural space” proliferate, following the mutations detected over time and in different spaces. One of the most referenced is from the Organization for Economic Cooperation and Development (OECD, 2013) which distinguishes between rural and urban areas through population density, stating that rural areas are those with less than 150 inhabitants/km<sup>2</sup>. In addition to this definition, there is a classification at different levels: “Predominantly Rural Regions”, those in which more than 50% of the population lives in rural communities, that is, with a demographic density below 150 inhabitants/Km<sup>2</sup>.

There is no agreement among authors on the most correct concept to designate these spaces, differing between the concept of “Rural Areas” or “Low Density Territories”. The latter determines that [a rural territory is normally classified when the population density is lower than a previously fixed threshold, such as 10 to 36 inhabitants per km<sup>2</sup>] [4].

Since the population began to settle, approximately in the 5th century BC, it had a rural way of life and remained so until the proliferation of urban centers. This urbanization was only remarkable during the industrial revolution that began in the 18th century and changed the population's way of life, leading to significant urbanization processes. In Portugal, the effects of the industrial revolution only began to be observed at the beginning of the 20th century, resulting in late modernization.

Currently, despite their potential, rural areas are experiencing numerous difficulties, such as the depopulation inseparable from the rural exodus, emigration and the consequent structural aging of the remaining areas and the abandonment of agricultural holdings, as well as the livestock sector, which affects the quality population's lifestyle and promotes landscape degradation.

As a case study we chose the municipality of Cinfães, based on personal knowledge, where my family roots are based. It is a problematic territory, but full of potential that ranges from the Montemuro mountain range to the Douro River, surrounded by collective memories and traditions, in a splendid landscape, built and natural heritage.

## 2. Rural Areas

### 2.1. Conceptual Framework

A rural area is designated as a low-density space in terms of population and buildings. These are normally areas of low investment and where the employment rate is below the national average, with several deficits in terms of services and qualifications of their residents. The agricultural/livestock or

forestry environment tends to dominate, although it is a changing scenario, since with the advent of industrialization there were changes, favoring specialization, increased productivity and greater profitability. However, these spaces continue to be subordinated to those of an urban nature, given the persistence, or even worsening, of a problematic local social and economic situation. However, trends towards valuing rural areas are beginning to emerge, supported by their multifunctionality, thus opening the doors to new activities and consequent local development.

According to the OECD (2005), areas with population densities of less than 150 inhabitants per km<sup>2</sup> are considered rural. According to this criterion, it highlights that rural areas continue to account for at least 75% of the territory and approximately ¼ of the resident population.

If we go back in time and look for the definition of rural areas, they are described and characterized taking into account the following aspects:

- 1) the primary economic function is the production of food of plant origin, whether or not associated with livestock farming and other activities such as forestry or bee-keeping; they present a very different and constantly changing combination according to the physical situation that surrounds it;
- 2) the social characteristics are also very marked and differentiating, with farming families standing out with a specific way of life and behavior, although technical and technological evolution and the dissemination of audiovisual media, combined with the improvement of accessibility and means of transport, enable a progressive rapprochement of profiles, aspirations and trends between the urban world and the rural world.

However, currently there are different levels between urban and rural areas, distinctions that, in the case of Portugal, are still very pronounced. The subalternization of rural spaces continues, usually bringing together an older, less qualified and lower-income population.

In reality, rural areas traditionally have low productivity, which is the reason for the persistence of multiple problems, such as depopulation and the progressive impoverishment of the resident population. As a result, endogenous and differentiating potentials are diluted and degraded, given the apparent passivity of local and regional managers, and the resident population. This scenario must be reversed, because if a rural area preserves its sources of production, whether in terms of agriculture or tourism, it is possible to counteract the “repulsion” that characterizes them.

**Table 1.** Variables and sources used in Portugal to define Low Density Territories.

Variables		Sources
Density	Population density by parish	Census1991, 2001 and 2011, 2021 (ine.pt)

	Variables	Sources
Territorial profile	Hypsometry	ASTER GDEM 30m
	Thermal Range	BIO7 – Global Climate Data
	Land Use	OS2007 - IGP
Demographic profile	Variation in resident population	
	Proportion of the resident population aged 65 or over	Census1991, 2001 and 2011, 2021 (ine.pt)
	Proportion of the resident population aged 14 or under	
Settlement profile	Proportion of the population residing in places with 2000 or more inhabitants	Census 1991, 2001 and 2011, 2021 (ine.pt)
	Proportion of the population residing in places with 100 or fewer inhabitants	
Socioeconomic profile	Average Monthly Earning	MTSS- 2004 and 2009 (INE)
	Importance of the family farming population in the resident population	Agricultural census 1989, 1999 and 2009 (INE)
	Proportion of the resident population with at least the 3rd cycle completed	Census1991, 2001 and 2011, 2021 (ine.pt)
Accessibility profile	Access times from parish headquarters to their respective municipal, district and regional centers	Preparation based on Google Maps routing functions

Source: adapted from Bento and Ramos, 2012

In the specific case of Portugal, the Ministry of Agriculture, Rural Development and Fisheries states that rural or predominantly rural spaces occupy 92.7% of the territory, 46.3% of it is occupied by agriculture, 26.4% by forest and 20 % by natural areas. In administrative terms, 69.8% of the parishes are predominantly rural, and another 22.1% are significantly rural, covering 48% of the population [14].

Portugal has a great diversity of rural areas. As an example, we can mention the Northwest of Portugal with traditional landscapes, differentiating itself from the Northeast especially dedicated to olive oil and wine cultures, or the Douro Demarcated Region, marked by terraces with vineyards and the Alentejo, with vast plains [4].

Going back in time to better understand the existing territorial differences and the way they evolved, returning to a European scale. Let us position ourselves in 1800. In Europe, territorial differences were already multiplying at that time [20].

This diversity was incisive due to its effects on the population, since before the industrial revolution most active individuals worked in the agricultural sector, using rudimentary techniques that provided low productivity and, consequently, low income. They were, in multiple situations, the only chance of survival, particularly in countries where feudal experiences persisted with more intensity, such as those in Southern Europe. Conversely, in those where innovation and industrialization emerged, the scenario changed in economic terms, but also in social and cultural terms, as the phenomenon of industrialization was accompanied by processes of urbanization. Simultaneously, traditional agricultural activities are devalued, with only larger farms surviving and those that have modernized, becoming more competitive and profitable.

At the same time, until the end of the 19th century, legal

changes took place in Europe that mitigated land structure problems, especially generational division, while in countries like Portugal, this only occurred in the second half of the 20th century.

In Northern European countries such as England, France and Germany, after World War II, there was a huge loss of agricultural population, as they moved to urban areas. In Mediterranean countries, this process was slower and later, affecting mainly between the 50s and 70s of the 20th century, when there was a decrease of around 20 million agricultural workers, which translated into a demographic decline in rural areas, while the processes of urbanization and suburbanization increased [25]. Between 1945 and 1975, a period known as the “30 glorious years”, agricultural productivity increased, largely due to mechanization and commercial exchanges increased by globalization.

It was after the Second World War that major changes emerged, but all with different territorial implementation, such as economic and social restructuring, increased productivity associated with mechanization and the expansion of farmer training, contributing to the high rural exodus recorded.

Focusing now from 1970 onwards, in the USA and across all developed countries, a new phenomenon emerged. With the banality of the automobile and the improvement of accessibility, the population chose to live in rural areas in order to take advantage of the advantages and quality of life that exist there, which generated commuting movements associated with a new way of life, with single-family houses surrounded by for agricultural land, far from urban centers, as the price of land decreases as we move away from these centers [25].

Meanwhile, the agricultural sector remained incisive, but using low technology, in a scenario where innovation

emerged punctually and where, due to inertia, traditional agricultural systems persisted, as had happened especially in Southern Europe. In Portugal, the restructuring of agricultural areas resulted in an increase in the number of companies, while agricultural production conditions were also improved, largely as a result of the progressive mechanization of processes, which minimized human labor. Therefore, agricultural workers were forced to abandon rural areas in search of better living conditions. Slowly, agricultural production became more commercial and less traditional, following the “Fordist model (economies of scale, mechanization, specialization, standardization/normalization)” However, despite the increase in productivity, these gains had negative consequences, such as “soil depletion or aquifer pollution”. In this context, movements contrary to previous trends were born [25].

The 21st century, finally, is marked by scientific advances in areas such as physics and chemistry, with repercussions on agriculture, with the emergence of a new “agro-rural and eco-rural” economy, marked by the replacement of biodiversity, the pluriactivity of energy activities, the multifunctionality of activities, the sustainability of processes and natural resources, the quality and safety of food and the cycle of agro-rural entrepreneurship, which will give rise to the postmodern multifunctional order, the second modernity of agriculture or the eco-rural cycle” [9].

Following these changes, several problems emerged, namely the increase in unemployment, underemployment and social exclusion and the population reduction, which is inseparable from the continuous aging of the population. Poor accessibility to large urban centers and distance to specialized services also persisted, while in the agricultural sector, particularly in Portugal, weak modernization continued [20].

In environmental terms, the deterioration of resources facilitates desertification processes, with economic and social implications, a scenario that is even worse as a result of climate variations, human activities or the abandonment of agricultural holdings. Another result is the notable increase in regional asymmetries, restricting the productive fabric, while the underutilization of infrastructure, stagnation or decline in the regional economy increases (Direção Geral de Desenvolvimento Rural, 1997).

Given the scenarios evidenced in rural areas, particularly in Portugal, which are very problematic but full of potential and where various measures can be increased, nevertheless these areas are normally ignored in strategic development plans. In this dissertation we intend to mitigate the problems recorded in rural areas, pointing out some of the ways to achieve this objective, focusing on rural development.

## 2.2. Rural Development

Rural development is a concept that has gained importance especially in the last decades. It can be defined as a set of development processes that must focus mainly on improving the living conditions of the population residing in rural areas,

covering the principles of “economic efficiency, social and territorial equity, heritage and environmental quality, sustainability, democratic participation and civic responsibility”.

As there are several dimensions of rural development, they must be addressed in this path leading to agro-rural constructivism, distinguishing different typologies: the first is the so-called deep rural areas, areas with marked depopulation and aging of the population; the second is a neo-traditional municipal version that focuses on promoting the municipality through fairs, festivals and craft markets, the municipalized rural area; the third dimension is based on a revivalist version of the family cycle, with agricultural activities adjacent to the area of residence, the diffuse rural; the fourth typology is linked to a neo-ruralist version related to the information and knowledge society, focusing on specialized sectors that have high added value in the market, the commercial rural sector; the fifth dimension is an eco-capitalist version that encompasses large enterprises, normally associated with foreign capital, with a reduced production base or converted to an exotic rural or cosmopolitan one; finally, the sixth typology, is a conservationist version linked to politics, territorial planning, the environment and increasingly intervened and controlled by associations. All these dimensions of rural development are called agro-rural constructivism [9].

What are the factors that block rural development? One of the “obstacles” is political, as rural areas are not considered a priority. And, despite being a highly discussed topic, it is almost always overlooked by urban areas. Another obstacle is related to the land market, which is unattractive, either to promote an increase in the number of farmers or to encourage an increase in investors. In fact, the lack of effective policies aimed at leasing creates obstacles to population rejuvenation in agricultural activity, since, in Portugal, rustic buildings are generally owned by the farmer himself. The land issue is incisive given the predominance of small-scale rustic buildings, the existence of very subdivided and dispersed family farms, with meager incomes that lead to abandonment [9].

