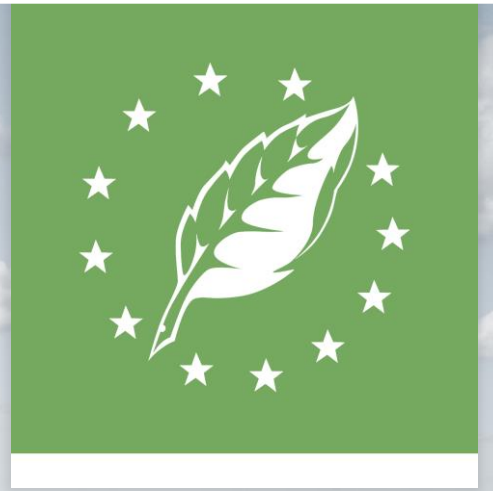


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Policy Report

Building blocks for food system resilience in Europe

Towards systemic agricultural
change post-COVID-19



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EXECUTIVE SUMMARY

The last two years have increased the pressure on the world's food systems, stemming from the pandemic, related economic crises and ever more visible signs of environmental and climate stress. The COVID-19 pandemic magnified the effect of actions and political choices of the past years, including inequalities between urban and rural, poor and rich, and the gender gap. Across the world, the cumulative effects of income loss, more volatile and often higher food prices and strained logistics lead to an interruption of access to healthy and nutritious food. The world is being thrown further behind in reaching the UN Sustainable Development Goals, including SDG 2 - achieving zero hunger.

This paper regards the interconnected issues of food systems, the building blocks for fostering resilience and implications for the post-COVID-19 period. The topic brings together multiple angles of agriculture, the food supply chain and the way we consume food. Embedded in a conceptual framework, three topics are in the focus of the analysis, namely

- Human-nature interaction and livestock
- Creating strong food supply chains and workers' rights
- Working against unsustainable diets and food poverty

Based on their relevance and accumulative representation in studies as well as political and stakeholder discussion, these were chosen to explore the building blocks needed to make political steps towards a sustainable, fair and resilient food system. Furthermore, the topics were part of discussions in the [European Sustainable Agriculture Dialogue](#), a discussion forum led by IEEP. From a political viewpoint, the European Green Deal and its Farm-to-Fork Strategy are key guidance documents, as well as the national recovery plans to implement post-COVID-19 changes.

When it comes to the human-nature relationship and its risks to the food system stability, intensive and high-density animal agriculture is linked to risks of emerging zoonotic diseases. There should be a re-evaluation of how long-term food system policies and agricultural subsidies fit together. Measures to restore biodiversity and mitigate climate change are similarly crucial to increase resilience against infectious diseases. In terms of supply chains, the report highlights the changes required for working conditions across the entire chain and considerations for short and local food supply chains. Moving away from the sole focus on efficiency can provide steps towards greater stability in the face of disruptions.

Lastly, current and future policies must push for availability and access to nutritious diets. This will also create resilience against health conditions, which profits individuals and society as a whole. The right food environment should be able to support sustainable and healthy options as the default choice.

The European food system has an impact well beyond the continent and a new generation of policies must take account of this global footprint. The EU institutions and Member States, for instance through the recovery plans, need to actively promote a systematic and fair transition to sustainability on a planetary scale. What we need to see is a U-turn on food system related policy in the EU, including the development of a legal food system framework, governance mechanisms with accountability strategies on EU and Member State level, support for knowledge transfer and innovation, as well as alignment of agricultural plans with the EU's long-term strategies.

In the recovery from the pandemic, transformative spaces and long-term political strategies provide the opportunity to rethink how we produce, distribute and consume food. Building a sustainable and fair food system, stretching from primary production to consumption in the home, is one of the greatest challenges of our time. Now is the time to seize the opportunity to create the food environments that erase economic and social constraints and inequalities that hamper sustainable diets for all.

