Future Scenarios for EuroMed Agrifood

PRIMA
PARTNERSHIP FOR RESEARCH AND INNOVATION IN THE MEDITERRANEAN AREA

PRIMA
SEGRETARIATO ITALIANO
SANTA CHIARA LAB
Università di Siena 1240

With the participation of
Union for the Mediterranean
Union pour la Méditerranée
الاتحاد من أجل المتوسط

The PRIMA programme is an Art. 185 initiative supported and funded under Horizon 2020, the European Union's Framework Programme for Research and Innovation

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This report is edited by the Italian Secretariat of PRIMA, with the contribution of the PRIMA Foundation, the Union for the Mediterranean, the European Commission, the Food Agriculture Organisation, FACCE JPI, EIT Food, Ain Shams University, the World Farmers Organisation, Future Food Institute, Parliamentary Assembly of the Mediterranean, SDSN Mediterranean. The views and opinions expressed do not necessarily reflect those of the above-mentioned Institutions.

The report is based on the results of the Euro-Mediterranean agrifood survey launched in April in the frame of PRIMA (Partnership for Research and Innovation in the Mediterranean Area) and on the debate of the webinar promoted by PRIMA and the Union for the Mediterranean in July.

Data of the report have been elaborated by Francesca Gagliardi.
The graphic design made by Guido Bellini.

We also thank Monica Cavicchioli, Barbara Di Paola, Fiorino Iantorno, Giovanni Stanghellini and Cristiana Tozzi for their contribution.

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Foreword

Humanity is facing what could be described as the biggest global crisis of the generation. The United Nations published a report on March 2020 identifying the main socio economic impacts provoked worldwide by the COVID-19 with reference to the 17 Sustainable Development Goals (SDGs) of the Agenda 2030. In addition to the devastating effects on public health (SDG 3), the main problems emerged concern inter alia the loss of income leading vulnerable segments of society to fall below poverty line (SDG 1), the risk of collapse of essential services including food production and distribution (SDG 2) and clean water supply (SDG 6). It is clear from these observations that it is necessary to promote transitions to a **new developmental model inspired by the SDGs**. Many of these challenges have even greater relevance in the Mediterranean region, which is a hot spot for Climate Change, as authoritatively reported in the UFM.

Research and innovation also have a great role to play in order to foster **positive transformations** in view of more sustainable and equitable Mediterranean region. With this in mind, PRIMA is willing to contribute for the years to come to the recovery of the region, promoting concrete solutions for a sustainable euro-med water, farming and agrifood sectors. This is even more compelling if framed in light of the **Next Generation EU**, which backed and reinforced the **European Green Deal** and the **Farm to Fork Strategy** and in the **25th Anniversary of the Barcelona Declaration** that opened an era of dialogue and cooperation for the Mediterranean region.

The agrifood ecosystem was among the most affected sectors due to the international borders closure, national lockdowns and the enforced restrictions on mobility and flow. We were clearly shown also that **health is a single, all-encompassing concept**. As expressed in the **Farm to Fork Strategy** "*a shift to a sustainable food system can bring environmental, health and social benefits, offer economic gains and ensure that the recovery from the crisis puts us onto a sustainable path*". The pandemic has also reminded us, once again, that certain challenges do not know borders and collective responses are the only possible solutions. In this sense, the PRIMA Partnership and the equal-footing principle that is underpinning it, proves to be the right path, as reiterated in the EU-Africa Strategy. To better tailor its role in the Mediterranean area, PRIMA launched a survey meant to understand the current trends, the emerging needs and challenges, the possible solutions and the best practices, within the agrifood sector after the pandemic outbreak.

The transition towards **sustainability** is unavoidable and essential to preserve our planet and **innovation** is key to strengthening adequate profitability for farmers, smallholders and SMEs. They, on one side, will experience major financial problems, on the other, shall be supported as actors able to generate a new model, which promotes prosperity for all, so valorizing the role of local territories and communities as well as the protection of land and soil.

The issue of **leaving no one behind** is also essential, considering that "*Healthy diets are unaffordable to many people, especially the poor, in every region of the world.*" According to FAO recent report on **Food Security, innovation** might play a role also in this regard, by ensuring more affordable diets, which "*..are estimated to be, on average, five times more expensive than diets that meet only dietary energy needs*". Innovation is also decisive in preserving biodiversity, boosting resilience and preventing the spread of future outbreaks, while creating new economic opportunities in rural areas.
As the European Union launches its "*..€ 1 billion European Green Deal call*" as the biggest call under Horizon 2020 PRIMA with innovation at its heart – as commented by **Commissioner Gabriel** - PRIMA is ready to play its role in fostering sustainable transitions and systemic transformations to the benefit of citizens and Mediterranean societies.

Angelo Riccaboni – Mohamed El-Shinawi
Chair and Co-Chair PRIMA Foundation

Main Findings

The following pages summarize the answers and opinions received as well as the comments and views expressed by experts and some PRIMA Countries Representatives. The self-administered survey was meant to understand the situation of the Euro-Mediterranean agrifood system in light of the COVID pandemic, the emerging trends, the new challenges as well as the transformations to be positively induced.

All respondents have been asked to state their opinion on several statements concerning the future of Euro-Med scenario for agrifood. The statements have been divided into three pillars: *agrifood systems and society, businesses, consumers*. The answers have been provided on the base of the following Likert scale:

1. I strongly disagree
2. I don't agree
3. Neither agree nor disagree
4. I agree
5. I fully agree

The respondents are 181 experts in agrifood and sustainability of the Mediterranean basin. Most of them are academic or work in public institutions. The representatives of the PRIMA Board of Trustees as well as the members of the Scientific Advisory Committee have been involved.

Here below the results are reported, based on the "*consensus*" or "*divergence*" that the interviewees have shown on each statement. Detailed per/question data are presented in the Annex (p. 7) for the entire sample and disaggregated at area level, North and South Mediterranean countries. In addition, each statement is also interpreted using the Threat/Opportunity perspective, highlighting some concrete questions that can better help addressing the issue.

Summary of agrifood systems and society pillar

Large consensus versus 'agree' position	Not convergence and doubtfull positioning
• Limitations to mobility of temporary agricultural work force will negatively impact production • International trade will slow down • International policies on agri-food need to be defined to allow a broader governance and more effective controls on sustainable production of food • Food security and regional/national self-sufficiency will become more important • Innovative approaches will be needed to secure food supplies to vulnerable groups • Price volatility of agricultural commodities will grow	• Major disruptions in international food supply chains will occur • Agrifood supply chains will become shorter

Summary of businesses pillar

Large consensus versus 'agree' position	Not convergence and doubtfull positioning
• The introduction of technological innovations (Agriculture 4.0, artificial intelligence, digitalization, blockchains, innovative research-based products ...) will become crucial for agrifood businesses to survive • The introduction of organisational innovations (new business models, aggregations, partnerships, ...) will become crucial for agrifood businesses to survive • E-commerce will streamline value chains and digital sales will grow • Major financial problems will affect smallholders • Major financial problems will affect SMEs in the agrifood sector • Risk management will become more relevant	• Major financial problems will affect big agrifood businesses • Attention to the scenario post COVID will induce businesses to give less attention to Agenda 2030

Summary of consumers pillar

Large consensus versus 'agree' position	Not convergence and doubtfull positioning
• Due to the economic crisis, consumers will give attention mainly to the price of food • Consumers will give more attention to rigorous traceability of inputs, production processes and logistics (not strong consensus) • E-commerce and digital sales will grow	• Consumers will give more attention to sustainably produced food • Consumers will give more attention to nutritious and healthy food • Consumers will give more attention to canned and long-life food • The Mediterranean diet will be increasingly adopted • Major disruption of street markets will occur

In addition to the empirical results, experts have also provided a professional opinion about what they believe are possible future scenarios, underscoring and commenting the issue, aspect or trend considered mostly relevant in the agrifood Euromed sector.
Some opinions supported the general idea that new priorities will emerge and that some post pandemic changes will take place especially on the short-term, but they still believe that the pre-COVID-19 priorities will become important again. However, some opinions went in the opposite direction that the situation with Covid-19 had been exaggerated beyond facts and that many people jumped into conclusions without any objective data regarding the Agrifood sector, which has shown remarkable resilience over the years and therefore it would not be greatly affected by the covid-19 pandemic.
In regards to **consumers**, experts think that this crisis is going to worsen **the gap** between the rich and poor; and that food choices will be linked to that. Therefore, price will be the main influencer of poor consumers food choices, while the richest will consider other dimensions such as sustainability, healthy foods and their traceability. Economic uncertainty of families, conditioned to wages discontinuities induced by crises, and the exacerbated distance between the richest and poorest compromise access to healthy food, often limiting options to low cost, over-processed and indefinitely storable foodstuff. Local food suppliers, including small farmers and retailers, can contribute to match the demand of fresh food and fill the void left by large retailers thus representing a strategic asset to face crises. Food safety originates from the work of producers and control authorities, but consumers, with their food habits, play the most important role in preventing effects of pandemics. The rate of obesity is impressively around 20% of the Euro-mediterranean population and obese people belong the category of most vulnerable to virus attack. Empowering consumers to make better-informed decisions that are healthier for them and for the planet is an urgent measure.
Several opinions supported the idea that we need **to introduce more innovatively designed research methods** while others went more specific and highlighted the need to further investigate interdependencies across geographical areas and the different types of value chain. On the other hand, other experts mentioned that under the current circumstances and because the emergency is still on, it is difficult to predict what specific trends will prevail.
However, it was realised also that **meeting the demand** for constant food supply under pandemic conditions was a **challenge**, and as a result, for the post-COVID scenario it is important to promote **innovative solutions** that can improve the global and local efficiency of the entire Agrifood production chain, while maintaining high nutritional values and affordable retail prices. Innovation therefore plays a crucial role in allowing food productions to satisfy new needs with the widest possible benefits: those operating in this sector must introduce forms of **technological, organizational and social innovation** into their production, processing and distribution activities. In the absence of new ways to produce and redefine their own business models, the companies operating in the sector could hardly be able to exploit the full potential of the Mediterranean Diet, so as to bring about the desired benefits for themselves and their communities. Technological and organizational innovation is therefore a decisive factor if we seek to have agri-food systems that meet the nutritional needs of all citizens, all the while respecting the environment and animals and safeguarding public health.
For the majority of experts, agrifood value chains will also need restructuring post COVID-19, but this may only be driven by wise **policies** in order to achieve better sustainability. These policies should focus more on protecting smallholders and supporting short and regional supply chains, as well as highlighting the advantages of fast on-shelf delivery with less mediators, which will not only enhance food security characteristics, but will also increase smallholders' earnings.
More in general, a wider governance is needed to share policies and strategies for the agrifood sector that need to be discussed and agreed by experts, food operators and policy makers.