It is equally negative that agro-rural activities are not controlled by any specialized responsible entity, particularly in unproductive and/or speculative land uses. Added to all this is the problem of not having an integrated agro-rural entrepreneurship regime.

Another obstacle to rural development arises from the almost non-existent association, representative and technically and culturally equipped, which minimizes profitability problems. This is a basic aspect, as international competition makes rural areas increasingly vulnerable. Currently, associations are more present in demand than in supply, which increasingly disadvantages small producers or those who work individually [9].

Another major obstacle that has already been mentioned is related to the formation and dissemination of knowledge, as well as techniques and cultures. There are still other problems of a social scope, such as: the influence of large owners or corporations; the bureaucratic exaggeration that limits the

number of initiatives, and finally, an excess of “municipalization”, through infrastructure and other interventions by municipalities [9].

For rural development to exist, it is necessary to invest in decentralization and cooperation between public and private entities. In some areas, given their degree of peripheralism, rural development would prioritize environmental maintenance with the valorization of natural, but also cultural and social heritage.

To achieve rural development it is necessary to invest in the agricultural sector, but this implies other activities and services. This relationship is in some way essential, privileging multifunctionality and pluriactivity, taking advantage of endogenous resources and encouraging investment and the installation of companies, all in a context for the European Union in order to alleviate the problems of rural areas, creating adequate infrastructure and resources in order to provide their economic and social development.

In the same way that there are obstacles to rural development, it is possible to define a set of factors that favor it. This is the case of improving accessibility and the spread of Information and Communication Technologies (ICT), facilitating the mobility of people, goods and information, but also increasing the population's qualifications and improving living conditions, factors that influenced the increase in entrepreneurs. In turn, the multiplication of equipment in medium-sized cities promotes decentralization and the population's permanence or return to rural areas, where security and tranquility persist. The increase in free time and leisure hours among the population allows for different and imaginative activities to be carried out, helping to develop rural areas. In fact, isolated and disadvantaged areas are increasingly attracting the interest of the scientific community and entrepreneurs.

On the other hand, the significant increase in average life expectancy has given rise to new, more flexible employment possibilities, supported by ICT, in addition to a different way of thinking, very much based on quality of life, which facilitates the return to rural areas, and with this the renewal and self-nourishment of the entire agro-rural system. Thus, rural areas are seen as an opportunity because they are spaces where there are more resources, which must be valued and well used, in addition to being present in the ideology of sustainability and nature conservation, especially because rural areas are only disadvantaged areas. because we still value the market more than environmental issues [8, 9].

Another aspect concerns the economy of production and consumption, closely linked to food, forestry and energy production, but also to recreation and leisure, or TER (Tourism in Rural Spaces), as well as new services and activities. Thus, multifunctional projects are born that will make rural areas increasingly interesting, seen as an opportunity, since endogenous resources persist there that, when well valued and used, favor sustainability and nature conservation [9].

In conclusion, we can say that the strategic objectives of the rural development process must be based on equity and territorial

interdependence, through the flexibility of policies. In order to achieve competitiveness, the entire development process must be based on associations, to promote cultural identity and training. Rural development must also be supported by community funds. Thus, the essence of the area will be preserved and there will be permanent, non-transitory development.

### 2.3. Multifunctionality

One of the pillars of rural development is multifunctionality, a recent concept closely linked to the agricultural sector and the rural landscape. The concept of landscape, on the other hand, is complex and is constantly being updated, largely because it is used in several areas, and there is therefore no transversal definition, although it is often interpreted as the “entity resulting from the interaction of nature with Man” [23].

Indeed, despite agriculture being the dominant function in rural spaces, other functions arise such as conservation, quality of natural resources, recreation and preservation of cultural identity. In turn, multifunctionality can be observed on different scales, and may affect the agricultural sector, or from a broader perspective, the rural landscape with its planning and management as its main objective.

The use of multifunctionality as an analytical concept means the assessment of the functions supported by a given landscape, at a given time, and how synergies or conflicts between them are defined. “Functions can be defined as goods (movable) or services (non-movable), made available in the landscape, and which meet the needs, demands and expectations of Man, in the broadest sense, and are thus valued by society” [32].

One of the approaches to multifunctionality mentions that, in order to complete the two axes mentioned above, the characterization of a landscape must consider its characteristics, dynamics and even its complexity. With the focus on the multifunctionality of rural areas “agriculture ceases to be the sector that supports the rural economy, and becomes the rural economy, the one that provides the support bases for agriculture” [32].

Multifunctionality should not only be applied to agriculture, but to the entire territory, with a view to development and innovation, with visible transformations in European rural areas, both in terms of structure and the way it is used.

Multifunctionality provides numerous advantages for rural areas:

- 1) “It allows us to overcome the conceptual and strategic impasse that is easily reached in this paradigm shift: what role does agriculture have in the entire rural territory? What externalities does it guarantee or can it guarantee? What must be ensured so that agriculture can be maintained or developed?”
- 2) It can be explored by actors other than agricultural producers, new agents of diversification, innovation and new forms of development;
- 3) It makes it possible to justify agriculture beyond its



economic capacity and function, or at least beyond its production function;

- 4) It can guarantee the flexibility of expectations and the definition of priorities: not all rural territories have to provide all functions, and various combinations of functions are possible, which admittedly results in a specialization and differentiation of space, which in reality occurs spontaneously” [31].

In this sequence, another aspect of multifunctionality must be addressed, multifunctional agriculture, that is, “the sustainable management of farms based on a combination of functions complementary to food production and covering the environment, nature, culture, landscape, health and quality of life.”. Effectively, agricultural multifunctionality can translate into an increase in functions, beyond agricultural and agri-food production [12].

In short, there are several multifunctionality models that can operate in the territory, individually or together. One of them combines agriculture with recreation and leisure, closely linked to Turismo in rural spaces and similar activities; another model favors nature conservation and the quality of natural resources; another model concerns the preservation of cultural identity and, finally, the last model defends the implementation of agro-industries and the production of bioenergy. Therefore, the relationship between multifunctionality and nature conservation is evident [32].

## 2.4. Nature Conservation

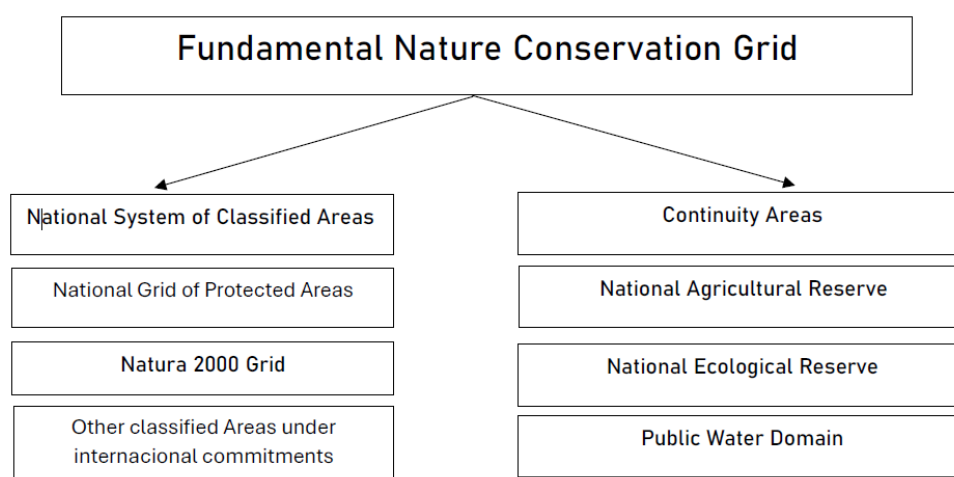
As any multifunctional project must be sustainable, nature conservation must be not only a criterion, but also a precious aid, increasingly valued. Effectively, this aspect has increased in importance, from a perspective of sustainable use of natural resources, minimizing the loss of biodiversity and the de-

struction of natural habitats.

Although the idea of nature conservation goes back in time, the true antecedents of this concept come from Europe in the 9th and 10th centuries, when techniques were adopted that would become widespread, such as the use of extensive crops, important in soil management.. The same period was also marked by the use of rudimentary techniques, based on a non-continuous land occupation and a minimum consumption of fertilizers, essentially self-consumption.

The most significant change, however, came with the industrial revolution, in the 18th and 19th centuries, with the consequent demographic and thought evolution, with the emergence of movements dedicated to nature conservation, as was the case with the so-called environmentalism. However, it was only later that this “ideology” was integrated into public policies, while the population's way of life was transformed. Thus, with scientific evolution and the improvement in the population's quality of life, political and cultural changes were also observed, leading to the founding of a discipline focused on the environment in the 1960s, environmental and ecological ethics, inducing the rational use of resources and a good Human-Environment relationship. In Portugal, the first measure related to this topic dates back to December 31, 1864, with the Royal Decree on the Public Water Domain.

Nature conservation is complex, as it requires institutional, public and private cooperation. In fact, the basis of nature conservation is almost always biological, which makes it more representative in rural areas and can contribute to increasing multifunctionality. Therefore, for its development, the aim is to also cover all functions and occupations of the territory, regardless of whether they are agricultural, industrial or any other. Let us look at the industrial aspect and its impacts on the rural world.



**Figure 1.** Constitution of the Fundamental Nature Conservation Network in Portugal.

## 2.5. Agribusiness

The concept of agroindustry emerged from the conjunction of agriculture, the food sector, and the industrial transformation of food. The word “agro” combines the activities and socioeconomic problems linked to agriculture, whether these are the products, the outlets, the resident population and the population’s quality of life, or even the production techniques. On the other hand, the word industry represents the secondary sector of the economy, linked to the transformation of products [42].

There are several factors that influence agro-industries, including the adaptation of the product to market characteristics, whether in terms of demand, supply or structure, but also the level of development of outlet markets. It should be remembered that agro-industries are aimed not only at the production of simple articles intended for transformation, but also at the creation of used products without significant technical transformation, or even at production according to business volume and market/consumption [42].

## 2.6. Bioenergy

The product transformation can lead us to another function of rural areas, the production of energy from renewable resources, such as wind, solar and biomass energy. In fact, given the existence of biomass, we have one of the fuels for the production of bioenergy, taking advantage of the most relevant renewable natural resource in Portugal.

There are several ways of producing biomass for energy purposes, but the most important is of forestry origin, resulting from forestry management and exploration operations, or through energy crops or the activities resulting from the forest products processing industry (sawdust, waste and other by-products), or the recycling of end-of-life wood products of different origins.

Biofuels can be presented in a solid state, such as pellets, or in a liquid state. In fact, bioenergy can also be produced through concentrated oils and fats, which have higher heating properties than petroleum, although the process is less profitable. Energy can also be generated from microalgae, as they grow quickly and have a high photosynthetic content, not putting pressure on the soil. It is also possible to generate energy through agro-industrial waste, producing biogas, an extremely sustainable process, as it revalues waste.

As the European Union increasingly values the concept of sustainability, the focus on energy production through biomass is increasingly used, contributing to economic development and job growth in areas where these means of production are installed. As the majority are located in rural areas where forests are abundant, bioenergy production can contribute to the development of these areas, also favoring the agricultural and livestock sectors, since fossil fuels are often used in irrigation, which can be replaced by bioenergy. “Agriculture is, in turn, increasingly bioindustry, that is, agriculture without seasonality and without natural rhythm of life”

[9].