1. SUSTAINABLE FOOD SYSTEM FOR EUROPE

The last two years have increased the pressure on the world's food systems, stemming from the pandemic, related economic crises and ever more visible signs of environmental and climate stress (iPES, 2020b). The interplay of inequalities and environmental challenges were exacerbated, throwing the world further behind in reaching the UN Sustainable Development Goals, including achieving zero hunger (SDG2) (OECD/FAO, 2021, International Food Policy Research Institute, 2021). Building a sustainable and fair food system, stretching from primary production to consumption in the home, is one of the greatest challenges of our time. The UN Food systems Summit 2021 has underlined why systems thinking is essential and action is required now, both concerning the ending of hunger and tackling the web of issues that contribute to sustainability. Changes are essential for intergenerational justice, and actions should be taken now to prevent crises and grave impacts on choices and freedoms in the future.

The COVID-19 pandemic magnified the effect of actions and political choices of the past years, including inequalities between urban and rural, poor and rich, and the gender gap. Across the world, the cumulative effects of income loss, more volatile and often higher food prices and strained logistics lead to an interruption of access to healthy and nutritious food (International Food Policy Research Institute, 2021, OECD-FAO, 2021, Vittuari et. al., 2021, iPES, 2020a). These can be traced back to unsustainable pillars of ecological, economic and social practices that have accompanied us for decades. Among numerous effects, food systems in Europe put soils under threat, use a great proportion of land for animal feed production and causes damage to water, biodiversity and humans with the overuse of chemical crop protection and fertiliser (Buckwell and Nadeu, 2018). They have also been described as not being able to deliver adequate nutrition. Furthermore, unsustainable consumption patterns and ecological disruptions have been identified as drivers of pandemics (iPES FOOD, 2020b).

This paper regards the interconnected issues of food systems, their resilience and the implications for the post-COVID-19 period. The topic brings together multiple angles of agriculture, the food supply chain and the way we consume food. After presenting the conceptual framework in section 2, the following section (Section 3) considers three focus topics through the lens of food environments as transformative spaces among its actors and a political strategy that can work towards resilience. The paper presents opportunities to learn from effectively holding up against most shocks created by the pandemic, and vital points of action, including infectious diseases, food supply chains, food poverty and unsustainable diets. Section 4 concludes with policy recommendations for building blocks for a sustainable and resilient food system.

2. CONCEPTUAL FRAMEWORK: FOOD SYSTEM, RESILIENCE AND POST-COVID-19

The discussion at hand has three aspects that require definition and a framework for questions: the food system, resilience and post-COVID-19.

Food system: complex connections of actors, from agriculture to consumption – food system changes and governance

Resilience: resilience against the impacts of shocks (focus on health-related shocks) – and the definition of shocks on the agricultural system; resilience in ecological terms; agricultural resilience

Post-COVID-19: changes throughout/after the pandemic; preparation for the following pandemic; implementing changes before reaching environmental tipping points

2.1 The food system

The European food system connects a diverse set of actors, within and outside of the EU. The food system describes the journey of our food from planting to the harvest and the processing stage, over to transport, food marketing, all the way to how we consume food and then its disposal (Zurek et. al., 2018). For a food system to work for all, it needs to be geared towards health, sustainability, inclusivity, effectiveness and resilience (International Food Policy Research Institute, 2021). Changing the food system is deeply rooted in effectively coordinating the actors of the system. A sustainable food system simultaneously benefits human health, the environment and the climate.

2.2 From shocks to resilience

Whilst familiar in the context of international development, the emphasis on a resilient EU food system emerged in the COVID-19-crisis, particularly in envisioning a pathway for food and agriculture after the pandemic. Resilience encompasses the ability to return to a normal state quickly or to bounce back, after a shock. – including more frequent economic, climate and health shocks. Resilient agriculture and the associated production of food should have the capacity to respond to disruptions and crises and to learn from them without causing system breakdowns. A variety of shocks can impact the food system, and resilience-building should work towards taking all possibilities into account (economic, social, political, weather).

