



MOVING
MOUNTAIN VALORISATION THROUGH
INTERCONNECTEDNESS AND GREEN GROWTH

Policy Brief

MACIÇO NOROESTE | Douro Wine Value Chain



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Maciço Noroeste: Wine Value Chain

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Summary

The selected Value Chain (VC) as a case study is the wine value chain, particularly given the success in world markets of port wine and Douro wines, in the wine region of the Maciço Noroeste Mountain Reference Region (MRR).

In this MRR, there are challenges throughout the wine VC, in all its components: agricultural and ecosystem management in the vineyards, natural, historic and cultural heritage, tourism, art and literature, alongside the problematic accessibilities and a very institutional framework.

This case study intends to characterise the MRR and give answers to these needs, by highlighting various aspects of the region and its most relevant products, to understand how to make this MRR gain more maturity within the VC, and to achieve this purpose as quickly as possible.

Know more about the Maciço Noroeste Reference Region, its selected value chain and the regional multi-actor platform (MAP), [here](#).

Key policy messages

- Environmental education
- Technological innovation
- Land restructuring
- Collaborative Platforms

1. The Mountain Reference Region (MRR)

The Maciço Noroeste Mountain Reference Region (MRR) provides ideal conditions to cultivate grapevines, olives, chestnuts and almonds, due to its rocky soil, altitude, and clean air, all resulting in a very unique terroir. This provides a good example of cohabitation, and promoting economic and landscape diversity. In terms of wine, we will focus on a particular region: NUT III Douro (Nomenclature of Territorial Units for Statistical Purposes III Douro) that contains a major part of the Douro Demarcated Region (DDR), the most significant area of wine production. This region is rich in biodiversity (ecosystems, species, and genetic diversity), which is even higher than the rest of European mountains. Many of the species in mountain areas are endemic or rare (for example, the flora of the ultrabasic rock outcrops of the northeast). The MRR represents, in an exemplary way, major social challenges with the emergence of new conflicts



due to the use of natural resources, and of new concepts associated with ways of valuing territories, although still lacking adjusted metrics.

2. Follow the Wine

The presence of grapes in the Maciço Noroeste MRR dates back to at least 2 000 B.C., as charred seeds have been found in archaeological sites in the region. The growing of vines in the Douro region can be traced back to at least the Roman occupation in the 1st century B.C. The Douro Demarcated Region (DDR) is the oldest demarcated and regulated region in the world, dating from 1756. The Alto Douro Wine Region was elevated to “World Heritage” status by UNESCO in 2001, based on cultural, landscape, and historical criteria. Another point of interest is the prehistoric cave engravings of Vila Nova de Foz Côa, classified as World Heritage by UNESCO in 1998, which can be found over an area of 200 km².

The DDR includes in its total surface of vineyard (250 000 ha) two Designation of Origin (DO) wines: Douro wine and Port wine. This region is characterised, in general, by hot temperate climates, of Mediterranean type. We highlight the hot to very hot summers, with maximum temperatures frequently above 30°C, but reaching over 40°C during heat wave episodes. Precipitation is rare in the summer months, with occasional events of intense rainfall, frequently associated with thunderstorms and hailstorms. These heatwaves and hailstorms have intensified in recent years most likely due to climate change, creating harsh barriers in the sector, further increasing the difficulty of outdoor work, and leading to higher production losses in the most productive period of vineyard. Characterising the terroir needs a particular explanation of its soil, which is mostly compound schists and granite with different textures, and physical and chemical characteristics. In all areas, one can find important differences at different altitudes, however there is a similar feature to all, which is its poor composition of organic matter and carbon sources. It is very important to refer to the huge and wide number of native wine grape varieties in Portugal, particularly in this MRR. NUT III Douro embraces different administrative regions like Vila Real, Bragança, Guarda and Viseu. All these regions have in common the enormous influence of the mountainous environment that approaches them in many ways. On the east side, NUT III Douro is flanked by Spain, that has always been an important trading and touristic partner to this region, helping it find some balance.

3. Value chain contribution to sustainability and resilience of the Mountain Reference Region: barriers and opportunities

The low-level indicators in the [OECD Better Life Index](#) such as life satisfaction, income, jobs, education, civic engagement and health for 2019 given for NUT II level (which includes the MRR) could help to make an evaluation. Some of the farms that still exist today were created in the 12th and 13th centuries, proving their resilience, although there has been some population



exodus from the MRR to other areas. From the 1970s, and due to the shortage of labour, mechanisation was implemented. Thus, not only vines were built on terraces, but also “uphill vines” (maximum slope of 35%), which allowed for more effective mechanisation, but not sufficient. This problem persists and, currently, 40% of Douro vineyards (\pm 17 000 ha) are still not mechanised. Another gap felt in the region is the loss, over the years, of the cooperativism that existed in the past, probably because the cooperativism of other times was not strong or adequate. However, we still find some cases of scattered cooperatives in the region. Examples are the existence of some kind of “private cooperativism” that associates individual producers to join brands, taking advantage of the sum of production and the articulation of resources. Other producers join only to gain market share, after producing their own wines, and thus saving resources in internationalisation.