## 2.7. Tourism in Rural Spaces (TER)

When focusing on a multifunctional perspective, we unquestionably refer to one of the typologies that generates the most employment and contributes most to the multifunctionality of rural areas: Rural Tourism.

An expanding sector, tourism in its various aspects (bathing, cultural, gastronomic, ecological...) has gained relevance, boosting the development of different areas. Of the various definitions of tourism, we selected Swarbrooke's; “the different activities carried out by individuals during their travels and stays, in an area that differs from the usual one, for a period that does not exceed one year” [22].

Very attractive activity and responsible for a significant part of the world's GDP, creating hundreds of thousands of jobs. However, tourism must be sustainable, which is why it must be economically efficient, facilitate social equity and environmental conservation [22].

The TER can also serve as a vector for local development, privileging the vocation of each area by valuing unique and endogenous differentiating factors. Over the last few decades, this type of tourism began to be perceived as a key sector for rural development, based on the landscapes, environment and sociocultural characteristics of the area. In this sense, the State must contribute to the expansion of TER, as the majority of rural areas are disadvantaged, assuming that community funds alone do not represent a solution for their development. The State must take a proactive position [22].

With the increase in the flow of TER tourists, adaptations and new typologies emerged, interconnected with legal changes. One of these typologies is “Housing Tourism”, which was regulated even before the TER (decree-law n° 251/84). This variant is implemented in homes with a high historical-cultural content, often manor houses or palatial houses, corresponding to a way of preserving these homes.

Agrotourism, another type of TER, regulated through decree-law no. 256/86, consists of more direct contact with nature and rural life, as tourists participate in markedly rural activities such as harvesting, leaf picking, spotted, among others, considered entertainment for tourists, but which are a way of keeping traditions alive.

The remaining TER typologies emerged after the previous ones, such as “Village Tourism”, being inserted in typical villages, as is the case of “Aldeias de Portugal”, which, in order to have this status, have to include at least five typical houses. In these, tourists come into contact with the rural way of life and traditions of each village, as well as the natural heritage (fauna and flora), the buildings, gastronomy, or even the fairs and pilgrimages typical of each village. Since 2008, several diplomas with legislation on the TER have been published, namely Decree-Law no. 128/2014, of August 29, which establishes the concept of Local Accommodation, preventing establishments that do not meet all the legal re-

quirements from being able provide temporary accommodation services.

“Casas de Campo”, another variant of TER, are spaces of tranquility and leisure, which can be used for a holiday or a weekend, for an individual or the whole family. “Rural Hotels”, often called “Rural Chic” or “Charming Hotel”, are small in size, highlighting local history and specificities or indigenous products, such as cork from Alentejo cork oak forests or Douro vineyards. These hotels are often family businesses, but individual projects also emerge.

The “Rural Campsites”, on the other hand, mark the greatest possible proximity to nature. Installed in different locations and with different purposes, close to the sea, rivers or lakes, close to small forests or at the bottom of valleys, they correspond to a low-cost TER model, with greater advantages for nature lovers.

These types of TER are associated with various activities that take place in areas adjacent to infrastructures in order to induce tourists to stay longer [22].

## 2.8. Tradition and Innovation in Rural Areas

Another way to enhance development in rural spaces is through innovation, or combining tradition with innovation. As the Portuguese are a people very attached to traditions, to customs, ways of working, singing and praying, which have lasted for centuries of life, it is necessary to preserve them, whether those of a material nature, both immaterial, as they correspond to “a dynamic factor of transmission, maintenance and transformation of the heritage received, whose importance comes from the fact that it comes to us from an immemorial past, which we inherited and which is authentic and different [11]. In this way, traditions not only represent the past, but also the idea of continuity. On the other hand, associated with tradition, we often find innovation, and the combination of these two aspects can benefit rural areas, attracting tourists, residents and projects, or even entrepreneurship, especially when there is receptivity on the part of the markets.

As rural areas become increasingly attractive, given the lack of traffic congestion and the frenetic pace of urban areas, nowadays ICT plays an important role in promoting these areas, supporting teleworking and other activities carried out over the internet, which which attracts a young, educated population living in rural areas. This is how family and traditional structures emerge, in addition to more innovative companies that are based and developed here.

Innovation can arise through “techniques, ideas and knowledge”, but for there to be creativity, there must be the so-called “rule of the four I’s, that is, information, identification, research and innovation” [11]. Indeed, for innovation to exist, several elements need to come together:

- 1) “Research in the identification, design and monitoring of innovative multifunctional projects;
- 2) Stakeholders for the most innovative projects, with the

participation of local Support Groups committed to a Local Action Plan, in order to increase the chances of success;

- 3) Strengthen the themes of transactional cooperation, as it is a way of having good practices and obtaining new experiences, thus carrying out a type of agro-rural benchmarking;
- 4) Create links with universities and higher agricultural schools in order to promote innovation in agriculture and rural areas and even a new form of governance;
- 5) Create a “regional federative level of development associations” (Covas, 2006, p. 117 and 118).

In short, we can say that after a first exploratory analysis of the needs of the area in question, socioeconomic agents must be motivated through, for example, an innovative Local Action Plan. To ensure that this entire process is viable, it must be monitored and other elements must be added, preferably symbolic, in order to attract more investment from companies [9].

Finally, it should be noted that we are in a new phase of thinking, since, if we intend to innovate, we must also take into account “agrobiology, biotechnological engineering, agri-food conservation and biodiversity, agri-food security, animal life, biophysical engineering, landscape architecture, the recovery of rural architectural heritage, social inclusion” [9].

A recent case of innovation in the context of rural development is the “Da\_Vide Project”, coordinated by the young engineer Pedro Teixeira, passionate about the landscapes and people of the Douro, but without much wine knowledge. When he moved to the Douro Demarcated Region (RDD), he realized that, during the vine pruning period, thousands of tons of waste were generated, vines that accumulate in the soil and are then burned or crushed, which increases expenses for producers in an ineffective framework, both in terms of sustainability and in terms of optimizing resources. To reverse this situation, the Da\_Vide project was created.

The central concept of the Da\_Vide Project is the “Open Carbon Cycle Agricultural Production Model” [29], which requires technological solutions so that these are transformed, used as happens with production of crafts, “vide pens”, biodegradable ones that replace plastic. A second application leads to the production of “vine fiber wood, as there are four distinct types of fabrics with great energy efficiency in the vines”, it is possible to weaken a component, lignin, separating it from the fibers; If the fibers are subsequently impregnated with weakened and consolidated lignin, the conditions are created for the production of a material similar to natural wood” [29] representing, once again, an ecological model and sustainable.

Waste from vine pruning can also provide the “production of paper and cardboard, 100% ecological, “consisting exclusively of fibers obtained from vines, without the addition of chemicals or the use of costly processes, (...) thus reducing the emission of CO<sub>2</sub> and CH<sub>4</sub>” [29].

With the vines, previously wasted, electrical energy is also



produced, based on hygroscopy and the existence of water in the vine “which induces slow hydrolysis and other electro-dynamic processes, essential for the production of cells and batteries “Solid Fuel Smart”, with easy ignition and its own records according to biodegradables” [29]. This waste also produces the need for the process, which allows for energy savings and the control of systems such as those associated with Salamanders.

Finally, with the same waste, using fibers extracted from vines, it is also possible to produce materials with the consistency of “cork”, or products with physical behavior identical to plastic (but without its environmental impacts). In this way, products are created with the “closed cycle in the vineyard”, that is, labels and cardboard packaging are produced with paper and fiberboard, while packaging is made with fiberglass wood and with “cork” the corks. With super-wood, barrels could also be produced, thus obtaining a cycle associated with Port Wine, exclusively built with the resources of the vineyards (grapes and vines).

This project, in addition to being an innovation, has a notable training aspect, closely linked to environmental education, especially sustainability, in addition to economic profitability and the valorization of local social and environmental frameworks [29].

## 2.9. Success Stories

As is well known, innovation can bring several benefits to rural areas, as evidenced by the presentation of some success stories. We will expose three specific examples, one in Portugal, linked to the implementation of an ecomuseum, another in Spain associated with cultural tourism and the third in France, inseparable from quality of life and teleworking.

### 1) Paredes do Rio, Montalegre, Portugal

The village of Paredes do Rio, located in the municipality of Montalegre, is currently a dynamic nucleus, largely due to the implementation of the “Ecomuseum”. Like so many other villages in the interior of our country, Paredes do Rio was losing population and dynamism, with only the oldest remaining and traditions falling into disuse. It was necessary to stop this process. To this end, Paredes do Rio valued what it had to offer, starting with its landscapes. Established at the foot of the Serra de Mourela and under the coordination of the Local Social and Cultural Association, it recreated traditional celebrations such as the calada, the magusto, the singing of the kings or the slaughter of the pig, activities that began to attract visitors to the village.

But, unquestionably, it was the construction of the Ecomuseum Barroso in the center of Montalegre, which boosted this rural space. Infrastructure that hosts documentation, research and interpretation of both natural and cultural values of the Barrosã region, the museum is a strategic element of “integrated and sustainable development of the Barrosão territory”. Located in the surroundings of the Montalegre castle, the visit to the Ecomuseum promotes travel to the

villages of the municipality, complementing the route with visits to mills, canastros, fountains and other built heritage of the municipality [11].

Given the existing weaknesses in rural areas, current rural development trends are closely linked to sustainability and innovation processes, however, there is still a need to increase the entire evolutionary process of rural areas in Portugal, a topic that we will address in the next subchapter.

### 2) Albarracín, Spain

Albarracín, Spanish municipality located in the province of Aragón, located at an altitude of 1171 meters and located in an area of high interest in terms of natural heritage, in a meander of the Guadalquivir river. It is a mountainous area, inhabited since prehistoric times, where we can find traces of Levantine rock art and the occupations of Romans and Muslims. It has a walled core, very rich in built and landscape heritage, interconnected by narrow and winding streets. It is a picturesque area considered by many to be one of the most beautiful places in all of Spain.

Like many regions in the Spanish interior, in the last century Albarracín has been losing population, a phenomenon that has become more evident in the last forty years, with depopulation, abandonment and manipulation accelerating in the municipality. To reinforce the problem, Albarracín was an area with poor agricultural use, with more international access and connections, particularly to Madrid, aspects that were ruining this territory.

However, following legal changes, rural areas began to be approached as areas of high potential, creating political instruments and financial means. In this context, the natural and scenic heritage of the region, which is extremely important, was valued, boosting Albarracín.

In the first phase, the environment was prioritized and some territorial planning measures were put into practice, while in the second, the focus was on sustainability.

But the key to Albarracín's recovery was based on tourism, especially cultural tourism. In this context, community funds were applied in Albarracín such as “Esculellas Taller” and the Santa Maria de Albarracín Foundation, pioneering measures that were developed between 1988 and 1996 and encouraged the creation of young jobs and population retention.

In short, cultural tourism was the engine for the dynamism and development of the municipality. For its pioneering spirit and success, Albarracín received the tourist merit medal and, in 2014, the Hispania Nostra distinction.

### Auvergne, France

Auvergne is a French administrative region, located south of Paris, in the middle of the central massif. Protected territory, largely due to the existence of volcanoes, lakes and forests, despite its peripheral location in relation to urban centers, it became unattractive throughout the 20th century, causing Auvergne to lose approximately 80% of its resident population, therefore it was necessary to stop depopulation.