In conclusion, lessons learnt from the COVID pandemic suggests that a prosperous reboot will require testing and deploying **innovative solutions** for preventing or eventually managing new crises. The post-COVID innovation action must cover a wide range of issues, from education addressed to consumers to promote sustainable food patterns, to solutions addressed to value chain actors, including technologies, nature based solutions and organisational frameworks. More in general, the desirable direction goes towards a **transformative resilience** and the agrifood sector in particular will have a crucial role in this transition process.

Despite the disruption caused by the pandemic to economies, experts still believe that the **major challenges** Agrifood production was facing and will face in the future **are current and ongoing**, and therefore, emphasis should be given to create more resilient Agrifood systems in conjunction with more sustainable and anthropocentric social and economic systems, and that markets will pick up faster than predicted.

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In the span of a few months, the pandemic of COVID-19 has spread to every corner of the world, and has pushed us into an unprecedented crisis, the severity of which has not been seen in almost a century. The socio-economic repercussions of this crisis will be extremely far-reaching, and will likely unfold for years to come. Even levelled out across the world, the OECD estimates that for each month of confinement, there will be a loss of nearly 2% in annual GDP growth, and the economic impact alone is now expected to be worse than the 2008 recession. The pandemic has reconfirmed that the systems on which we depend, are not only increasingly interdependent, but also growingly vulnerable. This reality, valid at a global scale, is nonetheless a more urgent one for the Mediterranean region, where conditions of fragility and exposure are further concentrated. **The region's existing elements of fragility – most notably the high levels of socio-economic inequality and the pressing climate change emergency – are indeed set to worsen as a result of the pandemic.** The rise of temperatures is notably progressing 20% faster than the global average across the region. Therefore, the health and wealth threat multiplier represented by climate change is especially intense over the Mediterranean Basin.

Water, food, energy and ecosystems are intertwined and essential for human well-being, poverty reduction and sustainable development, including by addressing climate change impacts. **We are therefore working through a nexus of natural, institutional, economic and social frameworks.** Indeed, agriculture accounts for 70 % of total global freshwater withdrawals, while about 30 % of total global energy is used by the food sector. Healthy ecosystems support the sustainability of the above and are negatively affected if water, energy or food are used in an unmaintainable way. Demands for water, food and energy are increasing due to population growth and economic development. **It is estimated that by year 2050, 50% more water, 60% more food and 80% more energy would be required globally; by 2030, the world is projected to face a 40% global water deficit under the business-as-usual climate scenario. In the absence of a globally coordinated response** and with the risk of environmental considerations slipping at the bottom of the agenda in these times of economic crisis, **we can expect more shocks in the form of extreme weather events or further infectious outbreaks.**

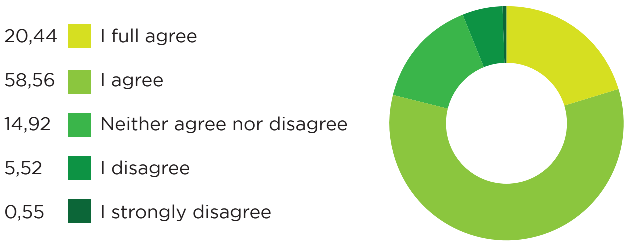
While addressing the unprecedented situation created by the Covid-19 pandemic, the UfM will therefore continue to drive the very necessary conversations aimed at preparing the region to face, tackle and even reverse the inevitable impacts of climate and environmental change.

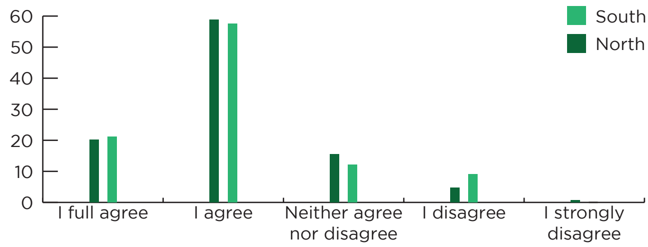
Detailed Results

Agrifood systems and society

1. **Limitations to mobility of temporary agricultural work force will negatively impact production**

There is a strong agreement on this statement from all respondents; 79% agree or fully agree on it and there is no different view between respondents of South or North Med.

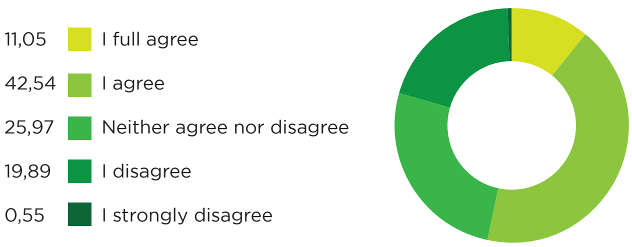


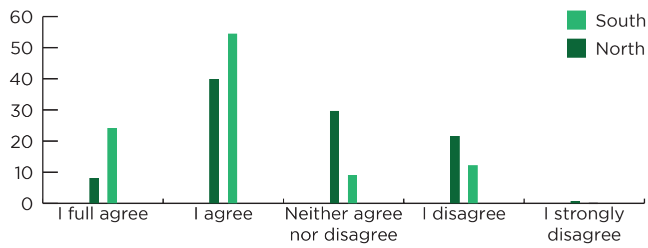


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
SOCIETY	Yes - No		
Limitations to mobility of temporary agricultural work force will negatively impact production	Yes	Threat	Statistics show trends of abandon of rural settlements in the EuroMed area with a constant increase of urban population and decrease of employees in the agrifood sector. The composition and dynamics of labour force in agriculture is a critical issue as well as labour rights and fair salaries of growers being determinant actors of the value chain. The emerging THREAT enhances the role of temporary agricultural workers as crucial agents for food security. CHALLENGES: How to limit uncertainty? How to guarantee labour rights? How to support agribusinesses?

2. **Major disruptions in international food supply chains will occur**

Responses to this statement are more eterogeneous and less convergent: 53% of respondents agree or fully agree with it, but 26% have no opinion on it and 21% disagree with it. Responses are also different between respondents from North or South Med. While South respondents mostly agree, North respondents are very scattered between agree/don't agree/neutral.

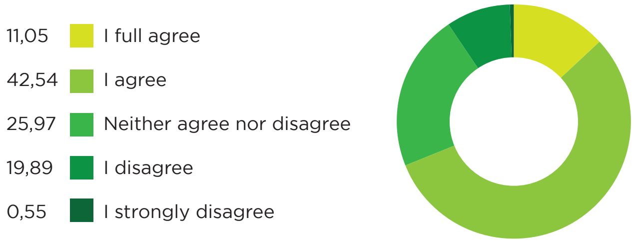


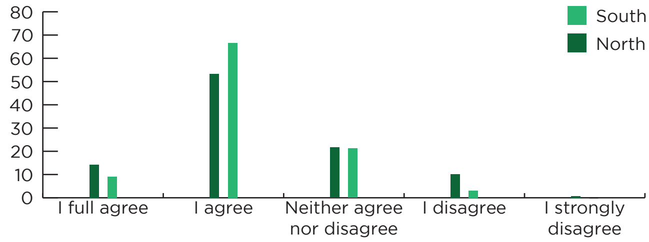


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
SOCIETY	Yes - No		
Major disruptions in international food supply chains will occur	Yes	Threat	Instability of international supply chain concerning food trade represents a THREAT that confirms the importance of local food supply, among the possible mitigation measures. Countries with high rates of food income are more vulnerable. CHALLENGES: What policies are need to guarantee international food supply as a factor of food security?

3. **International trade will slow down**

The statement has got a large consensus: 69% of respondents agree or fully agree with it. South Med respondents converge more on agreeing the statement. 22% of respondents have no opinion.

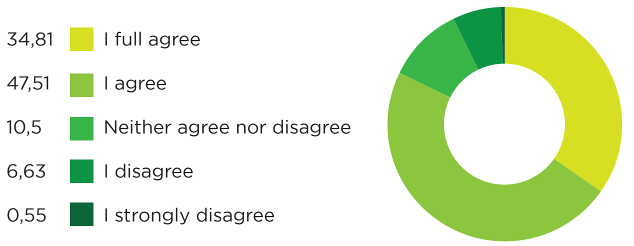


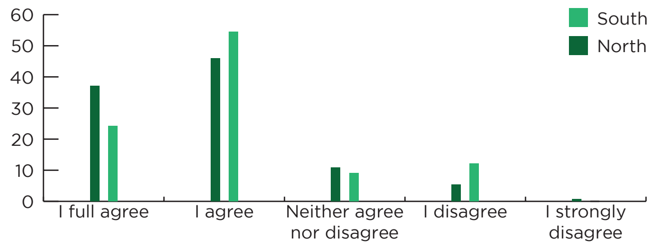


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
SOCIETY	Yes - No		
International trade will slow down	Yes	Threat	The slow down of international trade is perceived as a THREAT, especially concerning economy of agrifood value chain actors, in some cases almost fully oriented to the global market. CHALLENGES: What policies are needed to limit the effects of trade block? How to promote market differentiations schemes and versatility?

4. **International policies on agri-food need to be defined to allow a broader governance and more effective controls on sustainable production of food**

There is a strong agreement on this statement: 82% of the respondents agree or strongly agree on it and there is also almost an uniform distribution between North and South respondents.