When engaging with the resilience in agriculture and the food system, it is necessary to incorporate the complexities of social and political power dynamics. A critique of the concept of resilience is that resilience does not present a push for fundamental change in itself and utilising the resilience framework bears the risk of turning towards apolitical, technical and growth-driven solutions. Therefore, in the idea of building resilience, one must integrate addressing the core vulnerabilities of a system to move to long-term sustainability instead of quick fixes. For a sustainable food system, which is described as needing to be resilient and robust for food production, resilience must therefore incorporate a response to social and environmental inequalities, and economic volatility (SAPEA, 2020). To build resilience, it is recommended to incorporate these actions to both reduce the severity and the frequency of shocks. The food system of the future should be one where a shock is a) less likely to occur and b) if it occurs, we know what to do and it then c) has a lower impact, allowing life to continue or adapt quickly (International Food Policy Research Institute, 2021).

The first aspect is the **reduction of the vulnerabilities** that are embedded in the food system, and which intensify the impacts of a shock. These structural issues correspond to the above-mentioned underlying drivers of shocks, the vulnerabilities that caused harm before the pandemic. For the food system, these can be working conditions in supply chains and on the field, climate adversities in agricultural production, and diets and nutrition of consumers. Building resilience through this area would imply an increased investment in addressing the root causes of vulnerability. In turn, these investments, for instance in creating the right food environments, then reduces both the severity and likelihood of shocks.

Secondly, the different actors across the food system need to **anticipate future shocks**. This builds into the post-COVID-19 concept – creating foresight for potential upcoming health and food crises. In pandemic terms, as a comparison in the medical sector, may mean the correct stock and supply of PPE for medical staff and the wider population. For the topic at hand, we may be looking at early warning systems, improved data collection and indicators. The IFPRI report also mentions the need to increase access to information and communication for the capacity building of diverse groups.

When the shock occurs, resilience also signifies the **ability to absorb shocks** – or what is often described as bouncing back. It refers to the capacity to return to a pre-shock level, for which especially capacity building and infrastructure is vital. This may include safety nets, R&I considerations, stable supply chains and rural services.

2.3 Post-COVID-19 changes

The last part of the puzzle is the question of how to proceed post-COVID-19, how we would want our food system to function after the pandemic. Two overall scenarios may come to mind – resilience based on status quo and system change to build resilience. The former puts greater weight on absorbing shocks, where little change occurs in terms of vulnerabilities. Based on the evidence on human-nature relations leading to an increased risk of pandemics, and vulnerabilities driving the detrimental impacts, the chance of another pandemic happening is higher. While this paper focuses on preparations necessary to prevent or cope with future pandemics, shocks including climate change will have a significant impact on the food system.

An emphasis on system change post-COVID-19 would involve altering the current human-nature relationship, creating a truly sustainable agriculture system and reducing the core vulnerabilities. For the EU, a short-term response to the pandemic cannot be a trade-off for its long-term sustainability objectives. This applies to the recovery instrument NextGenerationEU and the Member States' recovery plans, it is essential that sufficient research and innovation funding is allocated to agriculture and food – not just for Europe's benefit, but also to support the R&I developments in developing countries that have been hit hardest by the pandemic (IEEP, 2020).

Table 1 summarised the plans connected to the food system of four EU Member States. Mind that investments in other priority areas, not only agricultural projects, can contribute to the development of a sustainable food system.

2.4 Diversity and a framework of change

The food system is complex, and a supportive food environment is built by all different actors in the process. The importance of considering diversity within resilience-building comes in from various angles, such as nature, society, agriculture and the choice of diet. Embedded diversity in the food system facilitates the deployment of different options for a robust reaction when a shock occurs (European Commission, 2020a). Collaboration and diverse opportunities in the food system create flexibility, supporting everyone in the system in the case of difficulties and changes.

