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The Future of Food in the Euro-Mediterranean Area

Disruptive innovations that can be applied to our food systems to deliver healthy diets

- Challenges and opportunities
- The Future Food Purpose driven model
- The change in mindset that is needed

### **Challenges and opportunities**

Eating is an essential act for the human being, his/her own survival depends on it. However, producing, processing, distributing and consuming food requires consciousness and awareness. Never as before we have been reaching a tipping point where nourishing a growing population in a healthy way within the planetary boundaries demands adaptation and resilience to climate change. The global pandemic has simply made more evident the leakages of unsustainable agricultural processes, that are even more urgent in vulnerable areas such as Mediterranean Countries.

Despite their divergences, it is possible to track common challenges:

#### *The drastic effects of climate change*

Global warming accelerates the rate of soil degradation, that in arid and semi-arid areas speeds up desertification. At the EU level 13 states, most of them located in Southern-Centre Europe, have already declared to be affected by desertification, while Italy is considered the second most affected country by hydrogeological catastrophes in the EU. It is clear to understand how a high rate of evaporation and prolonged periods of water absence worsen water shortage and compromise agricultural production, that in these areas is estimated to account for over 80% of total water usage. Risks for agricultural production are also exacerbated by frequent extreme water related events such as heavy rains and floods, that alter the seasonal rainfall and increase the threats for pests and related diseases. Also rising sea levels pose a further challenge, specifically due to salt-water contamination and potential loss of arable land.

#### *Storage and transportation*

Mainly in the Southern Mediterranean area, challenges also come from inefficient storage capacity and inadequate transport facilities, that in turn may accelerate the risks for food loss and waste, especially when related to fresh or highly perishable products.

### *Rapid urbanisation*

By 2050, almost 70% of the world population will live in urban areas. This phenomenon is evident also in Euro-Mediterranean countries that have been experiencing drastic rural abandonment. In order to feed this larger urban population, food production must increase by some 50 % compared to 2013.

### *The role of nutritious diets*

Despite being well-known all over the world for the Mediterranean Diet, the Euro-Mediterranean area has been experiencing an overall shift away from the traditional Mediterranean Diet towards more animal-based and fat foods. This is mainly due to drastic urban development, changing working habits and development of large supermarkets.

These challenges, the drastic changes to tourist flows and the radical alteration to lifestyles are stressing the urgency to re-learn and understand the value of nutrition again, while re-connecting with food and feeders.

Humanity can adapt to the great changes we are experiencing only by putting humans at the center again.

## **The Future Food Purpose driven model**

The Covid Pandemic has brought out the essential human needs while redesigning a scale of priorities that highlight the crucial role that agriculture plays, as a driver for Earth regeneration and adaptation to scarcer and scarcer resources. Robust and resilient food systems are needed to empower human health, ecosystems, supply chains, consumption patterns. It is needed a systemic vision of the agri-food sector, based on the concept of innovability: innovation for sustainability, that embraces not only the consideration of food as a commodity but also its related cultural, social and environmental impacts. This is indispensable to be fully in line with the framework included in Agenda 2030.

People, recalling the concept of a hyper-connected Humana Communitas for the integral good of humankind.

Planet, that stands at the centre of the models, also in order to assess the ecological deficits and ecological spending review, as the scientist Michael Mann writes in his work "The Madhouse effect" (How Climate Change Denial Is Threatening Our Planet, Destroying Our Politics, and Driving Us Crazy).

Prosperity, through the regenerative power of a purpose that takes into account multiple indicators of well-being.

A sustainable food system must ensure sufficient and varied supply of safe, nutritious, affordable and sustainable food to people at all times, not least in times of crisis.

Applying the Food for Earth Regeneration Toolbox in the Euro-Mediterranean Area

Through the Food for Earth Regeneration Toolkit, we can interpret the future restarting from a blank sheet and shifting from design thinking to prosperity thinking. This means passing from a period where companies made people want things to an era where we make things the Planet wants.

## FOOD DIPLOMACY

Food has always played an important role in interstate relations and diplomatic practice. This is particularly evident in Euro-mediterranean Countries where the limited supply of cultivable land, and the effects generated by climate change, soil degradation and water shortage may accelerate migration flows. In particular, the disruptions of the food supply chains generated by Covid-19 and the restrictions in the food markets have also made even more evident the risks for climate-vulnerable countries, food security and peace.