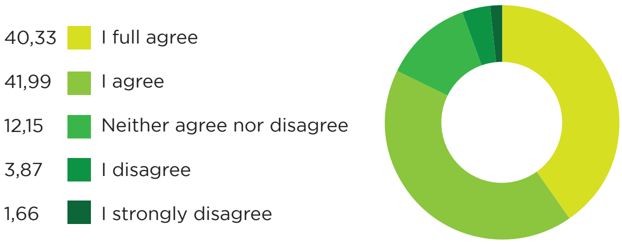


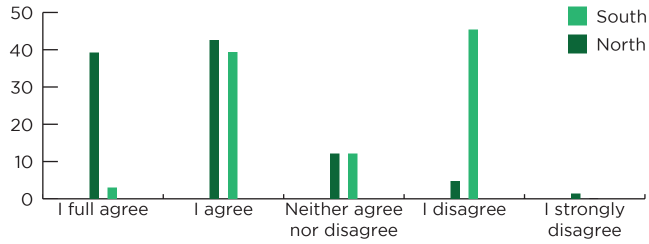


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
SOCIETY	Yes - No		
International policies on agri-food need to be defined to allow a broader governance and more effective controls on sustainable production of food	Yes	Opportunity	Sustainability of food value chain is generally interpreted as an OPPORTUNITY and priority requisite to be met at the international level, in compliance with the EC 2020 "farm to fork" communication. CHALLENGES: How to enforce international cooperation to increase governance and control on agrifood practices?

5. Food security and regional/national self-sufficiency will become more important

There is a strong agreement on this statement: 82% of the respondents agree or strongly agree on it but if we consider the responses by area the situation is very different between North and South respondents. While North respondents all converge in agreeing or fully agreeing the statement, the South respondents are equally divergent between agree and don't agree.

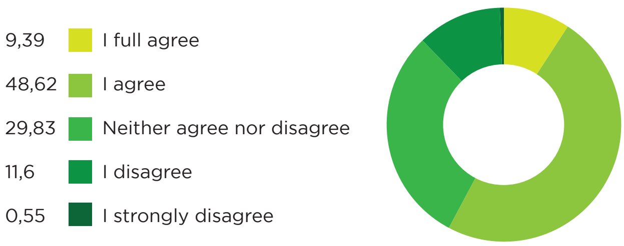


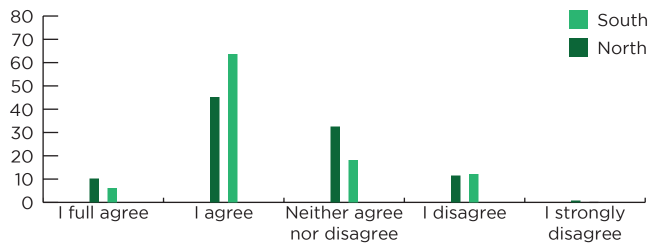


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
SOCIETY	Yes - No		
Food security and regional/national self-sufficiency will become more important	Y & N	Opportunity & Threat	Increasing the rate of food internal supply at national and regional level is seen as an OPPORTUNITY in most cases. Nevertheless, this is highly dependent from climate and environmental contexts, and can represent a THREAT for example in conditions of water scarcity (limited self-sufficiency). Divergent results recorded for the southern area may depend from contextual reasons. CHALLENGES: How to support the establishment of more consistent national and regional food value chain networks? How to remedy the lack of self-sufficiency (when relevant) to guarantee food security?

6. Agrifood supply chains will become shorter

There is not a strong convergence for this statement: only 50% of the respondents agree on it, while 30% have a netrual position. South respondents agree with it more than North repondents.

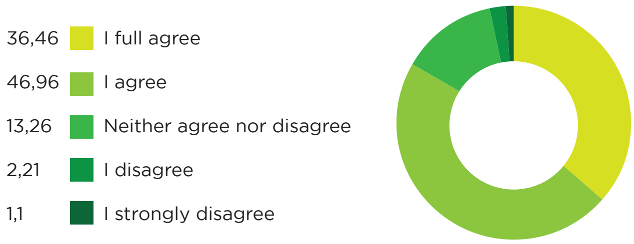


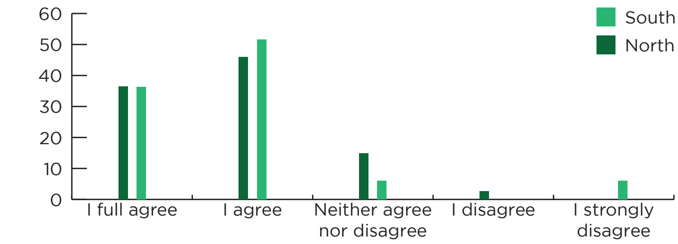


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
SOCIETY	Yes - No		
Agrifood supply chains will become shorter	Yes	Opportunity	Short food supply chains and lively local food markets are generally agreed to be an OPPORTUNITY to enforce local economies around welfare and healthiness of local communities, including rural settlements. This is expected to increase resilience of the agrifood sector and contribute to food security. CHALLENGES: how to support rural communities? How to engage smallholders and agribusinesses? How to strengthen value chain networks as market leverage?

7. **Innovative approaches will be needed to secure food supplies to vulnerable groups**

There is a strong agreement on this statement: 84% of the respondents agree or strongly agree on it and there is also almost a uniform distribution between North and South respondents.

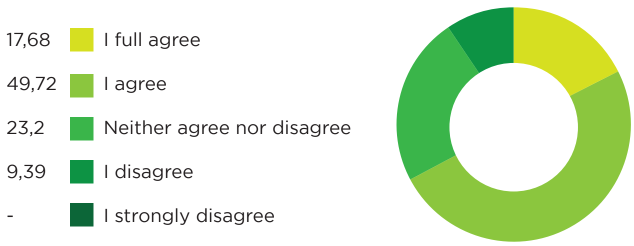


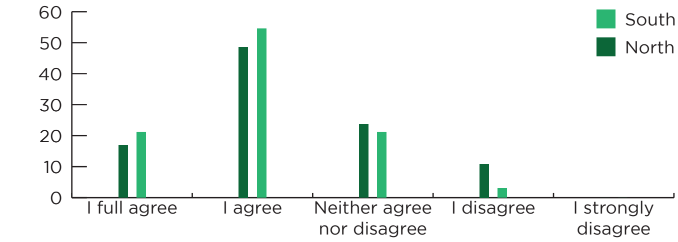


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
SOCIETY	Yes - No		
Innovative approaches will be needed to secure food supplies to vulnerable groups	Yes	Opportunity	Innovation offers multiple OPPORTUNITIES from both the production and the consumption side but also concerns social issues that need to be managed by combining efforts of public institutions and businesses. CHALLENGES: How to increase the access to fresh food with a key role played by retailers and local food suppliers? How to decrease food waste throughout the production chain? How to promote healthy food habits (e.g. Mediterranean diet) and avoid low-cost hyper-processed food consumption?

8. **Price volatility of agricultural commodities will grow**

68% of the respondents agree or fully agree on this statement and the distribution of the answer by area are completely equivalent. 23% of respondents are neutral on this statement.





Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
SOCIETY	Yes - No		
Price volatility of agricultural commodities will grow	Yes	Threat	Price volatility is generally perceived as a THREAT especially concerning agricultural commodities with potential consequences on food security. CHALLENGES: What policies are needed to safeguard primary productions from market changes?

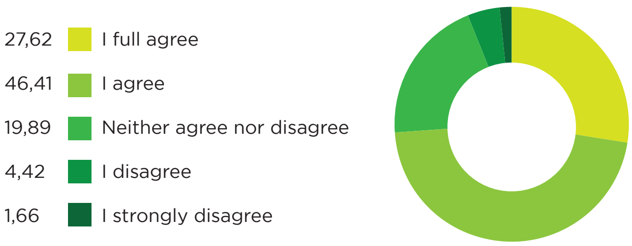
Summary of systems and society pillar

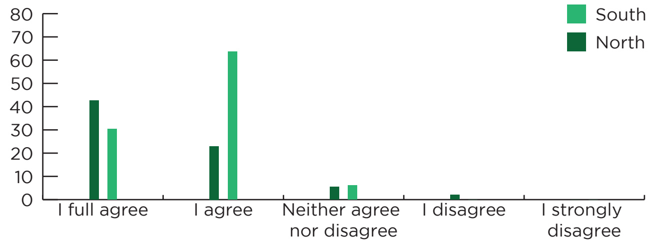
Large consensus versus 'agree' position	Not convergence and doubtfull positioning
• Limitations to mobility of temporary agricultural work force will negatively impact production • International trade will slow down • International policies on agri-food need to be defined to allow a broader governance and more effective controls on sustainable production of food • Food security and regional/national self-sufficiency will become more important • Innovative approaches will be needed to secure food supplies to vulnerable groups • Price volatility of agricultural commodities will grow	• Major disruptions in international food supply chains will occur • Agrifood supply chains will become shorter

Business

1. The introduction of technological innovations (Agriculture 4.0, artificial intelligence, digitalization, blockchains, innovative research-based products …) will become crucial for agrifood businesses to survive

There is a strong agreement on this statement: 74% of respondents agree or fully agree with it. If we consider the distribution of the responses by area, South med respondents agree more than North ones. North respondents have a larger percentage of neutral positions.

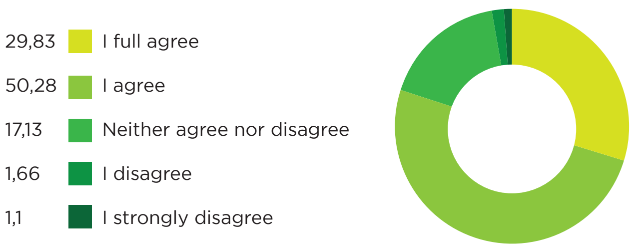


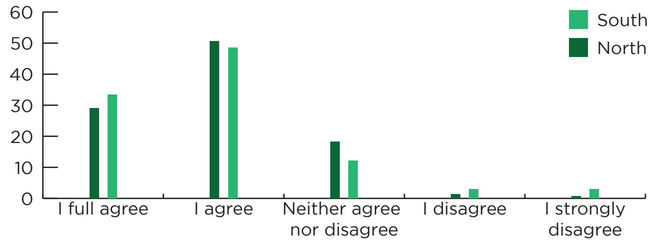


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
BUSINESS	Yes - No		
The introduction of technological innovations (Agriculture 4.0, artificial intelligence, digitalization, blockchains, innovative research-based products,…) will become crucial for agrifood businesses to survive	Yes	Opportunity	Innovative technologies offer multiple OPPORTUNITIES by engaging different value chain actors and can become a leverage for the market, by increasing yields, efficiency and sustainability of food productions as well as communication and engagement of consumers. CHALLENGES: What tools and incentives should be implemented to support innovation action? What direction is expected to be addressed by innovation?