Over the past 20 years, making this change has become more a question of how to govern the interconnected actors (Zurek et.al., 2018). This perspective demonstrates how decisions around food are shaped by the structural context. Creating the right food environment for systemic change shifts the responsibility for

making all the right decisions for food and nutrition away from the individual and towards creating better choice options (income, availability, time) (European Public Health Alliance, 2019). Food habits are shaped by, among others, public policies including procurement and fiscal measures, advertising regulations as well as social systems for equal access to sustainable and nutritious food (European Commission, 2020a, Development Initiatives, 2020). Both policy changes and market incentives can incentivise changes and encourage innovative solutions, both social and technological. There is a need to create conditions to allow to thrive and adapt to changes in the future.

3. FOCUS TOPICS – HOW TO START BUILDING RESILIENCE FOR EUROPEAN FOOD SYSTEMS

Having established the context of resilience, the food system and post-COVID-19 strategies, this chapter applies this framework to the current situation in Europe. For this section, three focus topics were chosen, based on their relevance and accumulative representation in studies as well as political and stakeholder discussion: zoonosis and human/nature relationship, supply chains, and lastly food poverty and unsustainable diets. From a political viewpoint, the European Green Deal and its Farm-to-Fork Strategy are key guidance documents, bolstered by several Compromise Amendments in the European Parliament, as well as the national recovery plans to implement post-COVID-19 changes. Throughout the section, we are looking at how resilience can become a part of EU policies on food and diets, and how it translated into policy recommendations (Section 4).

Box 1 - Topical background and impact of COVID-19 responses

Infectious diseases and human-animal interaction

- [FAO](#) requests deeper research into SARS-CoV-2 and similar emerging viruses from animal hosts. There is hope to advance our understanding of sources of human infection (SARS-CoV, MERS, and SARS-CoV-2 may be connected to zoonotic transmission). Since the 1940s, [infectious diseases](#) have mainly emerged from animals (70%) (Galanki 2020).
- Destruction of natural habitat, among others for agricultural land, is adding a proximity between [human populations and nature and exposure to infectious diseases](#). The removal of barriers, deforestation, climate change, habitat destruction and biodiversity loss drive this [interaction](#).
- The risk for human infectious diseases originating from an animal source is described as greatest where close interaction between [wildlife and intensifying livestock](#) or agricultural production takes place.
- Factors like global international travel and trade, high population density, lack of sanitation and hygiene options accelerate the spread of disease. The food demand from the EU to the rest of the world plays another role.

Food supply chains

- Reintroduction of border controls created major uncertainties in the [transport and shipping sectors](#).
- Production: The impact of restrictions on [working conditions](#) of (often already vulnerable migrant) agricultural workers, on employment and [labour issues](#), in particular workers' health and safety.
- Consumption: Panic buying impacted the availability of food products on shelves, alongside more minor logistical hiccups – riding on [a just-in-time supply chain](#) based on efficiency.
- Shifts in the supply chain meant that the hospitality industry had to sell a large volume of food through alternative. Open markets were forced to close, and [consumer demand shifted to retail food](#) for a certain time.

Food poverty and unsustainable diets

- Access to nutritious food was disrupted, the use of [food banks](#) increased, and school canteens closed. Already existing [social and health risk factors](#) were exacerbated.
- Approximately half of the European population currently suffers from a form of [micronutrient deficiency](#), particularly obesity. Some pointed to a connection between [obesity](#) and COVID-19 infection. Health care costs rise from disease-related malnutrition (estimated at €120 billion annually in the EU alone).

3.1 Building resilience in agriculture – human-nature interaction and livestock

In a post-COVID-19 policy view, the topic of infectious diseases and the relation to our food system is a global one. Beyond crisis responses, resilience-building would first and foremost push for a move towards lower contamination risks. Aiming to reduce vulnerabilities must address them where practices make transmission possible, creating a new human-nature relationship and interaction with biodiversity in the EU and beyond.

Building towards a sustainable food production system is the goal of SDG 2.4, and there needs to be considerable progress in Europe to move to a system that can be considered balanced. In the production and consumption area, intensive, high-density animal agriculture is linked to risks of emerging zoonotic diseases (Lauren et. al., 2020). The barrier between humans and nature is lowered by factors including the intensity of the system and environmental degradation to achieve larger production zones lowers.