In 2005, was created the “Regional Agency for the Development of the Territory of Auvergne”, which brought

together several experts from different sectors of knowledge who tried to boost the area, in order to attract and retain population. As a result of this process, individuals from different backgrounds reside in Auvergne, with many exchanging an urban lifestyle for a rural one.

According to Gerard Lombardi, five steps are necessary to attract the population: the first is to communicate and attract the population to live in a certain area; second, the same area must offer a differentiating factor; the third, we must encourage the arrival of the population by offering benefits, highlighting the positive points of the area; fourth, active intervention by municipalities is necessary, in order to obtain a significant dimension, and the fifth and most relevant stage, these municipalities, must create and maintain conditions for people to continue to reside in the area, settling.

Auvergne combined all the steps described above, taking advantage of endogenous resources, highlighting the natural landscapes and the existence of volcanoes. On the other hand, he also praised gastronomy, especially that linked to cheese production and, finally, took advantage of its historical aspect. For publicity, a website was created, through which exogenous people could understand what they could find and what was available in the region. To promote this strategy, monthly funds were allocated and two to three weekends were made available to the general population, so that potential new residents could get to know the area and the local dynamics.

There is also a big focus on ecotourism, based on European Union funds, mainly allocated to the production of craft beer

and fishing. Auvergne valued its differentiating factor, as, unlike the hustle and bustle experienced in Paris, it is a calm but well-infrastructured area.

Despite efforts, the repopulation of this area is a slow process. Auvergne's most recent campaign is based on modern rurality, the idea of living in a rural area with access to a salary, a house, an office or a laboratory and the possibility of training to create one's own job, or teleworking. Thus, in Auvergne, since 2008, 36 digital businesses have been created that have brought 94 new residents.

For there to be evolution, innovation and dynamism in rural areas, it is above all necessary to invest in them in a rational and programmed way. It is necessary that community policies and funds are applied in these spaces, as will be seen in the next subchapter, namely in Portugal.

### 3. Cinfães

Cinfães is a rural municipality in the north of Portugal, integrated into the district of Viseu. Located south of the Douro River, it is approximately 75 km from the city of Porto. The municipality is made up of fourteen parishes which, in total, occupy an area of 293km<sup>2</sup>. The municipalities that frame it are Baião and Marco de Canaveses to the north, Resende to the east, Castro Daire to the south, Arouca to the southwest and finally, Castelo de Paiva to the west.

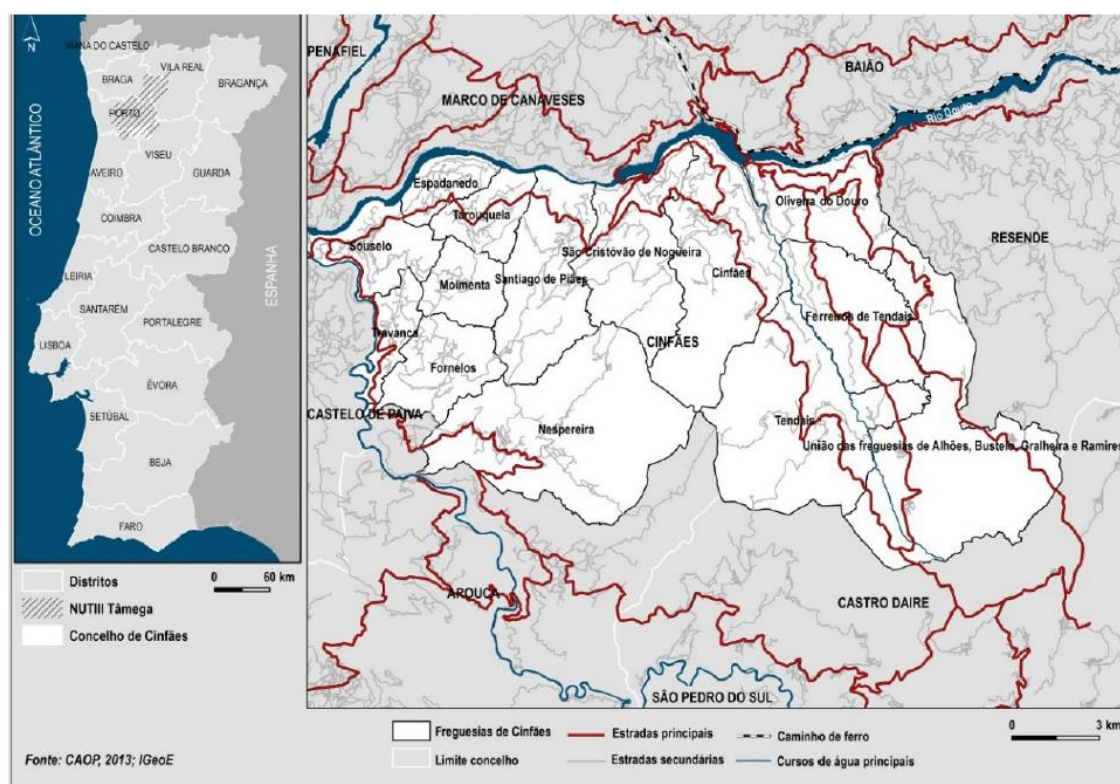


Figure 2. Location and administrative framework of Cinfães.



From a geomorphological level, Cinfães presents a rugged relief with extensive slopes of steep slope and valleys with a rectilinear configuration and very embedded, revealing its tectonic conditioning (Figure 3). The municipality is limited by the Cabrum River to the east, the Douro River to the north and the Paiva River to the west, but it is the Bestança valley that stands out in the municipality, it crosses the entire municipality in a NNW-SSE orientation, involving by unforgettable land-

scapes that are very cut out: “Torrents and other phenomena have opened up, over millennia, deep valleys and left exposed hills and bare peaks, at the same time that they have conditioned the farming system since Roman times...” [28].

In this context, two morphological units that make up the Western Mountains compartment stand out, considering the typology of Ferreira (1991): the Douro valley and the Montemuro mountain range.

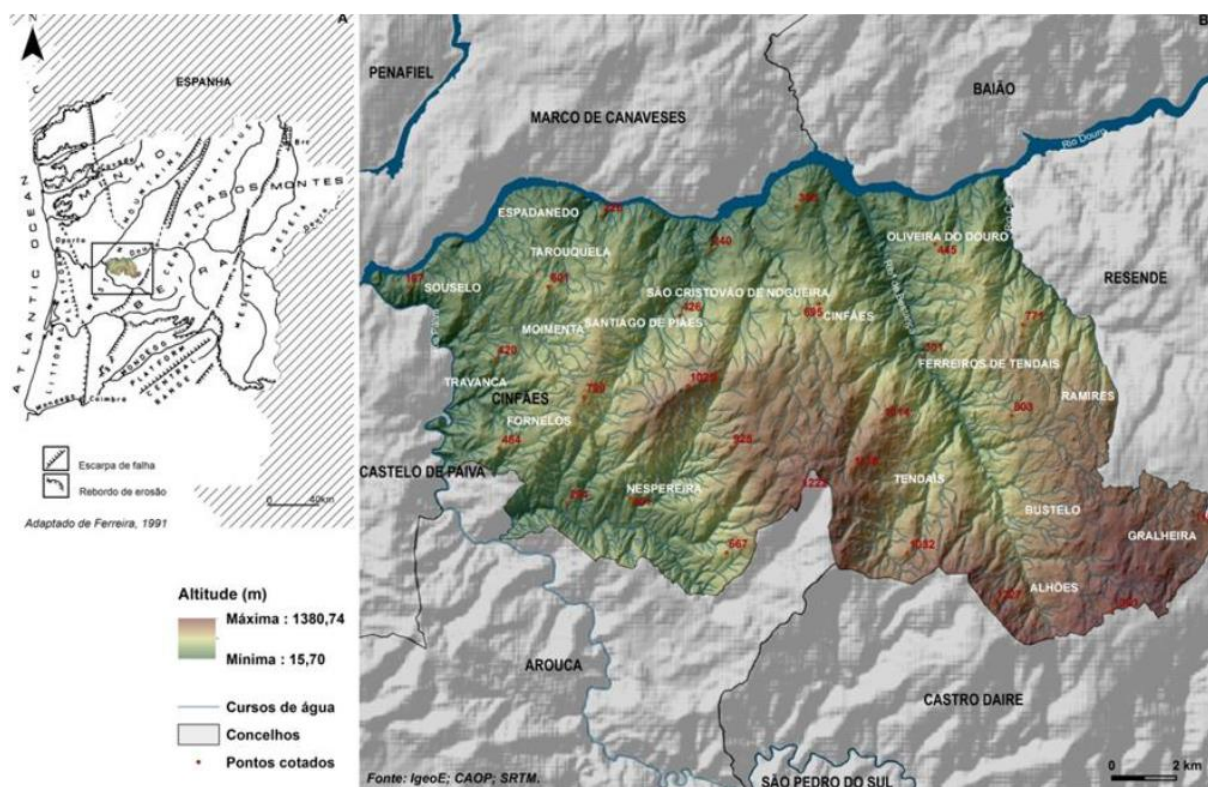


Figure 3. Geological compartments of Northern Portugal (A) and hypsometry of Cinfães (B).

The municipality of Cinfães is mainly composed of granitic rocks, most of them calc-alkaline (prophyroid or not and essentially biotitic), with a small outcrop of alkaline two-mica granite south of Fornelos (figure 3). Around this small batholith and extending to the SE, a narrow band of metasedimentary rocks also develops, consisting of phyllites and metagrauwackes from the Dúrico Beirão Super-Group.

The position and morphology of the municipality is reflected in its climatic characteristics, determining thermal and rainfall contrasts associated mainly with differences in altitude and the exposure of the slopes. Average annual temperature values are around 12.50 degrees, but mountain areas often experience negative temperatures, while in the Douro Valley temperatures are milder in winter and higher in summer. The average annual precipitation registers values of around 1200 mm in the valleys of the Paiva and Douro rivers and 2500 mm in the Serra do Montemuro, with a clear progressive increase with altitude. Several storms affected the

municipality of Cinfães during the 20th century, particularly those of February 11 and 15, 1941, when enormous losses were recorded. In terms of hydrographic network, the municipality of Cinfães has a significant density of rivers and streams. To the north of the municipality runs the Douro River, which has the largest river basin on the Peninsula and runs through a wide valley flanked by steeply sloping slopes.

Of the tributaries, we have already referred to Cabrum, which separates the municipalities of Cinfães and Resende, but we highlight the Bestança river given its importance in the municipality of Cinfães, with a valley considered a “wooded garden”, with cultivated land and vineyards (Monterey, 1985, pp. 127 to 131). There are also several rivers such as São Paio or Sonoso, Joazim and Valbom. Finally, the Paiva River, which separates the municipalities of Cinfães and Castelo de Paiva. It should also be noted that the smaller streams in the municipality are poorly integrated and mostly oriented NE/SW. [38].

### 3.1. Socio-Economic and Cultural Framework

In prehistoric times, when the current municipality of Cinfães was covered by forest and bush, interspersed with some villages, especially in the vicinity of the Douro River, as the rivers were the means of communication.

To protect themselves, pre-Celtic people moved from the banks of the Douro to higher and inland areas. Already in the 9th and 8th centuries BC. C., the Celts and other Indo-European peoples invaded the Iberian Peninsula, changing the ethnic, cultural and social map of two thirds of the same Peninsula. From the crossing of these people with the Iberians, the Lusitanians emerged in the Iron Age (approximately 2000 BC), remaining in the area called Lusitânia. Due to robberies and violence, the people who settled in the territory decided to build buildings in areas of high altitude and difficult access, in order to facilitate defense, building forts, protected with walls of loose stones (crowns) [28]. This is how the population changed.