2. The introduction of organisational innovations (new business models, aggregations, partnerships,…) will become crucial for agrifood businesses to survive

There is a strong consensus on this statement: 80% of the respontents agree or fully agree on this statement and the distribution of the answer by area is completely equivalent. 17% of respondents are neutral on this statement.

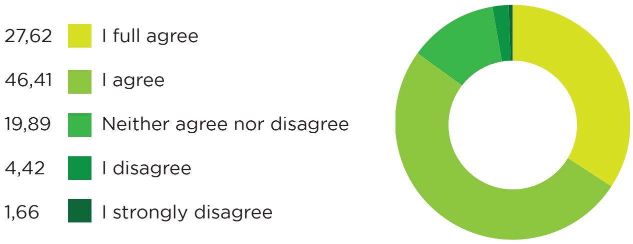


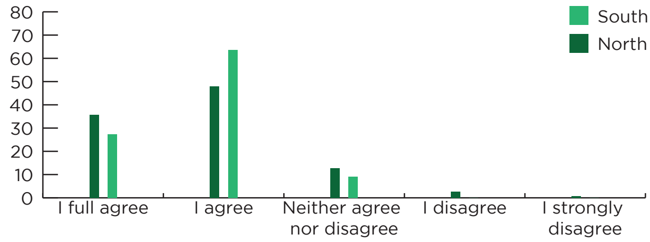


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
BUSINESS	Yes - No		
The introduction of organisational innovations (new business models, aggregations, partnerships, …) will become crucial for agrifood businesses to survive	Yes	Opportunity	Organisational innovation has much to do with the problem of fragmentation of the agrifood sector and the OPPORTUNITY to increase cooperation among value chain actors, made of smallholders, including farmers, food processors and retailers. CHALLENGES: How to increase innovation capacity building of smallholders and SMEs in the agrifood sector? How to support smallholders and give them access to innovation through direct collaboration with research centres and open innovation initiatives?

3. **E-commerce will streamline value chains and digital sales will grow**

There is a strong consensus on this statement: 85% of the respontents agree or fully agree on this statement and the distribution of the answers by area is very similar. North respondents have an higher percentage of strong agreement.

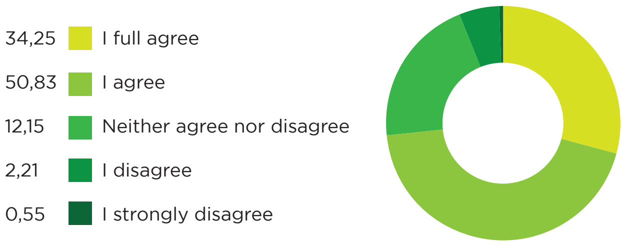


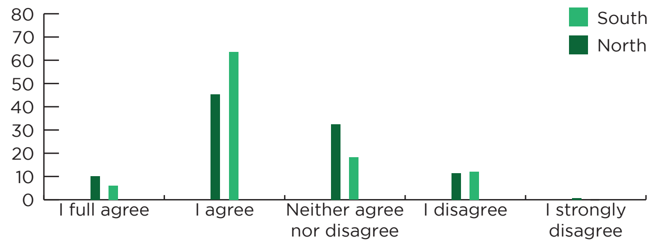


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
BUSINESS	Yes - No		
E-commerce will streamline value chains and digital sales will grow	Yes	Opportunity	Sustainability of e-commerce is controversial, especially concerning the spatial dimension of the supply chain that is often global. Nevertheless, it represents an effective OPPORTUNITY for accessing food sources and eventually supporting smallholders. CHALLENGES: How to guarantee sustainability and traceability through e-commerce? What strategies to prevent overexploitation, delocalisation and spill-over effects of globalisation?

4. **Major financial problems will affect smallholders**

There is a strong consensus on this statement: 73% of the respontents agree or fully agree on this statement and the distribution of the answers by area is very similar. 20% of respondents have a neutral to the statement.

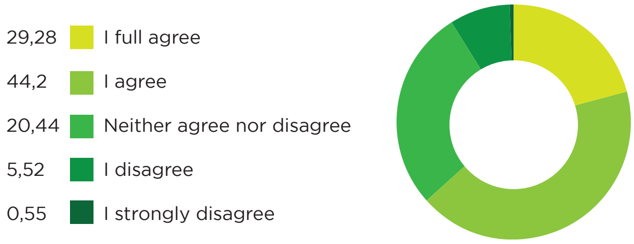


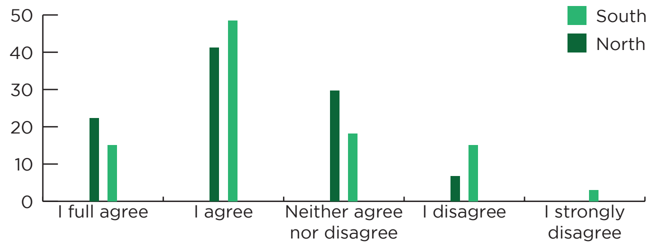


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
BUSINESS	Yes - No		
Major financial problems will affect smallholders	Yes	Threat	Given the majority of food growers are smallholders with limited financial allocation, economic sustainability of the agrifood sector depends to the capacity to manage this THREAT attempting food security in case of emergency. CHALLENGES: What financial tools can support smallholders and foster value chain networks development?

5. Major financial problems will affect SMEs in the agrifood sector

63% of respondents agree or fully agree on the statement and the distribution is similar by area. The percentage of respondents with a neutral position versus this statement is very high: 28%.

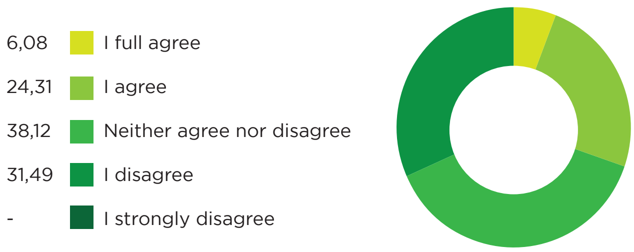


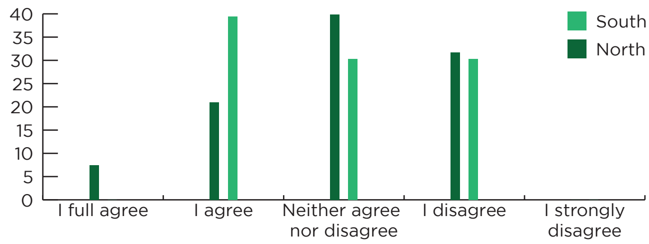


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
BUSINESS	Yes - No		
Major financial problems will affect SMEs in the agrifood sector	Yes	Threat	Given the majority of food value chain actors are SMEs with limited financial allocation, economic sustainability of the agrifood sector depends the capacity to manage this THREAT attempting food security in case of emergency. CHALLENGES: What financial tools can support smallholders and foster value chain networks development? How to make big retailers interact and cooperate with SMEs as local suppliers?

6. Major financial problems will affect big agrifood businesses

There is no convergence versus this statement, 32% of respondents don't agree with it, 30% agree or fully agree and 38% are neutral.

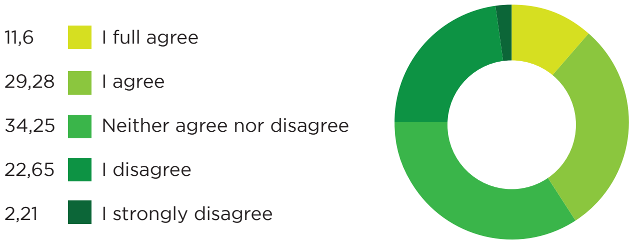


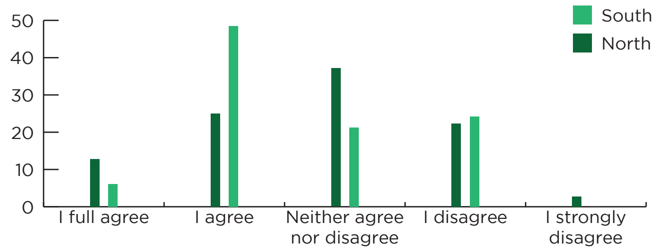


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
BUSINESS	Yes - No		
Major financial problems will affect big agrifood businesses	No	Opportunity	Big agrifood businesses, including food industry and retailers, are perceived as most stable and resilient. Their role as business collectors can represent an OPPORTUNITY, given the necessary condition of a drastic transition to sustainable practices and fair trades. CHALLENGES: How to operate the transition to more sustainable practices, including traceability and fair trade of big businesses? What tools and innovations can contribute to drive the change?

7. **Attention to the scenario post COVID will induce businesses to give less attention to Agenda 2030**

Also this answer, as the previous one, presents very scattered answers: 41% of respondents agree or fully agree with it, 25% don't agree or strongly disagree and 34% have a neutral position. South Med respondents agree more than North ones.

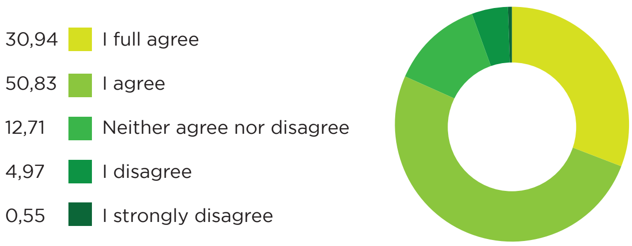


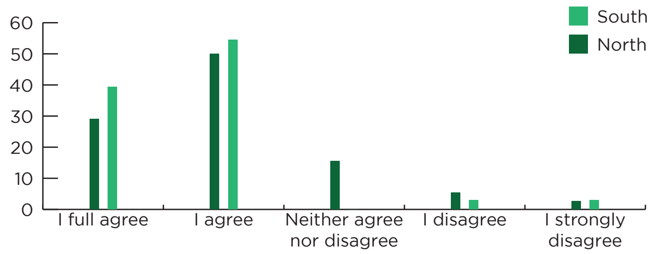


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
BUSINESS	Yes - No		
Attention to the scenario post COVID will induce businesses to give less attention to Agenda 2030	Y & N	Opportunity	The THREAT of less attention to SDGs exists, but in general the COVID crisis is interpreted as an OPPORTUNITY to emphasize the urgency of the climate crisis and the need of change. CHALLENGES: How to make agribusinesses operate as agents of change by implementing sustainable practices and healthy food production. What tools and innovations are needed to prevent or eventually face new crises?