In the context of the MRR we highlight the presence of companies with solid export volumes, with international recognition, with documented environmental and viticultural conduct, which are beginning to integrate in their activity concerns at the level of ecosystem management in the vineyard, and the application of good practices for the preservation of nature and biodiversity. Where organic farming is practiced, maintaining the existence of a living ecosystem, with flora, auxiliaries and pollinators, precision viticulture is being used as an innovative management tool for soil preservation and to give producers enough knowledge to better preserve the biodiversity and, at the same time, be more efficient, environmentally and economically, with less waste. These innovative technologies also give producers the opportunity to optimise their human resources.

Another indisputable aspect for the region’s development is wine tourism and rural tourism, supported by the MRR's resources (wine, chestnuts, almonds, olive oil, schist and rock carvings, and biodiversity). Landscapes, heritage, culture, traditions and gastronomy are some of the bases for the development of this sector. The promotion of creative and nature tourism is effectively an opportunity to maintain the dynamism of this active area, bringing new business opportunities and the differentiation of existing products. It should be noted, however, that there is a gap in terms of catering and customer service that reveals a lack of creativity and professionalism. The distribution of wealth in the value chain must be made more equitably in terms of the exploitation of human resources.

In addition, a relevant aspect is road accessibility, which has improved in recent years but remains difficult in some places. About technological resources, like access to the internet and mobile networks, in many areas it is still difficult or even non-existent. It represents a fundamental requirement for the development of any economy/region, especially to attract and retain the younger population.



4. Policy relevant considerations

In this section are described some potential aspects to improve for a more promising future in the MRR.

Environmental education (in all age groups) and the urgent effective creation of environmental policies for an increasingly sustainable agriculture, and so that the fight against climate change is a reality.

Policies that support technological innovation, such as the study and development of machinery adapted to the rugged orography of the region to facilitate agricultural work; improvement of technological resources such as the 5G network for internet access and mobile communication networks, as these are fundamental for the promotion, development, and economic diversification of the region. Land restructuring/land parcelling and the consequent shaping of the landscape to the needs of efficient work is not an easy process, but all the rules applied to new plantations, while respecting the extraordinary beauty and heritage of the region, cannot fail to consider and allow the necessary mechanisation, just as existing examples of new plantations that attempt to reconcile the advantages of traditional vineyards with some mechanisation. The Douro area still lacks adequate machinery to the existing planting systems, which makes it urgent to promote the connection and the effort to create close business partnerships between the technological development companies and producers, to allow the emergence of adequate solutions. In the MRR, the working conditions are hard, and the service providers do not deliver an efficient service and not certainly, cost attractive. As the working conditions are not similar in all the plots, it is not easy to manage human resources in an efficient way, not only for the producers but also for the service providers. However, these companies could be more professional, with better prepared human resources, and producers could associate to minimize the labour issues generated by seasonality and the upper referred lack of manpower.

Training professionals for the sector should result from a collaborative position between companies and training institutions in the establishment of curricula and on-the-job training. On another level, it is essential that viticultural experimentation is validated by the produced wines and although the result obtained in microvinifications does not completely correspond to that obtained on an industrial scale, it is a very important step for an institution to be able to propose a new method or new ways of working to the sector.

Policies to support awareness on the importance of associations, especially among small producers. Economic benefits for companies, generated by cooperation between the various stakeholders, bringing new business opportunities, differentiation of existing products and resolution of problems faced by the sector. Policies to support the HORECA channel for a better provision of services, mainly in training, which is very deficient in the entire context of MRR. As a conclusion, the richness of landscape, terroirs, welcoming people and great wines make this



MRR one of the most beautiful and attractive wine regions in the world. Although its particularities may make it difficult to innovate in technology and methods, great advances are being implemented which have allowed for good environmental practices, increased resilience and sustainable tourism to be implemented without losing its unique features.

Mankind's work in this landscape of rare beauty made the settlement of populations possible, and resulted in an evolutionary and living reality, proof of the past and a driving force for the future, strongly anchored in the optimisation of natural and human resources and in the preservation of the environment.

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Reference

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