In the current municipality of Cinfães there were two towns, S. Fins, located in the parish of Santiago de Piães and the town of S. Paio, located in São Cristóvão de Nogueira. There were, predictably, two more *citânias*, one in Portas de Montemuro, and another in Monte das Coroas, in the parish of Ferreiros de Tendais [5]. Several hillforts are also mentioned in the current municipality of Cinfães [28].

In the 3rd century BC, when the local way of life radically changed, as new iron instruments appeared that provided technical improvements in the agricultural and hunting sectors. Agriculture also developed, due to the introduction of new techniques, given the existence of fertile soils, several crops, namely chestnut trees, which gained enormous importance at an intermediate altitude.

Over time, the Lusitanians descended from the mountain hillforts to the valleys, in order to work the more fertile soils, taking advantage of the peace established between the Iberian peoples and the little interference felt in the current municipal space resulting from the Arab invasion [28].

With the Christian reconquest that began in Asturias, the first Christian kingdom of the Iberian Peninsula, Castile and León, emerged. However, it was only in the 8th century that D. Afonso I crossed the Douro, returning freedom to Christians in the current municipality of Cinfães, conquering the villa of Sonosello (Souselo), where a conventual church was built. In the medieval period, the current territory of the municipality of Cinfães was under the jurisdiction of the convent of Alpendurada (built in 1054) [28], later passing to Coimbra, not only administratively but ecclesiastically.

In the Middle Ages, Cinfães was already the seat of the lands of São Salvador, where there were several villages, as confirmed through inquiries by D. Diniz, in 1288. With the beginning of the 12th century, faced with the progressive depopulation of the municipal areas, especially the mountain areas, where the land was less fertile, efforts were made to repopulate them. The process was carried out through “Forum

Charters”, an organizational basis for population clusters<sup>11</sup>. The inquiries of 1258, ordered by D. Afonso II, and those of 1288, by D. Diniz, helped to understand many facts about the municipality of Cinfães, such as the identification of Coutos<sup>12</sup>, Honras<sup>13</sup>, Cartas de Foro, Reguengos<sup>14</sup>, or even the limits of parishes such as Gralheira and the location of towns, or the number of couples who lived in Alhães (11 couples)<sup>15</sup>. On the other hand, in Tendais, in addition to the church in honor of Santa Cristina, there were other temples, while in São Cristóvão de Nogueira there is a convent and numerous honors; Next to the river, in Mourilhe, there were fishing grounds, mentioned in the charter, and a boat to cross the river for the king's men. Throughout the municipality there were lands honored by monasteries or religious orders, such as Ruivais in Ferreiros de Tendais and Vila Chã of the Templar Order.

In the 15th century, the municipalities were, for the most part, administered in accordance with the charters of the 12th and 13th centuries. These represented key instruments for the guidance of a municipality, as they declared local public law and regulated tax payments between residents and the lord of the land, pointed out the values of fines for crimes, guarantees of freedom for individuals, military obligations, in addition to the duties and perks of the knights and the hierarchy of society. The charters also defined the administrative limits of the municipality and helped with “economic and social development”.

It was D. Manuel I who decreed the reform of the charters, given the antagonisms existing between the population and the king's power. Thus, the 15th century was marked by strong instability, but also by various changes in line with the development of the area in question. This was one of the most complex administrative reforms in our country [26].

Increasingly limited by royal power, in the 18th century, charters began to be questioned, until they were suppressed by the decree of August 13, 1832, by Mouzinho da Silveira, a fact that marked the advent of liberalism [26].

At the end of the 19th century, Cinfães was a sparsely populated village with few communication routes, living conditions were precarious and the buildings were marked by unsanitary conditions and unfinished works. Due to the decrease in population, the municipalities of Sanfins da Beira, Tendais and Ferreiros de Tendais were extinguished, while Cinfães was integrated into the Comarca of Lamego between 1830 and 1855. In the 20th century, despite there being no decent access to the neighboring municipalities, and the socio-economic situation remained very precarious, it was necessary to wait until 1929, to observe changes in the town: the construction of the road connecting to the municipality of Castelo de Paiva and the electrification of the town. In 1933, the landline appeared, a major economic driver, but also gardens and between 1934 and 1945, the paving of the cattle fair square and the town center. Later, other areas were paved with stone [28].

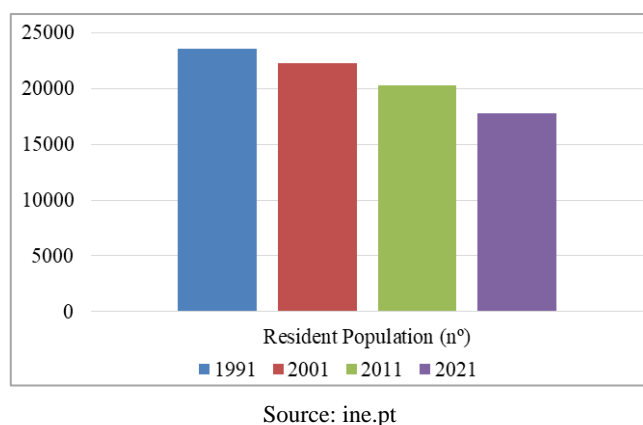
Thus, in 1985, Cinfães was an essentially agricultural mu-



nicipality, largely characterized by the production of cereals, vegetables, fruit and livestock farming. From the medium altitudes to the riverside areas we found multiple orchards, in addition to olive trees and on the banks of the Douro corn and vineyards. At higher altitudes, chestnut trees stand out.

Fishing was a recurring activity in the municipality of Cinfães, however, after the construction of the Carrapatelo dam, this activity was refunctionalized, favoring leisure.

The population in Cinfães is crowded, especially in the east of the municipality, where the settlements are small and surrounded by rural surroundings. On the other hand, as we move to the west of the municipality, the population becomes more dispersed, taking advantage of a flatter terrain. However, more significant features of the local population and their evolution must be presented. Therefore, it should be noted that since the middle of the 20th century, the municipality of Cinfães has lost population consecutively, which has resulted in demographic aging. Although this decline has its roots in the 50s and 60s of the 20th century, it accelerated especially in mountain parishes, resulting in some parishes losing 1/3 of their population between 1991 and 2021.



**Figure 4.** Population residing in the municipality of Cinfães between 1991 and 2021.

The table above reflects the rural exodus, similar to what happened in most Portuguese rural areas, the population that left for the cities was essentially young, which contributed to the increase in the average age of the remaining population.

In villages located at higher altitudes, the way of life remains almost stagnant, agriculture and livestock farming continue to be the most representative activities and new technologies are still a reality that is not very present, with access to mobile networks and internet often failing, the which alienates the younger population. This is one of the biggest problems in the municipality and rural areas in general, and it is necessary to create measures that reverse the trend of “coastalization” in order to reduce asymmetries and mitigate the risks of depopulation in the interior.

In terms of population qualification, there was an effort to reduce the illiteracy rate, as well as school dropout rates. In 1991, these still exceeded 40% in almost all parishes in the municipality, however, in 2011, in some parishes they were zero, although there are still high values to be corrected. If, in 2021, on a national scale, the proportion of adults with completed higher education was 19.8%, in the municipality of Cinfães this proportion varied between 7.11%. There is a lot to improve, since, despite the support given to students who go on to higher education, this is not enough to increase the enlightenment of the population residing in the municipality of Cinfães. It will also be extremely important to create job opportunities so that the qualified population can settle in the municipality.

### 3.2. Economic Activities

Like other areas in Portugal, which are suffering from the continuous rural exodus, the active population in the municipality of Cinfães was 38.18% in 2021, while the national average was 46.13% in 2021. The loss of population Active activity affected all economic sectors, although it is more pronounced in the primary sector, a figure followed by abandonments in the tertiary sector, such as services and repairs or transport and storage.

**Table 2.** Number of non-financial companies, by sector of economic activity, in the municipality of Cinfães, in 2021.

Economic activity	number of workers
Agriculture, animal production, hunting, forestry and fishing	366
Extractive industries	0
Manufacturing industries	80
Electricity, gas, steam, hot and cold water and cold air	2
Water collection, treatment and distribution	0
Construction	289
Wholesale and retail trade	311

Economic activity	number of workers
Transport and storage	34
Accommodation, catering and similar	137
Information and communication activity	9
Real estate activities	29
Consulting, scientific, technical and similar activities	85
Administrative activities and support services	140
Education	80
Human health and social support activities	105
Other service activities	22
Artistic, entertainment, sporting and recreational activities	85

Source: Pordata.pt

The agricultural sector in Portugal is very different. In the specific case of Cinfães, this sector has suffered significant declines, both in terms of permanent and temporary crops, or even animal husbandry. In the mountain areas, terraced agriculture dominates, while in the west of the municipality, agriculture is carried out in small fields. On the other hand, agricultural farms are small to medium in size and quite divided, since although the average area of farms is 2.16 ha, around 50% have less than 0.5 ha (Agricultural Census, 2009). Often, on these farms, a traditional occupation persists, using crop rotation. Master your own account.. Although the rate of change in agricultural area used is positive, the truth is that the primary sector has less and less representation in the municipality.

Activities in the secondary sector linked to civil construction are distributed in a similar way across the various parishes and have grown, however the shoe industries are only located in the municipality's towns. In any case, a greater concentration and diversity of activities in the town of Cinfães and surrounding areas is noticeable. Although the most representative activity in the secondary sector is civil construction, few companies operate in the municipality, since the majority, since the beginning of the 2008 economic crisis, have moved to other European and African countries. On the other hand, they are generally family businesses, with an average of five to six employees. The food industries are increasingly significant, especially the production of liqueurs, jams and biscuits, in addition to bakeries and pastry shops. Finally, we highlight the manufacture and transformation of metal products, which also have a significant impact on the municipality's economy.

Commerce and services, as we know them today, were only implemented in Cinfães in the second half of the 20th century, in 1964, when the Casa dos Magistrados was completed, in Outeirinhos. In 1965, the Angola pension and café opened, with a considerable reputation in the municipality, but ended

up closing around the year 2000. In turn, in 1966 the National Republican Guard began operating, as well as the first fuel pumps and the local hospital. At the beginning of the 70s, public roads were restored and pedestrian walkways were built, while in 1976 the first bank opened in Cinfães, Banco Pinto Sotto Mayor and, in 1977, Caixa Geral de Depósitos. Only later did the palace of justice appear. During the second half of the 20th century, other services emerged such as schools, Social Center, Stadium, Children's Park, Volunteer Fire Station and the post office, among others [28].

Tertiary activities are the most significant in the municipality of Cinfães, although in a very asymmetrical scenario. In fact, while in the east of the municipality, that is, in the mountainous area, the implementation of services and commerce is very weak, in the villages of the municipality it is where we find more variety and concentration. This agglomeration is also notorious in the vicinity of the N222, especially in the parishes of Espadanedo and Tarouquela.

### 3.3. Natural and Cultural Heritage

“The growing appreciation of heritage that has been witnessed in recent decades, as a result of greater social and environmental awareness and the significant value given to leisure activities and leisure activities, has triggered a set of initiatives leading to the preservation and promotion of the various forms of heritage” [41]. We can make heritage as a inheritance of goods from previous generations directed to future generations, this being an inheritance of the people and not an individual one. Goods can be differentiated, from material, immaterial or cultural and must be valued and conserved.