8. **Risk management will become more relevant**

This statement reports a strong consensus: 82% of respondents agree or strongly agree on it. The level of agreement is similar for both Med area, with the South respondents that report higher level of agreement, while 13% of North respondent are neutral to this statement.





Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
BUSINESS	Yes - No		
Risk management will become more relevant	Yes	Opportunity	Among the OPPORTUNITIES emerged from the health emergency, risk management can become a standard practice to avoid crisis and reduce THREATS. CHALLENGES: What tools for risk management should be developed and made accessible to both big agribusinesses and smallholders? What risk assessment methods and policies should be implemented at national/regional level?

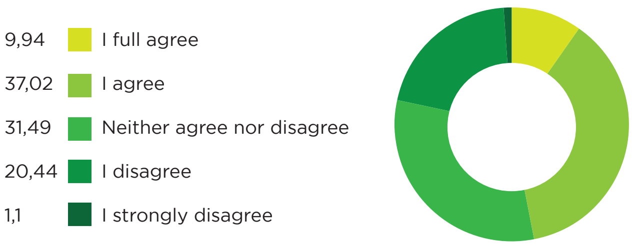
Summary of business pillar

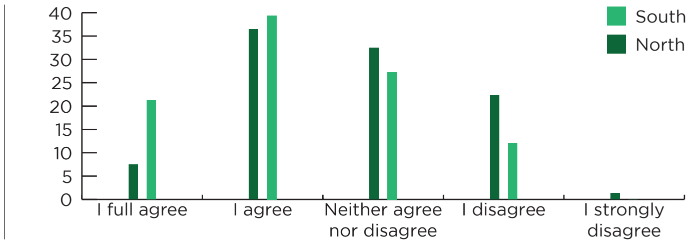
Large consensus versus 'agree' position	Not convergence and doubtfull positioning
• The introduction of technological innovations (Agriculture 4.0, artificial intelligence, digitalization, blockchains, innovative research-based products...) will become crucial for agrifood businesses to survive • The introduction of organisational innovations (new business models, aggregations, partnerships, ...) will become crucial for agrifood businesses to survive • E-commerce will streamline value chains and digital sales will grow • Major financial problems will affect smallholders • Major financial problems will affect SMEs in the agrifood sector • Risk management will become more relevant	• Major financial problems will affect big agrifood businesses • Attention to the scenario post COVID will induce businesses to give less attention to Agenda 2030

Consumers

1. **Consumers will give more attention to sustainably produced food**

This statement does not resch the convergence between respondents: 47% agree or fully agree with it, 21% don't agree or strongly disagree and 32% are neutral versus the statement. The distributions of answers by area are similar, the largest differences in percentage is for the South respondent that fully agree with the statement with a pergentage higher than North ones, while for the North respondents we fined the opposite situation in 'don't agree'.

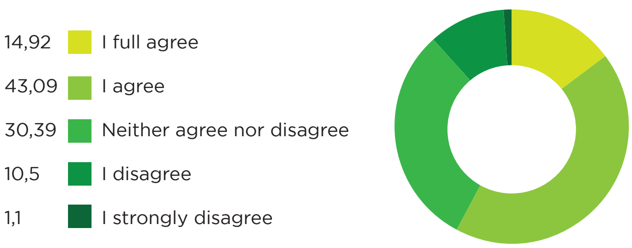


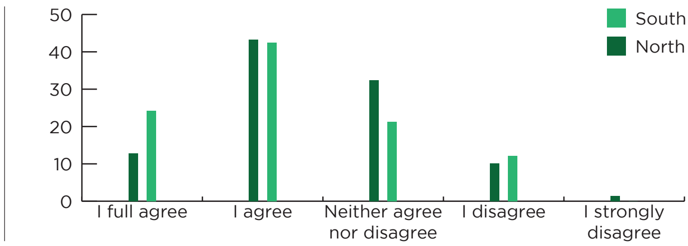


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
CONSUMERS	Yes - No		
Consumers will give more attention to sustainably produced food	Y & N	Opportunity	Despite current trends to purchase low cost instead of healthy food are increasing and represent a critical THREAT, consumers look more sensible to sustainability and origin of food. The OPPORTUNITY to make European Food a standard for sustainability (EC 2020) is concrete but will require efforts in terms of innovation and communication. CHALLENGES: What strategies can be implemented to support sustainable practices of food production and promote sustainable food consumption? What tools to inform consumers on sustainability and origin of food?

2. **Consumers will give more attention to nutritious and healthy food**

Also for this statement the level of agreement is not so high: 58% of respondents agree or fully agree with it, but the percentage of neutral respondents is high, 30%. Again respondents from North Med are more neutral than South ones and respondents from South fully agree with the statement with a pergentage that is double than the one of North Med respondents.

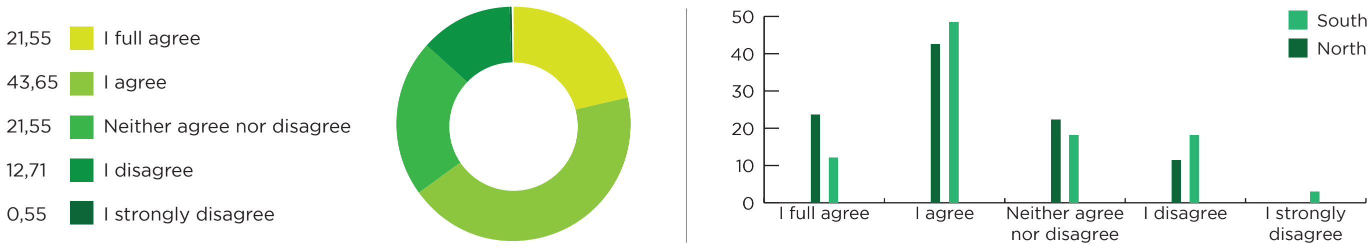




Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
CONSUMERS	Yes - No		
Consumers will give more attention to nutritious and healthy food	Yes	Opportunity	Consumers look more sensible to quality of food. The OPPORTUNITY to change food habits of consumers is concrete but will require efforts in terms of innovation and communication. CHALLENGES: What strategies can be implemented to support proper practices of food production/ conservation and promote healthy food consumption? What tools to inform consumers on quality and origin of food?

3. **Due to the economic crisis, consumers will give attention mainly to the price of food**

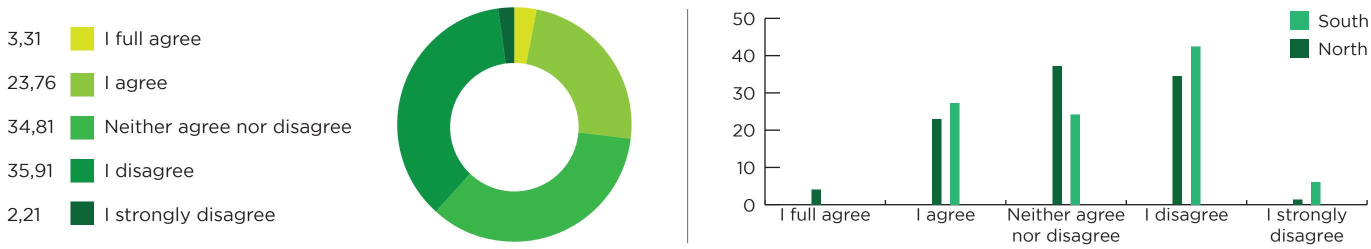
65% of respondents agree or fully agree with this statement, with North Med respondents that report a percentage of fully agreement double than South Med respondents. The percentage of neutral respondents is quite large: 21%.



Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
CONSUMERS	Yes - No		
Due to the economic crisis, consumers will give attention mainly to the price of food	Yes	Threat	Current trends to purchase low cost instead of healthy food are increasing in the EuroMed area and still represent a critical THREAT. CHALLENGES: What tools can be implemented to promote healthy food consumption? What tools to inform consumers on quality and origin of food?

4. **Consumers will give more attention to canned and long-life food**

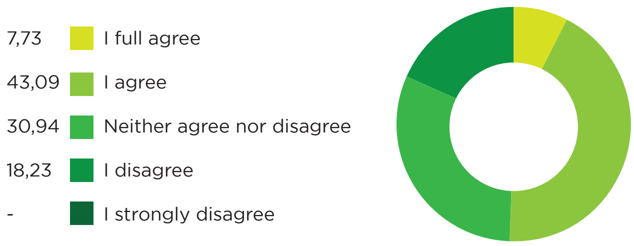
There is not convergence at all for this statement, with a bit larger percentage of disagreement: 38% of respondents don't agree or strongly disagree with it. 35% of respondents are neutral versus the statement and 27% agree or fully agree with it. Again the percentage of neutral respondents is higher for North Med respondents.

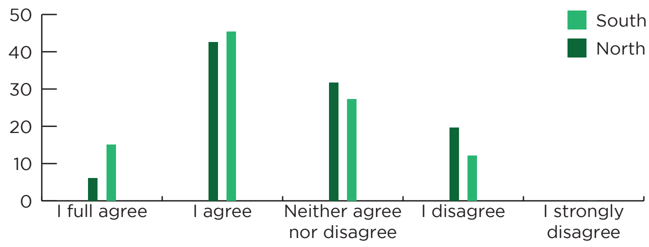


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
CONSUMERS	Yes - No		
Consumers will give more attention to canned and long-life food	Y & N	Opportunity & Threat	Trends to purchase canned and long-life food can be increased due to the COVID emergency and represent a THREAT. The OPPORTUNITY to change food habits, especially concerning fresh food, from common retailers and local suppliers, will require efforts in terms of innovation and communication. CHALLENGES: What tools can be implemented to promote healthy food consumption? What tools to inform consumers on quality and origin of food?

5. **Consumers will give more attention to rigorous traceability of inputs, production processes and logistics**

51% of respondents agree or fully agree with this statement; however, 31% are neutral versus it and 18% don't agree with it. The distribution by area are identical.

