



RESOLUTION OIV-VITI 716-2024

OIV DEFINITION AND RECOMMENDATIONS ABOUT THE IMPORTANCE OF MOUNTAIN AND STEEP-SLOPE VITICULTURE IN THE VITIVINICULTURAL SECTOR

THE GENERAL ASSEMBLY,

CONSIDERING the work of Commission I “Viticulture” and the group of experts “Sustainability and Climate Change”,

IN VIEW of article 2, paragraph 2 iv of the Agreement of 3 April 2001, establishing the International Organisation of Vine and Wine, and under the axe 1 of the OIV Strategic Plan 2020-2024, which foresees to “Promote an environmentally-friendly vitiviniculture” and preservation of natural resources,

CONSIDERING the Resolution OIV-VITI 01/2002 on conservation of diversity,

CONSIDERING the OIV Resolution C 4/62-VITI Study on the application of technical methods and economic measures for vineyards on hillsides and slopes,

CONSIDERING the OIV Resolution VITI 2/99 on historic mountain and/or steep slope wine-growing landscapes,

CONSIDERING the Resolution OIV-VITI 424-2010 and the urgent need to protect the valuable world heritage represented by grapevine varieties,

CONSIDERING the Resolution OIV-VITI 333-2010 establishing the concept of terroir,

CONSIDERING the Resolution OIV-CST 518-2016 on general principles of sustainable vitiviniculture, and especially its principle 2 “Sustainable vitiviniculture respects the environment” and respective parts and sections concerning the preservation of biodiversity,

CONSIDERING the Resolution OIV-VITI 641-2020 guide for the implementation of principles of sustainable vitiviniculture,

CONSIDERING the adoption of the Kunming-Montreal Global Biodiversity Framework (Decision CBD/COP/DEC/15/4) by the United Nations Convention for Biological and the 2030 Agenda for Sustainable Development of the United Nations committing the international community to a set of ambitious goals on “living in harmony with nature” and “leaving no one behind”, which requires immediate and ambitious action to protect life both below water and on land, by reducing pressures on biodiversity and ecosystems,

CONSIDERING the environmental, social and economic benefits, in particular

historical, cultural and promotional, image and wine-tourism aspects of mountain and steep-slope viticulture for the vitivincultural sector and its contribution to meeting the United Nations sustainable development goals (SDGs), in particular SDG15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss,

CONSIDERING a definition of mountain and steep-slope viticulture can be useful for the vitivincultural sector to recognize and promote vitivincultural products from mountain production systems, as well as to enrich communication of its perennial nature and ecosystem services, and conservation of their benefits for the wine sector and associated value chain communities,

CONSIDERING the importance and need to include aspects in the definition of mountain and steep-slope viticulture that consider the three pillars of sustainability: environmental, economic and socio-cultural aspects,

CONSIDERING that the definitions of mountain and steep-slope viticulture should be useful not only as a supplementary tool to protect the viticultural heritage or to define present vineyard conditions and challenges, but also as a support for long-term new vineyard planning, and wine geographical indication management,

CONSIDERING that the heritage value of mountain and steep-slope viticulture is important for the vitivincultural sector, and that these areas deserve recognition and protection for their study in terms of their specific agronomic conditions, quality and sustainability objectives, contributing for the uniqueness of their wines,

RECOGNISES THAT:

- Mountain areas and territories with steep slopes are among the historically and culturally richest agricultural production sites in human history. The development of humankind, civilisation and cultural evolution has created landscapes in mountains which are in many ways unique in the world.
- These vineyards represent an exceptional heritage that should be vigorously preserved.
- Mountains are an important source of water, energy and biological diversity. They are susceptible to accelerated soil erosion, landslides and rapid loss of habitat and genetic diversity, recent reports[1] showing an increase of impacts from the combined effect of climate change and unsustainable agriculture intensification.
- Planting grapevines on mountain and steep-slope has permitted viticulture to develop in climatically suitable and in some cases, marginally suitable zones.

- The presence of viticulture in the mountains is essential to reduce erosion, landslides and the effects of flooding in flat areas.
- The mountain environment can reduce the pathogenic pressure on the vines, while increasing the quality of the wine.
- Mountain and steep-slopes sustainable viticulture provides positive externalities to society in the form of benefits for the socio-economic activity of the areas concerned, also through the development of tourism, soil, nature and biodiversity conservation, population well-being, farming, tourism and others eco-services.
- The mountain and steep slope vineyards present a substantial economic activity in frequently disadvantaged territories.
- The mountain and steep-slope climatic conditions for viticulture through improved insolation in spring and autumn based on the inclination of the slopes towards the sun, might be a key requirement to bring the grapes to ripeness in some higher altitude wine zones.
- Mountain and steep-slope viticulture faces threats on two fronts: cost and climate.
 - i. i) Viticulture on mountain and steep-slope has always been more burdensome than on flat terrain and this disadvantage increased sharply with the growing mechanisation of flat terrain vineyards sites.
 - ii. ii) In some regions climate change may transform the former climatic advantage of steep-slopes for viticulture into a disadvantage. Dependent on the soil setting and geographical location, namely warmer regions, intensified solar radiation often leads to problematic conditions on steep slopes. Reduced water retention capacity and high evapotranspiration often induce water stress resulting in reduced yields. Erosion and soil loss are intensified by changing rainfall patterns and increasing incidence of extreme rainfall events. Increased occurrence of heavy rainfall episodes often can lead to severe erosion and landslides risking losses of property and human life. Sun-exposed slopes may lead to an increasingly earlier start of vegetation and are at high risk of losses from late frost.
- The trend and general vision in the opinion of the producers about viticulture on steep-slopes is positive. However, consumer knowledge of mountain and steep slopes viticulture and their products and the services they provide to communities

and the environment is limited.