#### a) Natural Heritage

“In terms of natural heritage, the actions have translated, more specifically, into the creation of protected natural spaces, as well as the valorization of the various elements that can be

preserved and enhanced, particularly in the context of environmental education or recreational activities, leisure and tourism” [41]. Natural monuments are considered natural heritage, whether physical or biological formations, where habitats of species at risk persist, of universal value, which urgently need to be preserved. This is the case in the Bestan a valley, but also in the Montemuro mountain range.

#### b) Bestan a valley

The Bestan a river, with its entire route in the municipality of Cinf es, is considered one of the least polluted rivers in Europe and among the most beautiful Portuguese rivers, a true natural garden. It rises in the middle of the Montemuro mountain range and flows into Porto Antigo, making it possible to see its entire route from its source to its mouth. It rises near Portas do Montemuro, at 1229 meters above sea level, and runs through rocky valleys, in the SSE-NNW direction, until it flows into the Douro River. On its left bank, the Enxindr , Prado, Tendais and Canadas streams appear, while on the right the Ourique and Alh es streams appear [30].

It is surrounded by a very green landscape marked by terraces set in medium-grained porphyroid granite from the end of the carbonic period, the most common in the area. This granite is coarse and contains mega feldspar crystals, a specificity that allows it to be designated as Montemuro granite. In addition to this, there are three more types of granite in the Bestan a Valley: fine-grained non-porphyroid, fine-grained porphyroid and medium-grained non-porphyroid [30].

In the Bestan a valley, there are traces of ceramics and artefacts that may date back to the 5th century BC. C., but also Mesolithic utensils. Megalithic constructions were also recognized, such as menhirs, cromlechs, alignments and dolmens.

In the first century a. C. following the “dominance of iron metallurgy and castreja culture” (Pinho, 1997), several settlements were certainly created in the Bestan a valley, but only two are identified, the castro das coronas in Ferreiros de Tendais and Castel , in Tendais, smaller, but where fragments of pottery and spearheads were found, still recognizing a traditional wall.

The settlements, in turn, were strategically located at high altitudes for the people to defend themselves and have good visibility and were almost always fortified [30].

There are also testimonies of Roman occupation in the Bestan a valley between the 1st and 5th centuries BC. C., since this area was part of Lusit nia. Thus, sections of a Roman road that connected Tongobriga to Serra do Montemuro persist, using the straight fault of the Bestan a valley, passing through Vale de Papas and continuing to the city of Viseu. The Romans also transformed the castro of Coroas or Cast o, the most representative settlement between Cinf es and the Montemuro mountain range, located in Tendais, into an urban area marked by ceramics. There are references to other smaller settlements, as well as some shelters and medieval structures.

Many of the agricultural spaces from the Middle Ages,

located in the Bestan a valley, are still used. But let us continue with this brief presentation of the Bestan a valley.

Given the importance of this heritage, in January 2016 the Vale do Bestan a Interpretation Center was opened, also associated with six walking trails (between 2.7 and 18.8 km), lasting between 1 and 5 hours. These routes can be linear or circular, rising from 236 meters to 1273 meters, and focus on a specific theme.

#### c) Montemuro mountain

Made up of granite and marked by steep slopes, the highest point of Serra do Montemuro is located at 1381 meters above sea level, the second most pronounced relief south of the Douro, surpassed only by Serra da Estrela. Serra do Montemuro is located in the western sector of the Central-Iberian Zone, of the Hesperian massif, being delimited to the north by the Douro River, to the south and southwest by the Paiva River and to the east by the late-Hercynian Ver -Penacova disconnection.

A space where depopulation is particularly visible, here only an aging population persists, supported by a “reduced diversification of the economic structure”. In order to try to counter this scenario, several initiatives have been carried out in an attempt to revitalize traditions such as crafts, gastronomy and folklore, taking advantage of community funds. We must, in fact, invest in natural resources such as the beautiful landscapes where we can see villages, granite blocks of different shapes and sizes, and multiple terraces where self-consumption agriculture is carried out [41].

But in Serra do Montemuro there are not only granitoids, there are also schists, quartzites and limestones, even “elements with morphological characteristics necessary to integrate the so-called Geomorphological Heritage” [41].

But Montemuro also stands out for its biological diversity, which is important for territorial planning, as many areas are included in the Natura 2000 Grid, and in the mountains there are also several examples of Iberian flora and natural habitats. There are also some leisure infrastructures such as “view-points, water mirrors, leisure parks and river beaches” [41].

In order to enhance the different elements present in Serra do Montemuro and its surroundings, the “Magic Mountains” project was created, which aims to promote sites of interest, whether natural, cultural or scenic. The project integrates the municipalities of Arouca, Castelo de Paiva, Castro Daire, Cinf es, S o Pedro do Sul, Sever do Vouga and Vale de Cambra. In order to facilitate the visit, several routes were created. The Montemuro mountain range is undoubtedly an area that brings together stunning landscapes, where the relationship between man and nature has existed for thousands of years, transforming it into one of the most beautiful in Portugal.

#### d) Cultural heritage (architectural and intangible)

According to Hern ndez (2006), the concept “cultural heritage” can be defined as “all the things that refer to the history of civilization (...) the things of archaeological, historical, artistic, environmental and landscape, archivist and biblio-

graphic interests, and any other well that constitutes a material testimony, and poses the value of civilization”

Monuments such as architectural or other geological works are considered cultural heritage, in addition to sets of buildings and places of interest, human or natural work, that is, movable and immovable heritage with In terms of “archaeological heritage”, we highlight the dated between prehistory testimonies of value.

Castles were indeed important, which is why they began to designate parishes or places.

#### e) Churches and chapels

Cinfães is a municipality extremely rich in religious heritage, with dozens of churches and chapels spread across the territory. The oldest chapels date back to the medieval era and the Middle Ages, while the most recent date back to the 20th century. The largest concentration of churches appears mainly in the Bestança valley, justified by the concentration of settlement over the years.

The Route of the Romanesque, founded in 1998, covers 12 municipalities and aims to value and preserve the architectural heritage of Romanesque origin (11th and 16th centuries) and all the culture and historical legacy associated with it, existing in the area covered by the participating municipalities. In the municipality of Cinfães, there are two churches and a chapel that are part of the “Route of the Romanesque”: the chapel of Nossa Senhora da Natividade, in Escamarão, in the parish of Souselo; the church of São Cristóvão de Nogueira and the church of Santa Maria Maior, in the parish of Tarouquela.

#### f) Manor farms

In 1985, Guido de Monterey identified 57 palatial houses and manor farms scattered throughout the municipality of Cinfães. Most of them are currently private property, which prevents their exploitation, with the exception being the hotel in Porto Antigo, a noble house allegedly associated with the family of the explorer Serpa Pinto, the house at Quinta da Calçada, now adapted for tourism in Rural Space and Casa da Altamira, currently offering housing tourism. Quinta do Paço da Serrana, belonging to the family of explorer Alexandre Serpa Pinto, was acquired by the municipality of Cinfães and will be transformed into a Museum. In addition to houses and farms, the municipality is rich in other traditional built heritage such as mills and granaries, which can be associated with tourism and innovative routes.

#### g) Mills, granaries and wine presses

In Cinfães, a very broad, diverse vernacular heritage with high cultural value proliferates. As an example, we can mention the water mills, although in many cases only the walls can be recognized, but others, occasionally, are still in operation, as is the case on the banks of the river Bestança, Travanca and Moimenta, where they persist dozens of these cereal mills.

Associated with the mills, there were also channels for water diversion and irrigation. Currently, neglect dominates, as much of the agricultural land in the municipality of Cinfães is abandoned. We must preserve and revitalize this heritage, as it demonstrates the traditions of the past to future genera-

tions.

As cereals were very important, granaries also proliferated in Cinfães. In fact, given this scenario, the municipality of Cinfães obtained financing to create “Granaries Route”. It was in the granaries that corn cobs were kept throughout the year, so that they could be fed to animals or used in mills to produce flour.

#### h) Traditional Villages

The most publicized heritage is associated with the villages and their buildings. Although there were typical villages in all parishes, three of these deserve to be highlighted for their architecture, people and customs: Boassas, Vale de Papas and Gralheira. Boassas and Vale de Papas are part of the “Villages of Portugal” route.

The village of Boassas, located in the parish of Oliveira do Douro, on the slopes of the Bestança river, has its origins before the implementation of Portuguese nationality, for a long time it was associated with river sailors, especially the rabelo boats that transported Port wine from Douro region to Porto and Vila Nova de Gaia.

The village of Vale de Papas, with approximately 30 inhabitants, is located in the middle of the Montemuro mountain range. It is considered a typical village because it still preserves granite houses with thatched roofs. It also preserves popular culture, heavily influenced by pastoralism and agriculture. Vale de Papas is a village rich in material and immaterial heritage that needs to be preserved and disseminated in order to value this village and its culture.

Finally, the village of Gralheira, known as “Princesa da serra”, one of the landmarks in the municipality of Cinfães, is recognized for its magical surroundings as it is the highest village in the municipality, at around 1100m above sea level, being one of the more typical. In the village there are typical granite houses, a small chapel, a church and many animals that roam the streets, especially Arouquesa cattle, but also sheep and goats, as livestock farming is one of the main sources of income for the population that resides there. In the village and surrounding areas we can also find a lot of fauna and flora typical of Serra do Montemuro, such as wolves and vipers (Silvestre, 2002). The picturesque landscape and constant snowfall in winter attract thousands of people to the village every year. In this way, its gastronomy is also boosted, as is the case in traditional Cinfães cuisine restaurants, which have already become a mandatory stopover for anyone visiting the village.

#### i) Crafts and Museums

The municipality of Cinfães is also a handicraft municipality, such as the basketry produced in typical villages, using wicker and oak vergame, or even straw and brambles. It is also worth highlighting the bronze rattles and the yellow metal applications, typical of the parish of Tendais, or even the tinsmithing, practiced in Porto Antigo and Boassas. It is also worth mentioning the clog making art that makes metal and wooden clogs, or the weaving with the making of woolen mountain blankets, in addition to linen tablecloths and burel



hoods. Matmaking is also currently a form of craftsmanship, as is the construction of cart clowns and straw hats from braids. In Cinfães, we also find cowhide skin bottles for transporting wine, very typical of the parish of Tendais and finally, the art of miniature wooden rabelo boats.

This diversity in terms of craftsmanship portrays the need to, using indigenous raw materials, satisfy the basic needs of the population at that time. It is necessary for handicrafts to be integrated into itineraries and areas where tourists must pass, applied from a multifunctional perspective, in order to intensify and enhance local development.

In Cinfães it's possible to visit three museums that portray local history and the way of life of the inhabitants, the museum that praises Alexandre Serpa Pinto and also has a collection related to archeology, is located in the center of the town of Cinfães.

There is also the Nespereira Ethnographic Museum, located near the town of Nespereira, aimed at preserving traditions and local identity. Finally, there is the Vilar Museum, located in Vilar do Peso, parish of São Cristóvão de Nogueira, which is described as a "school museum", as it brings together objects from several schools and tries to reproduce a classroom and all the utensils previously used in the past.

#### j) Festivals

Cinfães is recognized for its festivals that attract thousands of visitors, bringing to the municipality people from neighboring municipalities, the population of Cinfães or individuals with roots in the municipality.