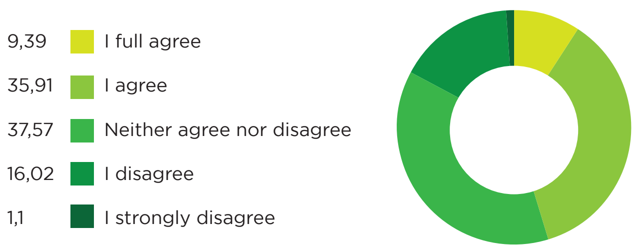


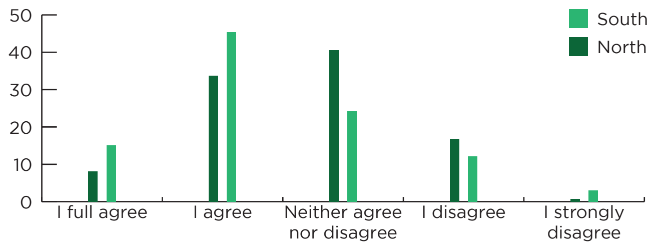


Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
CONSUMERS	Yes - No		
Consumers will give more attention to rigorous traceability of inputs, production processes and logistics	Y & N	Opportunity	Consumers are more interested in knowing food origin, quality and production processes. The OPPORTUNITY to change food habits of consumers will require efforts in terms of innovation and communication. CHALLENGES: What tools can be implemented to promote healthy food consumption? What tools to inform consumers on quality and origin of food?

6. **The Mediterranean diet will be increasingly adopted**

Also for this statement, responses don't converge versus a precise direction. 40% of respondents agree or fully agree with it, while 38% are completely neutral and 17% don't agree or strongly disagree.

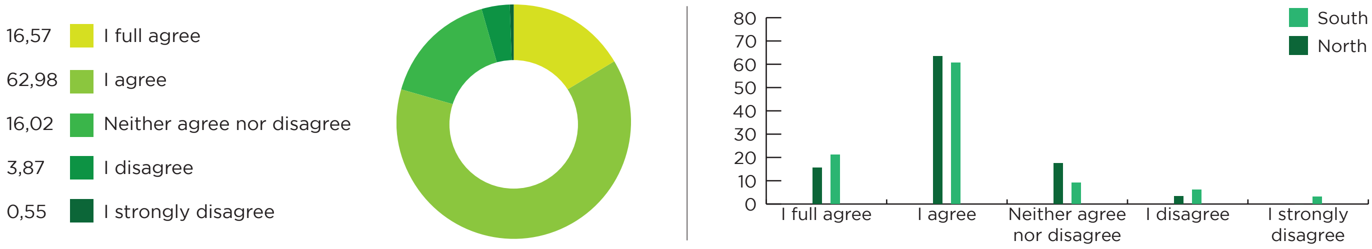




Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
CONSUMERS	Yes - No		
The Mediterranean diet will be increasingly adopted	Yes	Opportunity	Given current trends towards high trophic diets and the abandon of Mediterranean diet, this is still perceived as an OPPORTUNITY to promote sustainable and healthy food habits. CHALLENGES: What strategies can be implemented to promote the Mediterranean diet? What tools to inform consumers on quality and origin of food?

7. **E-commerce and digital sales will grow**

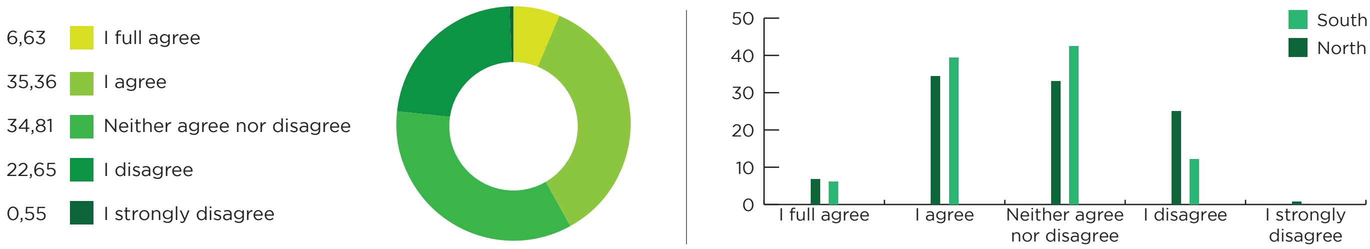
This statement reaches a strong consensus between respondents, 80% of them agree or strongly agree with it with the same level of percentages by area.



Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
CONSUMERS	Yes - No		
E-commerce and digital sales will grow	Yes	Opportunity & Threat	Sustainability of e-commerce is controversial and may represent a THREAT, especially concerning the spatial dimension of the supply chain that is often global. Nevertheless, it represents an effective OPPORTUNITY for accessing food sources and eventually supporting smallholders. CHALLENGES: How to guarantee sustainability and traceability through e-commerce? What strategies to prevent overexploitation, delocalisation and spill-over effects of globalisation?

8. **Major disruption of street markets will occur**

There is no convergence in responses to this statement: 42% of respondents agree or fully agree with it, while 35% are neutral versus it and 23% do not agree with it. Respondents from South Med have a bit larger percentages in neutral and 'agree' position, while North Med are mostly equally distributed in the three central positions.



Statements	Prevalent answer	Opportunity vs Threat	Critical issues and challenges
CONSUMERS	Yes - No		
Major disruption of street markets will occur	Y & N	Threat	The effects on street markets that have been temporary closed has been interpreted as a critical THREAT. Local food suppliers and retailers are the most vulnerable to the crises but could also represent and OPPORTUNITY for short supply networks in terms of healthiness, sustainability and food security. CHALLENGES: What policies to support street markets and small growers and retailers as important agents to face new crises? What innovation and tools can help increasing food security through the direct engagement of small retailers?

Summary of consumers pillar

Large consensus versus 'agree' position	Not convergence and doubtfull positioning
• Due to the economic crisis, consumers will give attention mainly to the price of food • Consumers will give more attention to rigorous traceability of inputs, production processes and logistics (not strong consensus) • E-commerce and digital sales will grow	• Consumers will give more attention to sustainably produced food • Consumers will give more attention to nutritious and healthy food • Consumers will give more attention to canned and long-life food • The Mediterranean diet will be increasingly adopted • Major disruption of street markets will occur

Jamie Morrison - FAO

The disruptions created by the COVID-19 crisis have accentuated many of the fragilities in contemporary food systems. Challenges include accessing safe, nutritious food at affordable prices when movement is restricted or markets close and the vulnerability of employees engaged throughout the food system. **There are risks to the very survival of firms and industries, particularly micro, small and medium sized** enterprises including producers, manufacturers, traders, food processors, transporters, and retailers. Those engaged in high value, labour intensive, perishable commodities such as fruits and vegetables, fish and aquaculture products and meat and dairy products, which are essential for good nutrition and have been disproportionally affected. In many countries, the significant proportions of labour engaged in informal sector activities throughout the food system has compounded the impacts on livelihoods.

The pandemic has increased focus on many contemporary issues such as antimicrobial resistance, zoonotic diseases, climate change, food fraud, and the digitalization of food systems, each having potentially significant implications for the safety of food. Equally, the importance of preserving and protecting environmental resources and biodiversity to maintain the buffer capacity of nature against diseases has drawn greater attention to significant levels of deforestation and destruction of natural habitats associated with land use change driven by food systems developments.

However, the disruptions in food systems also create opportunities for driving forward their transformation. The crisis has also shown how quickly many parts of the food system have been able to respond. Many enterprises have had to deviate from business-as-usual approaches, using alternative input sourcing channels, creating new and more localized markets, increasing focus on inventory management, which will enable increase ability to withstand future disruptions, staggering investment plans, reviewing staff occupational health and safety practices, and human resource planning in the face of increased demand or absenteeism. Such actions will have longer-term ramifications for organizational and social innovations, low- and high-tech innovations, automatization, digitalization, and technologies to protect workers, consumers, and those engaged in the recovery, redistribution, and disposal of food.

At the same time, we should not lose sight of some of the fundamental longer-term challenges to the sustainability of food systems and the need to factor these into the response and recovery. As reiterated in a vast array of recent studies, many food systems already fell short of the aspirations of the 2030 Agenda. Poverty and hunger remain entrenched and obesity with its associated health and economic costs is rising. **Food systems contribute up to 29% of all anthropogenic greenhouse gas emissions and have been a key driver of land use change and biodiversity loss**. Food systems themselves are also significantly affected by climate change.

Recovery from the multifaceted crisis must lead to a different way of doing business. **It is critical to "build back better" with actions that catalyze transformation to food systems that are resilient to shocks and that ensure individuals' health and wellbeing**, while at the same time **promoting inclusiveness and improving environmental and economic sustainability** by increasing efficiency and reducing waste. In taking action to support the improved functionality of these systems during response and recovery, it is imperative that a holistic approach to the analysis of constraints and to the trade-offs implicit in their resolution is adopted.

To support countries in building back better, the Food and Agriculture Organization has identified five key action areas: (i) innovations for increased efficiency, resilience and inclusiveness of food supply chains, (ii) ensuring food safety and nutritional quality of food, (iii) reducing food loss and waste; (iv) sustaining and strengthening agribusiness enterprises; and (v) mechanisms for increased investment in sustainable food value chains. These action areas together comprise the basis of FAO's COVID-19 response priority on Food Systems Transformation.

A concrete example of how FAO is working to support such transformation in the Euro-Med agrifood sector is the Sustainable Food Systems Mediterranean Platform. Here, FAO is joining forces with CIHEAM and the Union for the Mediterranean as well as other potential partners, to establish a multi-stakeholder platform to bring together policy makers, scientists with other key players across the system, to collectively move towards solutions that work for sustainable food systems that deliver healthy diets and offer new economic and social opportunities in the Mediterranean region, driving more sustainable development, particularly for small scale farmers and fishers, as well as for youth and women in rural areas highly affected by rural migration to cities.

The SFS-MED platform aims to support the development of "flagship" projects to facilitate resource mobilization with key partners, and to scale-up actions to positively transform the way in which food is produced, processed, distributed and consumed across the Mediterranean region.

Flagships such as these can constitute a key input to the United Nations Food Systems Summit in 2021, which provides a timely opportunity to forge the interconnected actions and commitments that are needed to transform to more sustainable food systems. A central component of the process towards the Food Systems Summit is a series of five interdependent Action Tracks on ensuring access to safe and nutritious food, shifting to sustainable consumption, boosting nature positive production, advancing equitable livelihoods and building resilience. Complemented by country level dialogues, they will offer a space to share and learn across constituencies with a view to accelerating progress by fostering new partnerships and amplifying existing initiatives.