Particularly certain types of livestock production have been recognized as a key driver of pollution and natural resource depletion, such as deforestation, which may contribute to the issue (Buckwell and Nadeu, 2018). The high levels of consumption in the EU, about 67kg per capita availability per year, and for the growing export market, result in 43.6 million tonnes of meat production (bovine, pigs, sheep and goat, poultry) in 2019 (Our World in Data, 2018, Food and Agriculture Organisation, 2020). The production of feed crops for animals, estimated to take up 72% of the EU's agricultural land, drives water pollution, soil erosion and biodiversity loss. Not only is European land use affected by intensive livestock production, but the environmental effects are mirrored in the countries which export feed to the EU. The indirect effect of the intensive farming system has resulted in a decline of farmland biodiversity of more than 30% since 1990 (European Court of Auditors, 2020).

Food system policies do not sufficiently take the risk of disease arising from animal agriculture into account, which raises the vulnerability to emerging zoonoses. Monitoring of activities that encroach on natural habitats must become standard practice to combat the risks these activities bear. Measures to restore biodiversity and mitigate climate change are crucial to increase resilience against infectious diseases. To reduce structural vulnerabilities and anticipate shocks, including pandemics and climate change effects, the approach of agroecology is presented by several as an opportunity for change, in bringing together ecological and social concepts. The core idea of optimising interactions between plants and animals, but also humans and the environment points to redirecting how agricultural spaces are used (Food and Agriculture Organisation, 2018, iPES 2020a). While the EU is recognising promoting models of production that go towards re-establishing a healthy human-nature relationship, such as organic production, intensive models are still supported and subsidised. Creating new pathways to connect animal agriculture and crop cultivation for optimised nutrient flow and land use are crucial to prevent shocks from forming. The benefits would extend to soil health, biodiversity and waterways.

Moving away from an emphasis on efficiency and scale throughout our food system would heighten the capacity to absorb shocks overall. A foundation for quick reactions can be created by increasingly adapting the food system in the local context and needs (SAPEA, 2020). The need for a coordinated approach for regional, national and international plans for containment but also policies on the production process before a shock occurs, became more apparent in the current crisis.

Table 1 - Resilience and Recovery plans of EU Member States – food system

France	<p>Multiple investments and reforms are promoted under the Green Transition Pillar, with focus on three objectives:</p> <ul style="list-style-type: none"> • Food sovereignty • Accelerate the agroecological transition to give all French people access to healthy, sustainable and local food • Adapt agriculture and forestry to climate change <p>The plans for the recovery related to sustainable food production include a focus on soil health, organic farming, forestry and protein independence, crop disease, short food supply chains and biodiversity, as well as R&I to enable the transition.</p>
Germany	<p>The focus of the recovery plans is on areas including climate policy, energy transition and digitalisation.</p> <p>A connection to food systems in the recovery can be drawn with budget for data cooperation supported in the fields of soil analysis, animal welfare and sustainability and resilience of food producers.</p>
Poland	<p>Several topical focus points are included in the recovery plans, including</p> <ul style="list-style-type: none"> • Move to shorten and diversify supply chains and resilience of actors in the chain • Investment in storage and distributors network, support for businesses on circular economy • Environmental protection and non-GMO production • R&I investments

	<p>These correspond to national plans to increase the role of organic agriculture, diversify farmers' income and improve social services as well as environmental protection for natural environment and soils.</p>
Italy	<p>The priority "Ecological transition" of the recovery plan, with the largest budget share, includes sustainable agriculture and circular economy as one of the four areas of activities. Main projects include strengthening logistic solutions to support agri-food supply chains, agricultural mechanization, support to introducing solar panels within farms, and water management (out of 12, one project specifically targets agriculture).</p> <p>Projects included under the other priorities might also have positive effects on agriculture and rural areas:</p> <ul style="list-style-type: none"> • Priority 1 (Digitisation, innovation, competitiveness, and tourism): valorisation of rural villages under; creation of better digital infrastructure to cover also rural areas. • Priority 4 (Education and research): projects supported under the theme "Research and business" can have positive influence also on agriculture and agri-food companies. • Priority 5 (Cohesion and Inclusion): specific project targeting inner areas and the improvement of their mobility infrastructures.
<p>The four EU Member States were selected based on the work of the European Sustainable Agricultural Dialogue, a forum under Chatham House rules led by IEEP with actors from the industry, civil society, universities, and research centres to discuss key topics, exchange views and standpoints. Next to a platform on EU level, four national platforms in Poland, Italy, Germany and France mirror the work.</p>	