DECIDES to adopt the following definition of mountain and steep-slope viticulture:

Mountain and steep-slope viticulture refers to a system of vineyard establishment in mountain areas, these being defined as a function of terrains at high elevation, on steep inclines or in rough topography areas, according to the scientific criteria proposed by the UNEP-WCMC^[2] and to the identification methodology proposed by the EUROSTAT^[3].

RECOMMENDS TO THE MEMBER STATES which have mountain and steep-slope viticulture:

- To promote the study and conservation of mountain and steep-slope viticulture as an important source of heritage and revenues for the vitivincultural sector and of services for ecosystems and local communities, namely water, soil and biodiversity conservation.
- To promote measures aimed at improving the differentiation of products from these vineyards, such as the establishment of geographical indications.
- To investigate the social, environmental and economic drivers and benefits of vitivinculture on mountain and steep-slopes.
- To study producer and consumer perspectives of how mountain and steep slopes vitivinculture can retain or obtain economic viability, and address aspects linked to human safety, additional production costs, and consumers' willingness to pay.
- To inventory and characterise specific sustainability issues such as soil erosion control, landslide prevention, waterways and biodiversity conservation, vineyard orientation and exposure, labour and skill availability, transgenerational issues, family farm / company management and inheritance, etc.
- To study and better understand how mountain and steep-slope viticulture may impact on the physiological functions of the soil, and how they contribute to the preservation of this resource in mountain areas.
- To develop research to support this type of viticulture, which requires specific cultural practices (e.g. terraces, stone terraces, etc.) and adapted equipment (narrow-gauge tractors; caterpillar traction).
- To study how water bottlenecks caused by location and soil can be solved

sustainably. Research the superficial and sub superficial water flows, contributing areas for water flow, transport capacity and related parameters to establish adequate water drainage on the slope minimizing the risk of landslides and ensuring adequate water conservation for both vineyards and surrounding ecosystem.

- To study and define adequate mechanisation, sensorisation and robotisation options for mountain and steep-slope viticulture ensuring efficient work and reduction of operational costs and limiting labour requirements.
- To favour the implementation of public policies aiming at ensuring the survival of this type of viticulture, and the public services that may provide to both communities and the environment.
- To identify actions and solutions to preserve mountain areas social structures and develop them further to conserve the socioeconomic and natural integrity of these regions.
- To address the intertwined challenges of improving tourism, general infrastructure and accessibility in order to extend the value chain and increase the resilience of the production system within its ecological boundaries.
 - i. i) More in detail, to study how different viticultural practices have impacts in social, economic and environmental aspects of mountain and steep-slope vitiviniculture, and how they may contribute for resilience towards environmental changes.
 - ii. ii) To define for different areas the viticultural and oenological guidelines and marketing strategies suitable for positioning the vitivinicultural products in price ranges consistent with the inherent higher costs of production.
 - iii. iii) To initiate feasibility studies on how higher costs related to steep-slope vitiviniculture may be compensated through contributions from tourism and other sectors back to producers., establishing synergies and joint business strategies.
- To promote the study of consumer and societal perceptions and expectations of vitivinicultural products from mountain and steep-slope areas as a key to developing an appropriate strategy to increase their market value.
- To inventory, estimate, value and promote remuneration of ecosystem services

provided by sustainable mountain viticulture to the overall society, i.e., conservation of water, soils, ecosystems and biodiversity.

- To collaborate and support relevant international institutions which support this type of viticulture.

^[1] Schröder, L. S., Rasche, L., Jantke, K., Mishra, G., Lange, S., Eschenbach, A., & Schneider, U. A. (2023). Combined effects of climate change and agricultural intensification on soil erosion in uphill shifting cultivation in Northeast India. *Land Degradation & Development*.

Andrade-Linares, D. R., Zistl-Schlingmann, M., Foesel, B., Dannenmann, M., Schulz, S., & Schloter, M. (2021). Short term effects of climate change and intensification of management on the abundance of microbes driving nitrogen turnover in montane grassland soils. *Science of the Total Environment*, 780, 146672.

Hazeu, G. W., Roupioz, L. F. S., & Perez-Soba, M. (2010). Europe's ecological backbone: recognising the true value of our mountains (No. 6/2010). Office for Official Publications of the European Communities.

<https://www.euromontana.org/en/working-themes/environment-and-climate-change/>

^[2] IUNEP-WCMC (2002) Mountain Watch: Environmental Change and Sustainable Development in Mountains. Defining Mountain Regions Page 74. UNEP World Conservation Monitoring Centre Cambridge, United Kingdom.

^[3] 2EUROSTAT (2018) Methodological manual on territorial typologies. Part D-10. Mountain regions. Statistical Office of the European Union, Luxembourg.