



**Fostering a more sustainable food system:
The role of EU projects in promoting sustainable food
consumption in schools.**

Case study: Valencia & Treviso

BY

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List of Abbreviation

CAP – Common Agricultural Policy
CEMAS – Centro Mundial de València para la Alimentación Urbana Sostenible (World Sustainable Urban Food Centre of Valencia)
CREA – Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria
EAFRD – European Agricultural Fund for Rural Development
EAGF – European Agricultural Guarantee Fund
EAPF – European Alliance for Plant-based Food
EC – European Commission
EU – European Union
FAO – Food and Agricultural Organization
F2F – Farm to Fork Strategy
GHG – Green House Gases
GND – Green New Deal
IATP – Institute for Agriculture and Trade Policy
IPCC – Intergovernmental Panel on Climate Change
ISMEA – Istituto di Servizi per il Mercato Agricolo Alimentare
LAV – Lega Anti Vivisezione
LCA – Life Cycle Assessment
MAPA – Ministerio de Agricultura, Pesca y Alimentación (Ministry of Agriculture, Fisheries and Food)
MIPAAF – Ministero delle Politiche Agricole, Alimentari e Forestali (Ministry of Agricultural Food and Forestry Policies)
MUFPP – Milan Urban Food Policy Pact
NGO – Non-Governmental Organization
NSPs – National Strategic Plans
PDO – Protected Designation of Origin
PGI – Protected Geographical Indication
SDG – Sustainable Development Goals
SME – Small and Medium Enterprises
SWOT – strengths, weaknesses, opportunities, and threats
UN – United Nations
UNESCO – United Nations Educational, Scientific and Cultural Organisation

Introduction

“Food is the single strongest lever to optimize human health and environmental sustainability on Earth. However, food is currently threatening both people and planet. An immense challenge facing humanity is to provide a growing world population with healthy diets from sustainable food systems” (“Summary Report of the EAT-Lancet Commission | Knowledge for policy,” n.d.).¹

As the German philosopher Ludwig Feuerbach stated: “Der Mensch ist, was er ißt” – you are what you eat. And it is indeed true. Suffice it to say that worldwide, food production and consumption have a significant impact on the planet's resources and, consequently, on the health of adults and children. In the past, there was more time available to grow vegetables and fruit in the garden and to devote to healthy eating. Today, progressively less time is spent on preparing homemade food, and no attention is paid to the delicate relationship between nutrition and sustainability. It is necessary to carry out a profound transformation in the food and nutrition field to create the basis for a more caring world, beginning with children. Therefore, it is essential to teach the adults of tomorrow the importance of adopting a correct and sustainable diet.

During the development of this dissertation, the aim is to address the issue of food sustainability by observing the implementation of European policies in national territories – specifically Spain and Italy and in their respective cities: Valencia and Treviso.

The study focuses on the EU School Fruits, Vegetables and Milk Scheme, the programme promoted by the European Union and co-financed by the Common Agricultural Policy (CAP). The choice of this stems from the fact that as children are the consumers of the future, it is essential that they are sensitised to follow diets that are environmentally sustainable and also healthy.

The paper is divided into three main chapters.

The first chapter provides an overview of the policies to embark on the path toward the Green transformation. First, the 2030 Agenda is introduced as a global and universal framework for sustainable development. Next, the new

¹ (Eat-Lancet Commission: Food in The Anthropocene: the EAT-Lancet Commission on Healthy Diets From Sustainable Food Systems)

CAP is presented in the context of the Green New Deal to provide the European framework.

Subsequently, it will be analysed the Farm to Fork Strategy and specifically its objectives for achieving a sustainable European food system that respects ecosystems and has a low environmental impact. To get a complete understanding of the issue, it was then necessary to define what is meant by sustainable food consumption.

The second chapter analyses the impacts that food production has on the environment. In this section, it is thus presented how the most sustainable diet model is a primarily plant-based one. After that, it analyses the behaviour and inclination of the younger generations to undertake lifestyles compatible with sustainability models and their perspective on adopting dietary habits with low environmental impact.