Marta Guadalupe – JPI FACCE

The priority for the agri-food sector should be to be able to provide healthy and sustainable food for all which is resilient to shocks like COVID or climate change. That means **to reinforce small-scale and family farming** so they can: 1) increase their sustainability by reducing the use of agrochemicals; 2) create learning platforms where farmers can share knowledge with those producers already implementing agroecological practices; 3) access local markets (that also need to be reinforced) and sell their product at a fair price that allows them to cover production costs; 4) increase the number of producers in Europe, that has been suffering a constant decline, as well as in those Mediterranean where countries young people is also abandoning rural areas. That means among other challenges, that farmers can have access to land; and 5) reduce the production of industrial animal farming and reinforce mix-farming systems and extensive/ pastoralist production systems. At the consumer side, **it is also needed to increase the access to healthy and sustainable food by changing** the food environment, e.g. supporting through fiscal measures healthy and sustainable food, reinforcing local markets, including farmers markets. Social safety nets are also required to allow vulnerable consumers to access healthy and sustainable food since are those vulnerable social groups the ones suffering the most the impacts of the nutrition transition and the associated pandemics of obesity. Measures approaching the consumer side should also aim at changing dietary habits and reducing food waste. One of the most rapid and easiest changes into the directions I outline here is through the role played by the public procurement, where the public administrations should provision their different institutions (e.g. schools, hospitals, nursing homes) with healthy food produced in a sustainable way reinforcing the local production. All these measures should also lead to reducing greenhouse gas emissions associated with the food system and adapt to climate change.

With the pandemics **one of the trends we are witnessing is a reinforcement of regional and local food markets** and the recognition of agriculture as an essential activity. The lockdown has reduced the provision of food from the global market, as well as the availability of farming inputs for industrial farming. In that manner, reinforcing local and regional markets has been perceived as one way to increase resilience in the food system. This does not mean to close the global market, but rather to continue reinforcing local and regional ones. From this perspective, the pandemics has opened a window of opportunity into this direction. Indeed, local farmers who had some previous conditions (e.g. processing and conservation infrastructures, networks with other farmers) have autonomously increased their marketing options. These types of initiatives need to be reinforced and make easy to those farmers access the market, reducing, for instance, the bureaucratic workload and restrictions. From a food system perspective, that means also changes in diets, for instance, towards seasonal food products, which also is a positive feedback in our pursuit of sustainable food systems.

I would consider one specific action both at the producer and consumer side. At the producers' side one of the most important actions is to guarantee safe access to land to young farmers that can produce healthy and sustainable food, ensure generational renewal (one of the weakest points of our food systems now) as well as reduce the number of inhabitants in our overcrowded cities. At the consumers' side I would prioritise the reduction of meat consumption from industrial farming through fiscal measures and education campaigns, among other potential actions.

Arianna Giuliodori - WFO World Farmers Organization

Value chains delivered properly during the COVID crisis, but this is not what the farmers have experienced in terms of difficulties. Disruptions in access to inputs and to markets have hindered their capacity to decently earn a living: **farmers are scared not only by the pandemic but also and foremost by the ghost of poverty and hunger** that is affecting 2 billion people in the world and still on the rise.
Facing the emergency is not enough. COVID has exacerbated existing issues in our food systems. We must force ourselves to see the opportunities behind the threats. Never before we had food so high in the public space; everybody is now caring and concerned about food production. This is an opportunity we cannot miss to work on the food systems we want for the future.
It is necessary to eliminate trade-offs between Healthy People, Healthy Planet and a lively agricultural sector: **only if farmers can earn their living properly, they can sustainably provide nutritious food to a growing global population.**
WFO proposes to focus future commitments on the following actions:
1) Involving the whole VALUE CHAIN,
2) Fighting CLIMATE CHANGE,
3) Structuring DISASTER RISK MANAGEMENT,
4) Attaining GLOBAL NUTRITION SECURITY,
5) Enhancing RESEARCH AND INNOVATION,
6) Protecting BIODIVERSITY,
7) Deploying INVESTMENTS AND INCENTIVES,
8) Valuing the LIVESTOCK SECTOR's role,
9) Achieving FOOD SECURITY,
10) Boosting the role of FARMERS' ORGANISATIONS AND COOPERATIVES,
11) Promoting INCLUSIVENESS: YOUTH and WOMEN are key to succeed.

Dr. Abou Hadid – Former Egyptian Minister for Agriculture

Covid-19 pandemic is a rapidly spreading and highly contagious pandemic, especially in poor and densely populated areas. International warnings of growing poverty for tens or even millions, which is dangerous in rural and popular areas. It caused adverse effects on many sources of agricultural inputs and food chains. Restricting the movement of workers, the disruption of transportation and the transfer of yields result in the loss of temporary employment to their income and serious losses to small farms. Some countries have issued food export limits, which negatively affects food importing countries. The negative impact on supermarkets and restaurants reduces the marketing chain of agricultural products and lowers the price of agricultural commodities. Lack of income and low farm price leads to poverty for farm workers and small farm owners. Irregular transportation resulted in increases of exposure to plant disease. In the absence of insurance, poverty and hunger will increase. **It is necessary to increase the resilience of agricultural production systems**. Climate change has an impact on agricultural production and food availability, just as a pandemic. Resilient systems used to cope with climate change could help cope with other disasters such as pandemics.
It is necessary to establish a social and economic safety net for food production activities. **It is important to focus on updating the agricultural cooperation system** to provide inputs and marketing for products. Improving and increasing grain storage capacity is a key factor to achieve food security during the spread of pandemics. Wheat is one of the most affected by pandemic where many countries have raised its prices, some others included it in export ban. The need to issue the law of insurance on the farmer and pension for retired farm workers is necessary.

Hans Lutzeyer – European Commission RTD

The PRIMA report comes at the right time to address the food system challenge, including Covid-19. Perceptions differ on specific questions. However, there is large agreement that research and innovation **(R&I) is needed to support food system transformation to ensure food and nutrition security for all towards more sustainable and healthy diets**.

The European Commission took-up the challenge. **Through its Farm to Fork strategy and its broader European Green Deal policy priorities it commits to ambitious food systems objectives** that will be decisive in ensuring a just and fair transition respecting planetary boundaries.

The Farm to Fork strategy highlights R&I as key drivers in accelerating the transition to sustainable, healthy and inclusive food systems from primary production to consumption. It mentions Horizon Europe (HE) and some key areas of research such as the microbiome, food from the oceans, urban food systems, alternative proteins, agro-ecological approaches, and the HE Soil Health and Food Mission. It further refers to the HE Partnership for safe and sustainable food systems for people, planet and climate. These R&I ambitions build on FOOD 2030, which applies a systemic approach to four overarching priorities: Nutrition for sustainable and healthy diets, climate-smart and environmentally sustainable food systems, circular and resource efficient food systems, innovation and empowerment of communities.

The Farm to Fork strategy outlines that the EU will focus its international cooperation on food research and innovation, among them a reference to climate change adaptation and mitigation; agro-ecology; inclusive and fair value chains; nutrition and healthy diets. A strong pillar of international research and innovation cooperation are Prima and the EU-African Union research and innovation partnership on food and nutrition security and sustainable agriculture.

EIT Food's response to COVID-19

eit Food

The COVID-19 crisis has placed unprecedented pressure on the global food system, calling for innovative thinking to face the immediate challenges of the pandemic as well as the future recovery.

EIT Food has launched two funding opportunities to support the European agrifood sector through the COVID-19 crisis:

COVID-19 Rapid Response Call for Innovation projects – to help accelerate impactful projects that address business and consumer needs throughout the food system in Europe;

COVID-19 Bridge Fund – to support startups and scaleups with high-impact and growth potential that have been adversely affected by the coronavirus pandemic.

Through the Rapid Response Call, EIT Food has awarded 13 innovation projects € 6.17 million in total. The selected projects focus on supporting three food system challenges EIT Food is currently tackling: improved nutrition; supply chain disruption; food safety risks.

The COVID-19 Bridge Fund supports agrifood ventures inside and outside the existing EIT Food portfolio which have been severely impacted by the COVID-19 crisis. These ventures are applying a wide variety of technologies – including biotechnology, robotics, and sensors - to make the food system healthier and more sustainable.

During the COVID-19 crisis it has been (and still is) difficult for these ventures to secure access to specialised facilities, equipment and people. Moreover, as is the case in many industries, investors have been on pause during the pandemic.

All these factors have meant that previously well-funded ventures are at risk. For that reason, EIT Food has developed the COVID-19 Bridge Fund. With these funds, EIT Food has invested € 5.4 million in 13 ventures.

To learn more please visit: https://www.eitfood.eu/covid-19

Extract from Note by Begona Villareal – EIT Food

The COVID-19 pandemic has had a high impact on the agrifood industry, and the Euro-Mediterranean region has been no exception. The widespread confinement and the closure of the hospitality industry for months has forced changes in many dynamics in the sector. There was a first moment of compulsive shopping, for fear of shortages. Brand loyalty has been diluted since in some cases you could not choose what to buy and you could only buy what was available. Electronic commerce has emerged, although in certain cases it has collapsed in the face of this new situation without the possibility of a more logical and staggered transition.

Now numerous questions arise: what will happen with the sudden change that the sector has given? Will the changes be consolidated? Has this new situation come to stay? Or will there be a gradual return to the "old normal"?

We must bear in mind that the health crisis is being followed by an economic crisis, which is going to affect, abo ve all, the countries of southern Europe. We do not yet know the real impact, nor its duration. But we must be prepared. A survey carried out in 11 European countries warns that half of companies may reduce their staff due to the pandemic. GDP is estimated to be as low as 9% in Europe. This has a negative effect on household consumption and savings, and therefore directly affects the agrifood sector. There is no doubt that **we must keep promoting healthier diets but affordability too**, because we have to be aware that the loss of purchasing power of families can lead them to prioritize aspects such as food price over healthier foods in the food basket.

There are trends that were already detected before the COVID-19 crisis and have been accentuated. Consumers are increasingly concerned about food waste, looking for seasonal products and in nearby markets. And they value products that do not need an excessive use of packaging.