Creating a multi-faceted and multidisciplinary approach where private international organisations collaborate with the Community Agricultural Policy on Food Diplomacy is therefore pivotal. This approach grounds on information sharing and multi-level cooperation, even though it should not forget the importance to support small-scale farmers and local productions, also through specific encouragement of new regional and municipal markets in order to boost the local markets when it is possible.

## CIRCULAR LIVING

Circular living is an innovative approach aimed at eliminating waste through continuous management of resources. By focusing on increasing efficiency, waste outputs are converted into useful inputs, minimizing the loss of resources.

Globally, one-third of the food produced worldwide is wasted. As the land use, energy and water consumption have been unnecessarily exploited, the environmental costs for climate-vulnerable countries are even higher. Wasting food accelerates climate change and biodiversity loss, which in turn fosters pandemics and threatens food security. Incentives against waste are necessary both on the production side

(food loss) and on the consumption side. In the former case, investing in better storage methods and shortening the distance between food producers and consumers may reduce food to be lost in the field or during transportation. Several are the projects aimed at creating direct channels between feeders and eaters, transforming digital platforms into essential tools. As this crisis is transforming the food sector, we could testify a rapid move from current centralization to disintermediation and decentralization. Also incentives to new food processing industries, which are able to dispose excesses of production and transforming them into finished consumer products, are additional good practices.

In the latter case, increasing public awareness is the first necessary step to reduce both food overconsumption and water overconsumption, that often end up to unnecessary waste. Following this purpose, primary and secondary school subjects should be integrated with "food education", a transversal topic that covers both science in the kitchen and experiential workshops with operators in the supply chain. It is a form of education based on training, systemic thinking and holistic approach, where it is possible to implement through food a One Planet - One Welfare - One Health approach. This eventually stresses the role of culinary responsibility for consumers, who can shift the current demand in the direction of more sustainable options.

## CLIMATE SMART ECOSYSTEMS

A smart approach to climate change facilitates adaptation design and mitigation strategies, moving from an intensive and inefficient approach to low environmental impact. In this sense hi-tech and innovation platforms represent enabling elements for resilience.

Technologies, such as smart power systems, precision agriculture tools, farm management software, and affordable sensors can contribute to monitoring and optimizing water efficiency and, evidently, agricultural production. These practices play a pivotal role not only in maximizing the amount of water of the soil, but they also allow planned irrigation interventions based on the crop needs. This can only be possible by adopting rational irrigation approaches, based on specific data such as those collected by big data. In this way, such practices prevent massive use of natural resources to be extracted and wasted, as well as allow for less quantities of fertilizers and pesticides. The recent EU Green Deal has stressed the importance to reduce the risk of water shortages by introducing measures for water reuse in agricultural irrigation. Other techniques also include aeroponics, that by growing plants without the use of soil, is often used to produce food indoors in cities or in food deserts.

Besides incentives to innovative technologies, also the power of traditional agricultural methods should be equally considered as a pivotal restoration and regeneration method. Regenerative agriculture is a dynamic

and comprehensive approach in which permaculture and organic farming are practiced using conservation tillage, crop rotation, composting, mulching, mobile animal shelters and pasture cropping. This combines economic benefits with social advantages for the communities (in terms of preserving traditional knowledge and strengthening communities) and environmental benefits (such as reversing climate change, decreasing GHG emissions, restoring grasslands).

## FOOD IDENTITY

Food identities provide a representation of the wealth and cultural diversity existing in a city's food and social landscape. Food landscapes are defined as physical, organizational and socio-cultural spaces in which inhabitants encounter themes related to food. The interaction of different food identities determines the general culture of the places where the Humana Communitas resides.

Shopping daily for food and meeting foods in different forms seem to create a 'landscape of foods' or "foodscape" that can be considered a combination of the two main ingredients for "Health". The idea is that food environments are a powerful and independent determinant of health, food behaviour and experience in a specific location. While cities socially engineer environments, they meet the needs of people through different aspects as well. An example of this is food landscape that helps to enable the discovery, experience and decision making processes.

Global change and the Covid Pandemic have radically changed eating lifestyles putting at risk the basis for food identities, especially in Euro-Mediterranean Countries. The convivial aspect of the meal, sharing experiences around the table are undoubtedly compromised as well as all the traditional crops that cannot be produced without their adequate climatic conditions.

However, the context of the current emergency is stressing the role of diets as drivers for both environmental and human health. The Mediterranean Diet, which is agreeably defined as a planet-friendly diet and sustainable and healthy way of living, could gain a new value and new traction again. This can be ensured by shifting trust from multinationals to small brands that are both sustainable and authentic. The tables of our kitchens will soon become the new classrooms where people learn and care about food, about health and planet care.