Schools are the principal institution that can convey concepts related to such issues. Consequently, it is discussed how education, also in accordance with the sustainable goals of the UN 2030 Agenda, plays a crucial role in raising awareness of sustainability issues, environmental protection and being mindful of the Planet. In this regard, it was further discussed the necessity to adopt policies that help educational institutions to spread messages in line with the SDGs and the Green New Deal.

This is followed by a detailed analysis of the European School Fruit, Vegetables and Milk Scheme: a general legal overview is provided, along with a discussion of how the scheme has evolved over the years.

In line with the issues presented in the thesis, emphasis is given to the revision (still ongoing) to which the programme is subjected. Indeed, it is questionable the fact that the School Programme is promoting the consumption of dairy products, the production of which has now been proven to have a high environmental impact. In the course of this section, are presented the comments of several stakeholders: recommendations sent to the Commission for an effective revision of the EU School Scheme in order for it to be consistent with the Green Deal directives.

The last chapter investigates the implementation strategies of the scheme in Spain and Italy. After presenting the two national strategies in detail, it is discussed the application of the Scheme in the cities of Valencia and Treviso. However, beforehand, is addressed the rationale behind the choice of the two case studies as models of sustainability.

Lastly, during the discussion, it is sought to provide recommendations to ensure that the programmes promoted by the EU are consistent with the challenges that future societies will have to overcome.

Consequently, when outlining new policies aimed at raising awareness among young people and children, it is advisable that they present standard guidelines. The rationale behind this is to promote EU initiatives and campaigns (such as those concerning the promotion of fruit and vegetables in schools) uniformly in all EU countries and to ensure that these results are relevant in the long run and consistent with new sustainability policies.

Literature Review and Limitations

Throughout the present dissertation, it has been attempted to offer a comprehensive overview of the European policies implemented in order to begin the shift toward an ecological transition of the food system. Making the latter fair, healthy, and above all, environmentally friendly.

The main objective of the paper is to discuss the effectiveness of these policies in their application at the national level. Specifically, it has been examined the EU School Fruit, Vegetables and Milk Scheme.

The research is based on the review of secondary sources, as well as data obtained from previous surveys and literature. Consequently, it is necessary to emphasise the consistency of the sources employed.

Regarding the analysed policies, legal frameworks and initiatives, European and national governmental sources from Spain and Italy were referenced.

In analysing the impact of food production and agriculture on the environment and climate change, sources from various literature on the subject were consulted. In particular, valuable sources have been the data encountered in the 2014 Intergovernmental Panel on Climate Change report on GHG emissions and their environmental consequences (IPCC *et al.*, 2014).

On the issue of the environmental impact of diets, and in particular, the impact of a primarily meat-based diet, it was essential to consult the articles "Reducing the environmental impact of global diets" (Swain *et al.*, 2018) and "The price of protein: Review of land use and carbon footprints from life cycle assessments of animal food products and their substitutes" (Nijdam *et al.*, 2012). Some graphs were also taken from the latter to visually demonstrate the CO₂ emissions of different livestock and agricultural crops.

Another helpful article related to this topic is "Environmental Impacts of Food Production" (Ritchie and Roser, 2020), which provided the inspiration for the title of the subparagraph.

It has thus become increasingly apparent the importance of a change in policies to promote greater consumption of plant foods in the daily diet. Further literature to mention is "Sustainable Development in the Agri-Food Sector in Terms of the Carbon Footprint: A Review" (Karwacka *et al.*, 2020) and "Analysis and evaluation of the health and climate change co-benefits of dietary change" (Springmann *et al.*, 2016). From this literature, it has been possible

to find data on the environmental impact of products and services calculated using Life Cycle Assessment (LCA). Thanks to such article, it was also possible to state that the reduction of red meat consumption leads to environmental and climate change benefits.

Later, it was investigated the attitude of young Europeans to change their habits toward an increasingly sustainable lifestyle. For this purpose, data from the Eurobarometer were analysed, revealing that young people tend to be more concerned about the consequences of climate change ("Special Eurobarometer on the Future of Europe.," *n.d.*). The same Eurobarometer was then consulted to assess what influences Europeans' eating habits (price, food safety or sustainability of products). Furthermore, it was sought to observe how the definition of 'sustainable diet' is perceived and who are, according to Europeans, the main actors who should lead the transformation towards a more sustainable food supply chain.