3.2 Creating strong food supply chains – workers' situation and length of the chain

The EU food supply chain builds on complex interactions between many actors (both within and outside of the EU) and is shaped by various influencing factors, especially policy measures. A shock to this complex system could theoretically easily rock the boat. Still, the visible impact of the COVID-19 was localised and temporary disruptions leading to empty shelves, therefore being relatively well absorbed (see Box 2) (European Commission, 2020a). Going forward post-COVID-19, it is of importance to assess which areas of the supply chain continued or were disrupted, and what plans can be implemented for stabilisation. The idea of creating shorter, or more local, supply chains has been present in the post-COVID-19 discourse, for which Box 2 presents considerations in relation to resilience building.

Labour restrictions across the EU caused plenty of disruptions for agricultural production and distribution of produce. The shock brought multiple underlying vulnerabilities of our food system to light, including the deplorable working conditions on farm and process level (iPES, 2020a, Matthews, 2020, Vittuari et. al., 2021). After initial complications, farmworkers were able to travel to their place of work. However, hygiene and social distancing could not be or were not upheld everywhere (specifically for work on the fields and in the processing industry).

Building resilience must mean assessing the situation of farmworkers, at the beginning of the supply chain, particularly now their health situation interplay with infectious diseases and the imposed restrictions in crisis management. Moving forward, the food system must regard these vulnerabilities of farmworkers' economic, work environment and living situation and value their work for public goods appropriately – especially the movement of farmworkers in the harvest season. In anticipation of shocks, preparing the supply chain for restrictive health measures must be part of preparedness. In 2020, these were neither appropriately foreseen nor implemented quickly enough, which lead to contamination, particularly in the meat industry.

Along the food chain, the physical distance and hygiene practices must therefore play a role in plans of both farm activities and processing plants. Leaving a system with the sole focus on efficiency, also in terms of workers, has the chance to create greater stability in the face of disruptions. Further down the supply chain, especially in richer countries, a lack of resilience was perceived in the restaurant, hospitality and open market sector (see Box 1) (European Commission, 2020a, iPES, 2020a).

The closure of restaurants and similar establishments shifted signals to both producers and consumers as to where food is available. A preparedness and capacity to absorb shocks in terms of supply and demand between producers and the hospitality sector are necessary to consider.

A resilient system would also balance out asymmetric power relations post-COVID-19 and build up those with lower bargaining power, which support the absorption of shocks (Vittuari et. al., 2021). The solution cannot be to present a reinvented industrial food system as an improvement, which drives vulnerabilities of economic and social inequality, ecosystem disruption and climate change (iPES, 2020a). When relying on migrant farmworkers, it must be insured to uphold conditions of fair living conditions, wages and health protocol. The effect of workers' lower economic and social power is noticeable across the food system. A post-COVID-19 approach requires multiple levels of the food system, specifically the farm and process level, to develop adapted working patterns in the anticipation of shocks. To absorb the shock and continue production, protective equipment and distance rules must, under the circumstances of a shock, be possible to implement – with special considerations for informal chains (Vittuari et. al., 2021).

The idea of large-scale implementation of shorter food supply chains found increased support by citizens and politicians in the current crisis (see Box 2). They can provide certain stability but are at the same time not immune to shocks and requires diversity to impact overall resilience. It will remain to observe whether shopping behaviours and demands are permanently changing post-COVID-19.

Box 2 - Adapting supply chains for resilient food systems?