- 1) "São João", the patron saint of the town of Cinfães, celebrated on June 24th, a municipal holiday.
- 2) "ExpoMontemuro", a regional fair in Cinfães, which takes place in mid-July, lasts 5 days and brings together more than 100 exhibitors from the municipality, from gastronomy and green wine, meals and crafts,
- 3) "Douro Green Fest", which takes place on the last weekend of August, close to the Carrapatelo dam, in the parish of São Cristóvão de Nogueira, is aimed at young audiences, with radical activities, concerts and other activities.
- 4) "Chestnut Fest", takes place on the weekend closest to mid-November, in Tendais and is a showcase of local products linked to chestnuts.
- 5) "Feira do Fumeiro" is another event designed to boost Cinfães, particularly rural areas, and takes place in the mountain village of Gralheira, on one of the last weekends in March.
- 6) "Aldeia do Pai Natal" is another innovation in the municipal context, it takes place in Gralheira, on the first 2 weekends of December and brings the magic of Christmas to children and adults.
- 7) "FolkCinfães", also known as the Cinfães International Folklore Festival, it is held in Vila de Cinfães, between the end of July and the beginning of August and brings together national and international folklore groups.

#### k) Gastronomy

Cinfães is a municipality with remarkable gastronomy, where there are dishes that stand out such as lamb and lamb roasted in the oven with rice, Cinfães-style rojões, smoked pork meat and miles of pork. In terms of sweets, the municipality has its own traditions, such as Cinfães sponge cake or light bread (made in Seara, in the parish of São Cristóvão de Nogueira), dry soup, ants, rye cakes, pounded chestnut flour biscuits and butter cakes or matulos (simple cakes made of fluffy, fermented dough, covered in sugar syrup).

The creation of a gastronomic weekend where restaurants throughout the municipality would only serve the typical delicacies of our municipality and, for dessert, typical sweets would be available would be a good way to promote the typical food of this region.

## 4. Cinfães from the Residents' Perspective

300 surveys were administered to the population residing in Cinfães, divided into two distinct groups, 150 to students from the municipality of Cinfães, aged between 16 and 23 years old and another 150 to adults, aged between 24 and 89 years old. The average age of young people questioned was approximately 18 years old, while the average age of adults was approximately 55 years old. They were distributed throughout all parishes in the municipality of Cinfães.

The implementation of these surveys was extremely important, as it allowed us to understand the problems and potential of the municipality of Cinfães, from the perspective of the resident and/or native population of the municipality of Cinfães, both at an economic, landscape, cultural and social level. It was important to understand whether the residents' perspective was similar to that of the authors or the municipality's local development agents.

It is possible to see that the two age groups surveyed have different perspectives on what has changed most in the municipality of Cinfães, since, while 1/3 of young people did not respond to the other approximately 30% mentioned the new infrastructures, with the improvement of accessibility it was also a valued change. On the other hand, the adult group values above all the existence of new services, improved access and the beautification of the village.

In relation to what pleased most in Cinfães, young people especially valued the landscape, quality of life and nature. While the group of adults highlighted the landscape, nature and safety, respectively, in Cinfães. The services provided were the least chosen option following the same question.

Regarding what the groups surveyed least liked, both groups demonstrated, above all, their displeasure at the lack of employment opportunities, followed by poor accessibility to neighboring municipalities and finally services. The appreciation of nature appears as the indicator that generates the least displeasure.

Another question asked for three aspects to be improved in

the municipality of Cinfães, the group of young people would mainly improve accessibility, job offers and services. For the group of adults surveyed, the three aspects to be improved are job offers, accessibility and health services. In this open-ended question, the investment in agriculture, endogenous resources and the decrease in the RSI (Social Insertion Income) were also mentioned.

#### 4.1. Problems in the Municipality of Cinfães

Cinfães is an inland, peripheral municipality, where both agriculture and livestock farming have been neglected. As the industrial sector has never been strategic, job opportunities are scarce, which is why it continues to lose population, in addition to its dynamics and attractiveness. It should be noted that, in 2013, it was even considered the municipality with the lowest purchasing power in Portugal, always having the worst indicators regarding quality of life. We therefore define a multitude of existing problems, distinguishing the most significant:

- 1) Accessibility
- 2) Weak technical training
- 3) Reduced job offers
- 4) Specialized services in limited numbers
- 5) Insufficient asset appreciation
- 6) Forest fires

One of the municipality's biggest problems is poor accessibility, which makes it difficult for the population to move around and establish businesses. In relation to private road transport, although Cinfães is located just 75-80km away from the city of Porto, the journey takes an average of 1 hour and 20 minutes. Indeed, if heavy vehicles proliferate on the EN traveling at low speeds, access to the A4 (motorway), in turn, is only possible from Marco de Canaveses or Penafiel. Regarding public transport, although accessible, there is only one company that runs the route between Cinfães and Porto, taking between 2h 15m and 2h 45m. For the district headquarters, Viseu, the scenario worsens, the highway is expensive and public transport is almost non-existent. As for rail transport, the closest station is Mosteirô (line on the Douro), located about 16km from the center of the village of Cinfães. If we add the route to the parishes, especially to the mountains and those at the western end of the municipality, it is unaffordable.

Another incisive problem, as confirmed by surveys of the young population, is poor training. As the proportion of residents with higher education is minimal, despite city council incentives and the intervention of the Rotary Club, it is necessary to understand the foundations of this situation and reverse it, as it is another of the problems perceived by the respondents.

But the scarce job offer is undoubtedly one of the problems mentioned most insistently, especially after the crisis that hit the construction sector. As opportunities and expectations for young people, both the most qualified and the least educated,

are so scarce, this facilitates rural exodus and emigration. There is an attempt by the City Council and the responsible bodies to combat this problem, providing numerous advantages to companies that want to establish themselves in the municipality and implementing internship programs, however these measures are insufficient. One of the safest bets would be in agribusiness, since the municipality has a significant capacity for the same activity.

Another problem detected is the provision of social, economic and cultural support services, especially the more specialized and differentiating ones, which involve trips to the nearest cities such as Marco de Canaveses and Penafiel or Porto. In the health sector, the problem is even greater, as there are no clinics or equipment for analyzes and exams.

clinicians. As the population is increasingly older, problems are expected to worsen in the future.

Another problem also mentioned was the preservation of the rich natural and archaeological heritage, and although there is a growing interest, visible especially in the Bestança valley, the archaeological heritage remains neglected and unknown by the resident population and tourists who visit the municipality. With more than 140 elements of archaeological heritage identified, this tourist and historical potential is subordinated, almost ignored. Furthermore, this heritage is not included in any route provided by hotels or rural tourism establishments. Thus, its degradation continues, losing thousands of years of stories, unique testimonies of settlement and local history.

If previously rural areas were associated with agricultural production, as socioeconomic changes and new technologies altered the landscape, nowadays other parameters should be focused on (Hoggart, 1995, p. 66). Regardless of physical space, economic activities or demographic transformations, rural areas continue to be low-density spaces and depend on their natural environment (Hoggart, 1995, p. 76).

The forest is frequently devastated by fires. In fact, every summer there are large fires that consume hundreds of hectares of bush and forest areas in Cinfães. And despite the high temperatures, combined with low levels of precipitation and humidity, as more than 10% of the forest is made up of softwoods, and around 75% of the municipality's forest areas are privately owned, they are not clean nor are their understorey, accumulating in the soil in highly combustible material.

#### 4.2. Tourist Potential of the Municipality of Cinfães

Cinfães boasts the potential of the most diverse types, whether in terms of tourism or quality of life. In summary, the following stood out:

- 1) Historical and Cultural Heritage (Bridges - Romanesque Bridge of Covelas; Remains of Dolmênic Constructions; Churches - Route of the Romanesque and Cáziz Chapels);
- 2) Manors and rich farm houses (Quinta da Fervença,

Quinta da Soalheira...)

- 3) Traditional Villages (Aveloso, Boassas, Vale de Papas)
- 4) Crafts (basketry, weaving, clog making...)
- 5) Fests (ExpoMontemuro, old fair), Festivals (Folk Cinfães) and Pilgrimages (São João)
- 6) Uses and Customs (Martial Band of Tarouquela and Municipal Band of Cinfães and Rancho Cantas e Cramóis – Pias, Cinfães)
- 7) Sports Groups (CDC)
- 8) Landscape Heritage (Serra do Montemuro and Bestança river)
- 9) Mills, watermills, presses, granaries, linen mills

A sustainable and viable way to enhance Montemuro, according to Vieira, would be through walking and mountain biking routes. If the municipalities belonging to Serra do Montemuro (Cinfães, Lamego, Resende, Castro Daire and Arouca) cooperated on longer routes that passed through the different municipalities, two main routes could be created, one linked to cultural heritage and the other to natural and landscape (Vieira, 2005/2006, p. 165 and 166). This would value endogenous, material and immaterial resources, including supporting tourism.

Another hypothesis would arise from the eventual expansion of the Arouca Geopark, a proposal that encompasses a total area of 1690 km<sup>2</sup>, as this is based on the “geobiodiversity” of the Montemuro and Gralheira mountains.

Snow tourism could also be promoted. Remember that every year thousands of curious residents living nearby head to Serra do Montemuro to see the snow. It is true that extreme sports linked to this phenomenon are difficult to implement due to the granite rocks that emerge on the surface, but some specific routes could be increased, or climbs to the top of the mountain using appropriate transport. Another potential would be the establishment of a charming hotel at the top of the mountain. It should be noted that the “Mountain Bike Center” was created, a mountain biking center, and presented six routes with four levels of difficulty, ranging from easy to very difficult, totaling 140 km.

It is unquestionable: cooperation with neighboring municipalities must be increased in various areas. In addition to those already mentioned, it is worth mentioning the sharing of specialized services related to health, the only way to make the associated investments profitable. The same would happen with large infrastructures, a scenario that would allow more resources to be applied, for example, in the municipal headquarters, improving the living conditions of the populations.

But, undoubtedly, agriculture continues to be incisive in the municipality, despite the problems involving this sector. The investment in agro-industries, particularly in connection with livestock farming, with the Arouquesa cattle breed. If historically, Cinfães' economy was based on agriculture, as in the last 20 years, there has been a huge decrease in agricultural production. Since it has already been proven that an agro-industry producing cheese from the milk of Arouquesa

breed cattle, typical of the region, would not be profitable, one of the solutions would involve investing in the production of vegan shakes, which is not only profitable but would promote a style of healthy life. The production of these smoothies would focus on vegetables and fruits from the region, being processed in the municipality and only the packaging would be external. This way, we would invest in organic, sustainable and profitable agriculture.

In the territory of Cinfães we find areas with high and moderate agricultural suitability (classes A1 and A2)<sup>29</sup> in all parishes. For the same reason, we consider that a greater focus on agriculture could improve the living conditions of the resident population.

Although a large part of the land is attached to tiny farms, very subdivided and, therefore, often abandoned, the opportunity is not taken to create a “land bank” to make all this agricultural potential possible. DOLMEN coordinates the “ECOALDEIA JANA”, which includes the “land bank – land and houses to be given, rented and sold”, in force since the beginning of 2016, (obviously, none of the members are from Cinfães, because this municipality is not part of this project), it would be interesting to encourage a partnership in this sense with DOLMEN, or create its own “land bank” in the municipality, with benefits for landowners and farmers.

By bringing together a “land bank”, with the training of the population in the agricultural area and with a parcellation of agricultural holdings, Cinfães can once again prosper economically based on the agricultural sector, endogenous products.

