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Mediterranean Food Systems: true dangers but false disasters thanks to innovation

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True dangers...

Mediterranean food systems are at the mercy of a number of risks and dangers. Indeed, the Mediterranean is accumulating sad records. The region is a “hot spot” for global warming and the forecasts are not optimistic. It includes more than half of the world’s “water-poor” population and has lost almost 9 million hectares of arable land to unsustainable practices or urbanisation. Moreover, the Mediterranean Sea is one of the most polluted seas in the world. With mass tourism, the rapid increase in maritime traffic and plastic pollution, the biodiversity of the region is considerably deteriorating. In 2019, it is estimated that 75% of fish communities in the Mediterranean are considered overfished. Of all socio-economic activities, food systems suffer the most from climate change impacts, soil deterioration, water scarcity or the loss of biodiversity. In this regard, they must imperatively invest in innovation and adaptation solutions to meet the food needs of a growing population that should reach 572 million by 2030 on the one hand and to preserve the planet and future generations on the other hand.

False disasters...

Despite all this, Mediterranean food systems are an opportunity for those who are willing to perceive it as such. In many ways, the region has unique assets including above all its human capital and its unique agricultural and gastronomic heritage allowing it to overcome these difficulties. At the crossroads of environmental, social and economic issues, these sectors help strengthen the food security of populations, generate new jobs and create wealth. At the CIHEAM, we believe that more innovative, sustainable and inclusive food and agricultural systems are sources of hope and abound with solutions for our future.

First of all, food systems are powerful job providers and support millions of households. On the southern shore, around 35 million people work in the agricultural sector and nearly one in 100 coastal residents is a fisherman in Morocco or Tunisia. These sectors therefore play a fundamental role in terms of jobs and activities especially in areas where the poorest populations are settled. They play a significant role in the stability and prosperity of territories. We know that investments that contribute the most to lifting people out of poverty are those made in family and subsistence farming or in artisanal fishing. Having placed the food issue back at the centre of social debates, the COVID-19 crisis is an unprecedented opportunity to promote the role of research and innovation in these fields.

The Mediterranean region is also very rich in its traditional food heritage and its typical local products, particularly enhanced by the “Mediterranean Diet”. Considered as the healthiest in the world, this ancestral diet is a precious resource. It helps promote local production and the consumption of healthy and varied foods. Increasingly popular among consumers who wish to break with waste, overconsumption and standardisation of tastes, this Diet gives rise to new, more responsible and more innovative practices in which local products and labels of origin, geographic indicators but also interactions between individuals and communities are being reinvented.

What roles can innovation play?

Since the Neolithic Revolution and the emergence of the first sedentary communities in the Fertile Crescent around 11,000 years ago, agriculture has been an integral part of our lives. We have learned to innovate and manage our ecosystems to survive. From irrigation to tractors, innovation has transformed agriculture and thus, also the history of mankind. Today, innovations driven by digital technology, the digital revolution and even entrepreneurship are leading food systems to a pivotal period. Indeed, they provide them with an unprecedented leap from both a qualitative (all activities in the value chain can be positively impacted) and quantitative (never in the history of mankind have technologies reached so many people and brought individuals closer together) perspective.

Innovation in the agro-food sectors is now helping to improve yields, simplify the daily life of male and female farmers and are increasingly based on the principles of eco-responsibility. Solutions are provided at multiple levels thanks to digital technologies: management of the field, livestock organisation, data collection (climate, water, market...), purchase of raw materials, sale and also traceability of production. Today, the number of technological innovations that contribute to climate-resilient agriculture, responsible fishing, sustainable management of land and water, sustainable and/or organic production and consumption in the Mediterranean... are countless.

As for social innovation, there are ideas, approaches or interventions, new services and products intended to respond more adequately and more sustainably to the needs of the region. These innovations benefit the community and not just individuals, thereby breaking with the existing. There are plenty of such innovations in the Mediterranean. At the CI-HEAM, everyday, through their initiatives, we see students, researchers and project leaders shaping an agriculture that is more open to society, allowing a greater participation of the most vulnerable groups, that fosters installation in agricultural and rural jobs, and sharing of knowledge and good practices in the service of food security for all.

Technological and social innovations are two sides of the same coin that help shape the food systems of tomorrow. They are also at the core of the attractiveness of professions for sustainable local development and job creation for young people. Our commitments, our training courses and our projects on the ground integrate these two dimensions of innovation. It is the only way to address the multiple challenges the region is faced with and to achieve a better understanding of the interconnections and interdependencies in Mediterranean food systems (from production, processing, distribution, marketing to food consumption).