Failings of the industrial, globalized system become more apparent with shocks – unsustainability, poor nutritional value, unequal access to food (Matthews 2020). Together with local agriculture and storage developments, short supply chains have been of interest to increase social and economic benefits for the last decades. The Farm-to-Fork strategy (F2F) includes the concept of short food supply chains (SFSC), and locally produced food was pushed to the foreground to achieve F2F objectives by the European Parliament's Compromise Amendments to the strategy. Throughout the last years, a considerable number of consumers shifted towards SFSCs by local actors, such as farmers markets and direct sales (Chiffolleau and Dourian, 2020). Would upscaling this trend contribute to a more resilient food system?

Positive development

- Greater involvement of regional and local governments in the food system with local planning tools and policies
- Less complex chains are more stable and less likely to fail – creating simplified food supply chains
- Shorter transport routes with, for instance, direct delivery food services
- Contact products and consumers – creating a better understand of both production process and needs
- Enhanced buyer/supplier communication – needs/quantities/food waste

Reservations

- Geography of region plays a role for the production and availability of range of nutritious products (for instance Europe and concentration of fruit and vegetable production in Southern Member States)
- Transport issue remains in shock situations
- Labour needs and employment opportunities may shrink
- Potentially lowering food security

The sustainability of a SFSC depends on particular indicators, the products and the context (Chiffolleau and Dourian, 2020, Matthews, 2020). Research needs are suggested to be the contribution of SFSCs to food system resilience in connection to short vs long and local vs globalised chains.

3.3 Minimise health shocks in the food system: working against unsustainable diets and food poverty

Hidden insecurities previously not recognized as problematic came to the forefront and were magnified (urban/rural, rich/poor, gender gap) in the pandemic. Food systems have not only been described as driving environmental degradation but also not being able to deliver adequate nutrition. Household food insecurity is one of the amplified impacts, where declining incomes lead to a decrease in diet quality and diversity (International Food Policy Research

Institute, 2021, iPES, 2020a). Europe is already at a tipping point of nutritional challenges and concerning oneself with resilience may prevent further imbalances.

As diets affect one's overall health, there is a considerable risk of leaving the population more vulnerable to health-related shocks. The connection between (grave) obesity (see Box 3) and the risk of experiencing worsened COVID-19-related outcomes has been a focus in Western countries. Unhealthy diets may create underlying health conditions which make the body more susceptible to diseases (Galanaki, 2020). In the crisis, citizens increasingly opted for non-perishable, processed foods – based on income, food safety concerns or convenience. The pandemic revealed these embedded social, economic and environmental inequalities, whereby we can see how an economic and nutritional crisis go hand in hand.

Resilience in this part of the food system targets the health resilience of individuals and society as a whole. Addressing these underlying vulnerabilities in relation to health and diets is key, similar to anticipating shock and being prepared to distribute nutritious food to all parts of the population. The aim should be to create an accessible sustainable diet for all, meaning that food is 'safe, culturally acceptable, affordable and continuously available', while engaging in agricultural production which protects the environment, soil, water and prevents pollution (European Commission, 2020a). Both the availability and access to nutritious food must be guaranteed during and after a shock. A specific focus should be on women and girls, who are most often experiencing the vulnerability of economic inequality (International Food Policy Research Institute, 2021). In preparation for future shocks, building effective safety nets and increasing the purchasing power is key to create a bridge to nutritious food (Béné, 2020).

In anticipation of shocks, one must build in the experiences. In the area of food consumption and nutrition, a considerable number of children whose meal depend on the school canteens and day-care centres can end up in insecure food situation, both in terms of quality and quantity of nutritious food (iPES, 2020a, Vittuari et. al., 2021). In the face of a shock, these services are vital to absorb them. The scenario of schools possibly closing in the face of a shock can become reality again, policies and responses from food supply chain actors must be in place to continuously provide food. For a food environment that supports sustainable and healthy options as the default choice, green procurement measures are a key opportunity for EU COVID-19 recovery and resilience plans. Economic and food-related policies trying to incorporate resilience must foresee the impacts over the months after the shock hits on food and nutrition.