There is, however, another potential to increase: the Arouquesa cattle breed, even mentioned by some of the respondents as a measure to be implemented. A small breed, with a brown color, short, thick and sometimes rough hair, large eyes and triangular-shaped faces and a medium-sized color, this breed can be found in four different districts, Aveiro, Viseu, Porto and Braga. The origin of its name derives from Arouca, another municipality where it develops. It has a power supply based on endogenous vegetation, as adult animals are taken to mountain areas from where they only return to their respective court at night. This is how these traditional landscapes are also preserved. Investing in the Arouquesa breed is also beneficial for improving the entire economy of the municipality, enabling an increase in the number of jobs. In fact, the CM of Cinfães already has a specific program to encourage producers to invest in the Arouquesa breed, but as it is insufficient, particularly due to the lack of pastures, if a “land bank” were followed, this problem would be minimized. Furthermore, to encourage young people, some support would be made available to these new producers at the beginning, so that they could start profitable projects.

Other solutions to improve the municipality in the agricultural sphere, also valued in the surveys carried out, would be to continue the successful investment in the production of green wine. It is increasingly important to reinforce the idea



that in the section of the Douro valley integrated into the demarcated Vinho Verde region, created in 1908, the municipality of Cinfães is divided into two sub-regions: “Baião”, which brings together the municipalities of Baião, Resende and Cinfães (except the parishes of Travanca and Souselo), where the Avesso grape variety dominates, and “Paiva”, which covers the municipality of Castelo de Paiva and the parishes of Travanca and Souselo. Here the Amaral and Vinhão (red) and Arinto, Loureiro and Trajadura (white) grape varieties predominate. The number of winemakers has increased, as has the number of distinctions, such as some medals.

By reinforcing wine production in the municipality, through the combination of community funds, private investment or even with subsidies from the CM of Cinfães, conditions would be created to rebuild the Adega Cooperativa de Cinfães, which closed more than two decades ago, leaving the small producers, in a scenario where innovation is also present, for example, with the focus on new aromas, coming from grapes.

One of the biggest bets is the combination of tradition and innovation. Cinfães is a municipality very rich in traditions, both in the way of life of the populations, but also in the historic villages, ancient crafts or built heritage. It is necessary to combine tradition and innovation, in order to generate employment and boost the municipal economy.

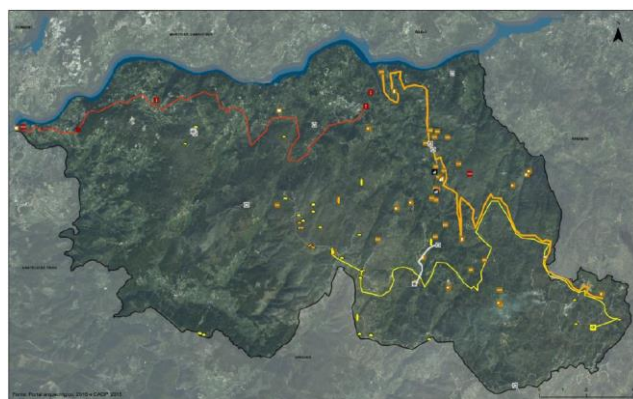
One of the alternatives is the demonstration of ancient arts and crafts that we see at regional fairs, in the municipality of Cinfães. There are, however, many crafts that have disappeared, or are at risk of extinction, such as hat making, tin-smithing, clog making, basket making, or even charcoal makers, boatmen (especially around the Bestança river and in Escamarão), the colmadores, the shepherds, the bakers (which we can see in the Santa Claus Village – Gralheira), the millers, the harvesters and the carters. It would also be important to represent the same arts and crafts in the villages where they were most significant, so that whoever visited the village could perceive the old professions and crafts, whilst being able, however, to also find modern services such as hotels and shopping establishments. Tourism in Rural Spaces.

In the surroundings of the establishments, we could also focus on traditional agriculture so that tourists could participate in agricultural activities, learning and helping the owners. This participatory scenario enhances the establishment and delight of city guests. This would combine traditional agriculture with a modern and more profitable one, but also with organic agriculture. It is extremely important that this bet comes to fruition.

But Cinfães, to impose itself, has to position itself in tourist terms, not only on the “Douro Verde” scale but also on a national scale, and one of the means is based on quality tourism in recommended establishments, integrated into the landscape and culture local. For this to be possible, we must awaken tourist interest in the municipality of Cinfães and for a long stay, as it is also necessary to create different attractions

and preserve those that already exist. However, it should be noted that the museums in the municipality of Cinfães, the tourist office and the interpretation center in Vale do Bestança, have restrictive opening hours, usually closing during the weekend, when tourist visits increase.

As Cinfães is delimited and crossed by several rivers, river beaches with all conditions must be created. In fact, there are currently two in Cinfães, the one on the Bestança river, in Pias, where you can take advantage of the greater depth of the river and pleasant spaces to have a picnic, while enjoying the natural surroundings, another place is Granja beach, in Espadanedo, a river beach in the middle of the Douro River, a little neglected for use by the whole family. Investing in this aspect would be a measure that would benefit tourism, but, above all, the local population.



Source: Archaeological Portal

**Figure 5.** Arq Cinfães Routes.

Another measure to be taken would be the creation of the “Arq’Cinfães” project (Archaeological Heritage Route of the municipality of Cinfães). With this project, we would have greater knowledge about the origins of the settlement in the municipality of Cinfães, while preserving the municipality’s archaeological heritage. Community funds would be needed to start the investment, creating a specific route, from the oldest archaeological heritage to the most recent, agglomerating the architectural heritage of recent prehistory, late Neolithic, Bronze Age, Chalcolithic (or Copper Age), neo-chalcolithic and iron age, as well as the heritage of the Roman occupation and the middle ages. Four specific routes would be created, the first, entitled “Bronze and Iron Route”, whose route would be a total of 2 km. A second, named “Neolithic and Chalcolithic Route”, is 24 km long. A third, the “Roman Route”, with a total of 22 km and finally, the “Route of the Middle Ages”, with a length of 24 km. All of these routes were developed under the municipal road network so that access to all sites of archaeological interest was easily accessible. In this way, combining innovative ideas with existing heritage and traditions, Cinfães would become a multifunctional and dynamic municipality. By investing in the



aforementioned endogenous products, we could create unique spaces of relevant importance in the local and national council. As has been warned by all hotels or tourism establishments in rural areas, foreign tourists represent approximately 70% of tourists staying in the municipality, and therefore, investing in tourism is a means of spreading economic, cultural and social dynamism.

## 5. Materials and Methods

The first phase of this paper is based on bibliographical research, aimed at developing the conceptual framework of the topic under study.

In a second phase of the work, the aim is to characterize the municipality of Cinfães and its current panorama, through extensive bibliographic and documentary research. From all this information, the general framework of Cinfães is derived, illustrated by the statistical (in Microsoft Office Excel) and cartographic treatment of the data (in ArcMap, version 10.1). This phase also includes fieldwork, focused on different surveys/interviews aimed at specific sectors of the population. Therefore, the first one we structured was aimed at owners of TER establishments located in the municipality of Cinfães.

In another phase, in order to acquire a greater scope and diversity of opinions about Cinfães, thus enriching our work, we structured a second survey aimed at the young and adult population of the municipality. Still in terms of fieldwork, complementing the preparation of interviews, we established contacts with local agents responsible for planning, management and development of the territory, namely the Municipal Council of Cinfães, Associação de Desenvolvimento Rural das Serras do Montemuro, Arada and Gralheira (ADRMAG), the GeoPark of Arouca and DOLMEN (Training, Education and Development Cooperative of Baixo Tâmega). At the same time, we carried out a photographic survey of the most relevant areas in terms of natural and cultural heritage. To guide ourselves regarding heritage, we consulted the websites of Progeo-Portugal (European Association for the Conservation of Geological Heritage) and LNEG (National Laboratory of Energy and Geology), in order to create representative cartography of the heritage.

In a third stage, we analyzed the 300 surveys carried out, in order to integrate their results with the potential and weaknesses of the municipality, in order to enhance its development, pointing out some solutions/strategies to overcome the main problems, highlighting endogenous resources that are still little explored.

## 6. Conclusions

After analyzing rural areas and the case of the municipality of Cinfães, we realized that there are solutions for Portuguese rural areas, and in general, specialized production and

high-yield agriculture, using technology and more advanced training of to make the investment profitable. Extensive agriculture, with environmental advantages, focusing on an aspect that is less harmful to the environment, not depleting the soil. The strategy could also focus on orderly agriculture and environmental quality, using above all soils with greater agricultural suitability. And, finally, agriculture and rural services, investing in the multifunctionality of rural landscapes through new activities, adding to production the trade of regional products, Tourism in Rural Spaces, and nature conservation, among others. High-yield agriculture has the conditions to develop in our country, but to do so you need to know the territory.

Moving on to the case study, the municipality of Cinfães is a municipality full of potential, although these are “camouflaged” by significant problems that influence the population's way of life, leading to high rates of rural exodus and emigration. Measures are necessary to enhance these spaces, the Cinfães potentialization model must focus on agriculture, namely the production of green wine and Arouquesa breed cattle.

The lack of employment, in turn, continues to be one of the factors that most harms rural areas, however, agricultural activity, given the current dynamics and requirements, can adopt changes such as organic farming and the focus on varied horticultural products, while in the vicinity of the Douro River, fruit trees and the production of green wine would be favored.

Another problem detected refers to the poor supply of specialized services. As it is impossible, for smaller municipalities, to have all the services specialists, municipal cooperation would be the most viable way to overcome this problem, thus benefiting a vast area.

Investing in the relationship between tradition and innovation is crucial to the success of projects in rural areas, conserving and revitalizing traditions and transmitting them to future generations so that they can understand the past and the way of life of the indigenous population. In turn, innovation is necessary to ensure that all the needs of the population are met and provide tourists with reasons to return to stay in the municipality of Cinfães. One of the most profitable ways to combine tradition and innovation is through rural tourism establishments, crafts and agriculture.

The focus on tourism is in fact presented as a reliable alternative, since the municipality of Cinfães preserves a superb natural, architectural and cultural heritage. To enhance and publicize it, it is necessary to work on archaeological and natural heritage routes, since archaeological heritage is more neglected. It would be a way not only to promote tourism in the municipality of Cinfães, but also to preserve this type of heritage. Another focus is on river tourism and the promotion of water courses, a profitable and safe option to boost tourism in the municipality, since there is already a river beach in the parish of Espadanedo, and on the Bestança river we come across another one multiplying the ideal places for a refreshing swim.

In conclusion, rural areas and, in particular, the municipality of Cinfães, are attractive spaces full of possibilities that should be valued, but from a multifunctional perspective. This mitigates the continuous pressure that exists on the coast and prevents the processes of depopulation of rural areas with consequent desertification. In addition to needing to be enhanced, rural areas need to be preserved and maintained, as they represent our history and our culture. We must prevent the rural world from succumbing to problems and degradation.

## Abbreviations

OECD	Organization for Economic Cooperation and Development
BC	Before Christ
INE	National Institute of Statistics
ICT	Information and Communication Technologies
TER	Tourism in Rural Spaces
GDP	Gross domestic product
RDD	Douro Demarcated Region

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## Author Contributions

Ana Ferreira is the sole author. The author read and approved the final manuscript.

## Conflicts of Interest

The authors declare no conflicts of interest.

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