## PROSPERITY

Prosperity is not isolated from financial gain but it requires to embrace also emotional, physical, mental and cultural prosperity. Our understanding of prosperity must change and develop to include all the necessary facets. In this new integrated approach to prosperity, it is necessary to rethink the indicators and

generators of well-being and determine how food and nutrition can act as a tool to create new prosperity and new economy: the caring economy, where food is a tool to take care for others while respecting personalised nutrition schemes.

With specific reference to the Euro-mediterranean areas, it is pivotal to encourage the development of rural hubs, which are able to bring young people back to the fields, while encouraging multidisciplinary group of experts in subjects complementary to the agricultural sector in order to enhance food in its entirety, bringing greater value to farmers.

Innovation is a cooperative effort and to engage multi-stakeholder partnership it is urgent to share data, information, competences and research. Farmers should be better supported and receive technical and practical assistance on the one hand to develop effective mitigation and adaptation strategies and on the other hand to ensure food production despite changing eating habits. Consumers, on the other side, should be informed in a transparent way about where food comes from, how it was produced, and who produced it. This provides consumers with a concrete assurance about food integrity and safety. As a result, “natural, organic” is on the rise. Decentralised systems, such as blockchain, have now the unique opportunity to adopt the role of an enabler for transparency democratization.

### **The change in mindset that is needed**

Mindset is the established set of attitudes held by someone. Although this concept might be seen as static and rooted in personality traits, we believe major shifts can and should happen when it comes to beneficiaries.

### **EDUCATION VS LEARNING > LIFELONG LEARNING MUST BE THE NEW ATTITUDE**

We believe that education and learning are two seemingly similar concepts that in actuality can be rather distinct. In its simplest form, education can be described as a process through which society passes on knowledge, values and skills from one generation to another. Learning, on the other hand, can be described as the acquisition of new skills, knowledge, and values. Although relatively distinct in their meaning, we believe that both education and learning greatly influence the mind and character of an individual and by extension society as a whole. When driving towards a systemic change both education and learning become immeasurably important. To this end, it is our strong belief that education can be considered a prerequisite of consciousness. In contrast, lifelong learning involves the creation and maintenance of a positive attitude to learning both for personal and professional development. Therefore, learning can be considered a prerequisite for action.

These are the most urgent and tangible strategies that every community can adopt to accelerate action on global health awareness and facilitate the transition toward the sustainable development framework.

Learn food literacy by doing and make food experiences as a mandatory subject from elementary to high school

Identify, empower and align with [national / regional / local] change makers, food and climate shapers, while fighting change-resistance also with a multigenerational and multicultural learning approach

Co-design learning strategies for different age groups (Gen Z versus millennials, etc.)

#### EFFICIENCY VS TASTE > TASTE MUST BE THE NEW QUALITY INDICATOR

We urgently need to reconsider the value of taste in agrifood and aquaculture. In a food system that has been focused on finding the best possible use of resources in order to achieve high performances, taste seems to be now the missing link in the current food system and therefore a potential key to get to a better food system.

Taste and nutrients have not been among the criteria that shaped modern agriculture. We've massively and globally started using varieties and growing methods to service the needs of the food industry and big retail. The result is that we've ended up with a system where just 30 species produce 97% of all calories consumed. These species have basically become tasteless commodities without any regional identity of specificity. They remain very cheap partly by not pricing all kinds of indirect costs. This means that the righteous principle 'the polluter pays' is not applied.

#### SERVICE VS CARE > CARE MUST BE THE NEW COMMODITY

We believe that food has an incredible ability to tap into our humanity. As we become more conscious of the food that we consume, we intuitively become more conscious of its journey. Food is rapidly regaining the meaning that it has lost through an age of intensification and over-consumption. Food will grow to become a means of both social and personal development. It will facilitate social inclusion and act as a means for mental, physical and cultural nurturing. By and large, food is fast becoming a medium through which we learn to care about both the people that produced it and the environment from which it came.

#### OWNERSHIP VS ACCESSIBILITY > ACCESSIBILITY MUST BE THE NEW OWNERSHIP

A sharing economy, which primarily involves the transformation of traditional market behaviours into collaborative consumption models, ensures a more efficient and sustainable use of resources, is part of the circular economy and has generated business models that are compatible with it. Although this concept has

been already showing major success in transportation and hospitality, food and agriculture seem to be still running behind. We need to develop a national food policy with clear targets towards empowering accessibility and dismantling ownership obsession, to grant a broader reach, democratizing resources and using them more sustainably.