Economic and social constraints and inequalities hamper sustainable diets for all. Therefore, the right environment needs to be created to create the option of choice (income, availability, time). With an increased interest in sustainable diets and the connection to our overall health, now is the time to seize the opportunity to create the food environments needed for more people to be able to follow the pathway.

4. MAKING USE OF THE POLITICAL OPPORTUNITY – POLICY RECOMMENDATIONS

The need for nutritionally and environmentally sound food production has been broadly acknowledged in research circles long before the pandemic (Zurek et. al., 2018). However, political discussions on reforming the food system frequently result in a dead-end, with far-reaching change being shrugged off as unattainable due to the sheer complexity of the multiple systems involved and the challenge of realigning them in a coherent way. There are many actors to be coordinated and innumerable relationships to be addressed as well as some brave choices to be made. A strong foundation is essential for actions to be taken now to prevent crises and grave impact on future choices and freedoms.

In exploring system thinking and essential changes around food system resilience in EU agriculture in the post-COVID-19 period, this report showcased multiple points of action from primary production to consumption at home. Consequences must be drawn to create opportunities to prevent and be able to face similar shocks in the future.

For the human-nature relationship, risks stemming from intensive production and consumption should be averted, where high-density animal agriculture is linked to risks of emerging zoonotic diseases. There should be a re-evaluation of how long-term food system policies and agricultural subsidies fit together. Furthermore, measures to restore biodiversity and mitigate climate change are crucial to increase resilience against infectious diseases. In terms of supply chains, the report highlights the changes required for working conditions across the entire chain, and considerations for short and local food supply chains. Moving away from the sole focus on efficiency can provide steps towards greater stability in the face of disruptions. Lastly, current and future policies must push for availability and access to nutritious diets. This will also create resilience against health conditions, which profits individuals and society as a whole. The right food environment should be able to support sustainable and healthy options as the default choice.

This hesitation to act is now starting to diminish somewhat within the EU following the high-level commitment to a European Green Deal and a Farm-to-Fork (F2F) Strategy, as well as the recent experience of the pandemic (iPES, 2020b). The current Slovenian Council presidency has vowed to put resilience and preparedness for pandemics at the centre of their agenda. The proposals in the F2F strategy are taking a more concrete shape, aiming to address both the production and consumption side of the equation, although the main focus is on the former.

These strategies also lay the ground for a potentially crucial legal framework for sustainable food systems, with a legislative proposal from the Commission due in 2023 (European Commission, 2020b). As a guiding framework to set a strategic direction, the framework could tackle specific and systemic inconsistencies. There is the potential to introduce a more cross-cutting approach for a transformation involving a synchronised shift in dietary patterns and food choices alongside changes in production, land use, food processing and marketing pursuing both greater sustainability and improved public health. Finally, the implementation of the Member States' recovery plans is a crucial chance to take the action points forward.

The European food system has an impact well beyond the continent and a new generation of policies must take account of this global footprint. They need to actively promote a systematic and fair transition to sustainability on a planetary scale. Now is the time to seize the opportunity to create the food environments that erase economic and social constraints and inequalities that hamper sustainable diets for all. What we need to see is a U-turn on food system related policy in the EU (Meredith et.al., 2021), including:

- Initiating the development of Food Policy Strategic Plans under the 2023 policy framework working alongside national agricultural plans.
 - Bringing together different instruments backed by clear common EU objectives but driven by policymakers, food chain actors, civil society and citizens at the regional level.
 - Addressing consumption issues and ensure a just transition in the agri-food sector, particularly for consumers, which is essential to the COVID-19 recovery response
- Implementing EU and Member State governance mechanisms with accountability strategies to deliver on environmental and climate promises,
- Moving to multi-annual and results-based payments in the Common Agricultural Policy, combined with support for knowledge transfer, advice and innovation
- Aligning national agriculture plans to the EU's long-term strategies (including the European Green Deal) and setting strong accountability and robust monitoring systems alongside effective transparency rules

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