A variable that must be considered is the reaction that consumers may have after observing the attitude of the different brands during the pandemic: their social responsibility, their transparency, their solidarity gestures ...
The future response of the consumer may also be conditioned to those issues. In this sense, social networks play a relevant role.
One of the issues that we have all experienced and will probably be observed even after the pandemic has passed, are that hygiene and food safety have become of the utmost importance now. The transition to contactless payments, via mobile or card, will also be accelerated. In addition, the planning of purchases by families has increased in these months, with fewer acquisitions on impulse. We will see if it is maintained over time.

As in any crisis, there will be winners and losers. Products whose demand increases and, on the contrary, others that are more expendable. The ability of the different agents to adapt, to guarantee the supply and to have an effective commercialization will also be key there.

In previous crises we have seen the demand for private label products grow, due to their competitiveness in terms of price. We will see if the same thing happens, and if, on the contrary, the 'premium' products experience a drop.

On this occasion, and due to forced closure, the agrifood sector has been seen as essential by society, as it is a basic necessity. In any case, the companies in the agrifood sector in southern Europe must be alert to changes and adapt as quickly as possible to the new situation. In these crises, **those that have always improved their position are the companies that are committed to innovation** and to increase their competitiveness. For this reason, EIT Food will reinforce even more its support to entrepreneurship and innovation in the sector focused at healthier diets and circular food systems.

Extract from Note by PAM Secretariat - Parliamentary Assembly of the Mediterranean

The priorities outlined by researchers and experts, such as water management, climate change mitigation, the use of pesticides, sustainable agricultural techniques, seem to be only part of the solution, because they must be accompanied by **stable political and economic frameworks**, in order to guarantee the effectiveness of the policies implemented.

...

In particular, it is important that the agri-food sector and food production in general adapt to climate change and associated expanding drought, warming and extreme events, while developing sustainable and productive agro-ecosystems, preventing the emergence of animal and plant diseases, developing farming systems able to generate income, to create employment and contribute to a balanced territorial development.

PAM sustains a series on initiative devoted to the environment, so to mitigate effects of climate change and desertification, as major contributors to food insecurity. PAM believes that a coherent regional legislative action in this regard is crucial as, at the same time, for food security the approach needs to be multi-faceted. Improvements are indeed necessary not only in legislation, but also in education and research, as proven by the model PAM collaboration with research centers and universities in the PRIMA project for the promotion of sustainable food systems in the Euro-Mediterranean region.

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PAM considers it essential to develop a shared strategy and common standards for the future of the Euro-Med food supply chain, in consideration of the detrimental effects that food insecurity can have in regards to economic, political and social stability and health of entire regions.

....

innovation is considered as a priority. This includes a progressive digitalization of the food industry under the name of Smart Agri-food, and Agriculture 4.0 can address existing weaknesses and maximize the potential of the sector; investments directed at modernize the food supply chain (namely on Agri-logistics; optimization of fertilizer, fuels, pesticide and water use; information and decision support systems integrated with advanced internet-based services) can indeed enhance sustainability, both environmental and economic, efficiency, awareness, quality and security of products.

Fourth, it is important to valorise the food products from the traditional Mediterranean diet, innovate the traditional food and promoting healthy consumption habits, awareness, and appreciation, particularly among younger generations, about their own cultural food heritage.

Finally, another aspect of the pandemic has been a sudden reduction in labour force of the Agri-food sector, due to the closure of borders. A possible response, advanced by Italy, France and Finland, is to allow foreign workers to resume their work.

Extract from Note by Sara Roversi - Future Food Institute

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**.

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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.

...

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.

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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.

...

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.

...

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.

...

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...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.

...

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.

...

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.

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).

...

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.

..

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.

Extract from Note by Diego S. Intrigliolo Co-chair of the PRIMA Scientific Advisory Committee

The Mediterranean food is well-known for being safe, nutritious and of high quality. It should now also become more sustainable and competitive in the local and global markets. This can be achieved by developing a collaborative framework to provide national and overseas demand with a continuous supply of main food and feed for the local population and export markets of central and northern Europe, sub-Saharan Africa and the Middle-East.... Current production practices and consumption patterns still result in air, water and soil pollution and use inefficiently natural resources, including water and energy, while some part of the food produced is wasted. At the same time, unbalanced diets contribute to obesity and diet-related diseases. On the other hand, Mediterranean food markets are often suffering of large product economic value fluctuations under opaque governance and regulatory mechanisms. A proper analysis for the whole area source-demand supply is lacking and does not fully consider the potential exports and overseas markets influences. The most remarkable objectives to be appraised Mediterranean agro-food sector in the next years should then be:

1) Develop more sustainable farming practices able to improve the use efficiency of external resources (water and fertilizers) as well as to combat land degradation and desertification. This should be appraised by applying a systemic thinking considering the entire agro-ecosystem and a multi-actor and multidisciplinary approach.

2) Achieving more competitive food industries able to provide and deliver more innovative and nutritious food in line with the Mediterranean diet habits.

3) Develop: a) Competitive short supply chains for feeding local market making use of digital technologies advancements and b) Global international Mediterranean commercialization structures with a common governance and regulatory framework using similar production and export standards and principles.

Views from PRIMA Countries

Extract from Note by Representative of EGYPT in PRIMA Board of Trustees

Egypt has responded immediately to COVID-19 crises upon its first arise by taking measure on so many directions using a highly strategic, scientific proven methods. In particular, the competent Authorities have launched an emergency funds for short research projects (with total funds of 60M EGP). Priority was given to projects that able to provide short-term solutions to contain this crises (e.g. 3D printed face-masks with changeable filters).

As for food systems and agriculture, Egypt has the advantage of producing most of its fruits and vegetables, and this crisis increased Egypt's competence of food production due its fine production of medicinal and aromatic plants (MAP), which now has gained a high interest by all people. In addition to MAP, other food products have become the main interest for production; such as, olive oil, citrus-based products and organic food at large. Egypt has notably urged researchers and SMEs to find solutions in shortening the supply chain through digitalization and energy efficient storage systems as well as local production of fertilizers and pest-control methods. Strategic crops such as wheat and corn, which are mainly used in bread production is secured, and researchers are urged to experiment solutions on alternative/ high-yield varieties of wheat and corn.
Animal production, on the other hand, is encouraged to start using locally produced/ experimented feedstuff and research to enhance its quality.

Extract from Note by Representative of FRANCE in PRIMA Board of Trustees

The current Covid-19 crisis has impacts both in terms of food supply (through the disruption in supply chains, in logistics, and in labor for food production, processing and retailing) and on food demand (through loss of income and unemployment, affecting the most fragile populations, the poorest countries or those most dependent on imports). Therefore, the FAO foresees a rise in chronic undernourishment at global scale within the coming months (despite a low oil price, which tends to reduce food prices). Better understanding how the current crisis affects food production, access to food and nutrition and how to reduce the vulnerability of the poorest, of children, women and other categories at risk should therefore be undertaken, also accounting for changes in prices, in eating habits and consumer preferences during curfew and the impacts of disruptions in markets and trade. The role of public policies and of stimulus packages to improve food security, recover production potential and trade could be compared across countries and discussed by reference to SDGs and the Paris agreement on climate.

Extract from Note by Representative of LEBANON in PRIMA Board of Trustees

The COVID-19 pandemic, during less than 3 months, has fundamentally changed research priorities, funding, practices, and main actors. Ongoing research, pre-COVID-19, has slowed down due to both lock-down restrictions as well as a quick change in priorities during the emerging crisis. ...This space for an open discussion among partners about how to respond better to the post-COVID research landscape, taking a strategic look at the priorities of PRIMA. We welcome to encompass the inclusion of health as a cross-cutting thematic/axis: (agro-food/food security-health) and (water quality/management–health). This, we feel, will create a great opportunity to guarantee the continued attractivity of the programme and within the scientific community in all Euro-Med research systems.

Extract from Note by Representative of MOROCCO in PRIMA Board of Trustees

It should be noted that at short and medium term, the covid-19 pandemic in the Mediterranean region will certainly have a negative impact on food supply: market supply is disrupted by the measures taken to limit the spread of the pandemic. These measures mainly concern the restrictions on mobility cause a shortage of labour also the closing of rural markets. The Covid 19 pandemic is having also a severe impact on global economic growth including Mediterranean countries. Therefore, a negative impact on the demand and exports of agricultural products are expected.

In the same time, some countries in south Mediterranean region are also facing to a drought period resulting in a significant decrease in cereal production. These countries will therefore have to supply itself on the international markets characterized in this pandemic period by volatile prices due to the decrease in production at international level and the restrictions on the export of cereals from some countries.

SDSN Mediterranean

SDSN Mediterranean

The *Sustainable Development in the Mediterranean - Transformations to achieve the Sustainable Development Goals* (SDGs). The report investigates the progress towards the SDGs in the Mediterranean, a complex region hosting a population of over 520 million people, shared by three continents, and seriously affected by global warming, being the most vulnerable area to climate change in the world after the Artic.

1 NO POVERTY

Considering average incomes, almost 50 million people (12%) in the Med area are at risk of **#poverty**, including 27 million Europeans. This picture refers to the period before the pandemic crisis and can be supposed to dramatically worsen after the lockdown and the subsequent economics crisis.

2 ZERO HUNGER

Wrong **#food** habits impact on health and the healthcare system. Obesity affects from 18 to 35% of the Mediterranean population (almost 95 million in total), namely 34 million people in Europe west, 34 million in North Africa and 24 million in the Middle East. #sustainable agriculture is among the most desirable practices to deploy with positive effects on social healthiness and the environment.

6 CLEAN WATER AND SANITATION

#water management is a crucial issue, also depending on the relevant effects of climate change in the Mediterranean area. Especially MENA countries, in condition of water scarcity, risk to further compromise the access to basic drinking water and sanitation services, besides the risks for agriculture practices being farmers major users of water resources.

SDSN Mediterranean is the regional hub for the Mediterranean area of the United Nations Sustainable Development Solutions Network (UN SDSN) launched by the UN Secretary-General Ban Ki-moon in August 2012, directed by Professor Jeffrey Sachs (Columbia University) in support of sustainable development issues. The aim of SDSN Med is to mobilize scientific and technical expertise from academia, civil society and the private sector to enhance the sustainable use and development of the Mediterranean region engaging in a wide arrayof projects and partnerships.

Finished printing in October 2020