

Agricultural Organized Areas Approach for Resilience to Droughts, Nutrient Cycle and Rural and Wild Fires

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Abstract : As the Ukraine war highlights the European Economic Area's vulnerability and external dependence on feed and food, agriculture gains significant importance. Transformative change is necessary to reach a sustainable and resilient agricultural sector. Agriculture is an important drive for bioeconomy and the equilibrium and survival of society and rural fires resilience. The pressure of (1) water stress, (2) nutrient cycle, and (3) social demographic evolution towards 70% of the population in Urban systems and the aging of the rural population, combined with climate change, exacerbates the problem and paradigm of rural and wildfires, especially in Portugal. The Portuguese territory is characterized by (1) 28% of marginal land, (2) the soil quality of 70% of the territory not being appropriate for agricultural activity, (3) a micro smallholding, with less than 1 ha per proprietor, with mainly familiar and traditional agriculture in the North and Centre regions, and (4) having the most vulnerable areas for rural fires in these same regions. The most important difference between the South, North and Centre of Portugal, referring to rural and wildfires, is the agricultural activity, which has a higher level in the South. In Portugal, rural and wildfires represent an average annual economic loss of around 800 to 1000 million euros. The WinBio model is an agrienvironmental metabolism design, with the capacity to create a new agri-food metabolism through Agricultural Organized Areas, a privatepublic partnership. This partnership seeks to grow agricultural activity in regions with (1) abandoned territory, (2) micro smallholding, (3) water and nutrient management necessities, and (4) low agri-food literacy. It also aims to support planning and monitoring of resource use efficiency and sustainability of territories, using agriculture as a barrier for rural and wildfires in order to protect rural population.

Keywords : agricultural organized areas, residues, climate change, drought, nutrients, rural and wild fires

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