A further crucial element that required extensive research has been the role of schools and nutrition education. Various sources were cited in this regard, including the UN's Agenda 2030. Recommendations published by the EAT-The Lancet Commission in 2019 were also consulted, among which is mentioned the importance of education in raising awareness among students – the consumers of tomorrow – on sustainability issues.

Another publication deemed fundamental on this matter is "Learn for our planet: a global review of how environmental issues are integrated in education" ("Education for sustainable development | UNESCO," *n.d.*).² The analysis of this publication highlighted the fact that terms such as Climate Change and 'biodiversity' are still scarcely mentioned in the topics addressed in schools. The article "Sustainability Recommendations and Practices in School Feeding: A Systematic Review" (dos Santos *et al.*, 2022) provided information on some policies adopted by schools to promote greater consumption of plant-based foods, mentioning the introduction of vegetarian and vegan menus in school canteens.

For the investigation of the EU School Scheme at the EU level, data from the European Commission's publications on the subject were predominantly analysed. These include the European strategy and the programme's Impact assessment/Evaluation roadmap.

² UNESCO. Learn for Our Planet: A Global Review of How Environmental Issues Are Integrated in Education; United Nations Educational, Scientific and Cultural Organization: Paris, France, 2021; p. 50

Subsequently, the scheme had to be analysed from a critical point of view as the consumption of cow's milk is promoted. Taking into account the results discussed in the course of the thesis, the promotion of dairy products tends to go against the guidelines on sustainability of the Farm to Fork strategy. Consequently, it was discussed the Review of the EU School Fruit, Vegetables and Milk Scheme ("Review of the EU school fruit, vegetables and milk scheme," n.d.) and the data from the feedback of the different stakeholders involved.

The data concerning the analysis of the two countries - Spain and Italy - which participated in the School Programme are manifold. Mainly discussed were the data from each national strategy. These data were concerning budgets, target groups and specific information on food distribution.

Several limitations were encountered regarding the analysis of the two municipalities and how the scheme is actually implemented on a local scale. Indeed, it was challenging to encounter local strategies for implementing the EU School Scheme. In principle, national strategies were also implemented at the local level. However, it was possible to investigate the Strategy of the Valencian Community, which was then implemented in the city of Valencia.

To provide a more detailed analysis, however, it was considered the academic year of 2018-2019. It should also be noted that another limitation encountered was the lack of data for the years after 2019, especially in the case of the city of Valencia. On the other hand, the information encountered regarding the town of Treviso is often related mainly to the Veneto Region. Such information comes from a Regional Memorandum³ to the school headmasters of the educational institutions in the Veneto region. Moreover, from this Memorandum and from several articles in local journals, it could be observed that in the last few years, in the Region (and therefore in the province of Treviso), the School Scheme has been implemented, giving more focus to the "Milk in Schools" programme and this consequently led to a reduced data on the distribution of fruit and vegetables.

³ <https://www.icpieve.edu.it/sites/default/files/articoli/2017-2018/nota-della-regione-del-veneto.pdf>

Methodology

The methodology employed in the course of this thesis presents different approaches. The aim is to observe how EU policies and strategies are implemented at the national level. In this particular case, it has been investigated how the EU School Fruit, Vegetables and Milk strategy, a programme that aims to promote healthy and sustainable diets among young people, has been implemented in Spain and Italy and then more specifically in two cities: Valencia and Treviso.

As a first step, it was necessary to set the framework analysis in a general context. Therefore, it was essential to give an overview of European policies concerning the sustainable food supply chain, from food production to consumption: a network involving farmers, feed and seed producers, livestock breeders, the processing industry, transporters and distributors, wholesale and retail traders through to the consumer.

For this reason, it was outlined and presented the new CAP, the Farm to Fork strategy contextualised in the general framework of the Green New Deal and finally, the School Fruit, Vegetables and Milk Scheme.

When discussing the sustainable food supply chain, attention must also be paid to the impact of agriculture and food production on the environment. Therefore, evidence on the impact of different agri-food productions was brought forward. Thus, the data discussed concerns the effect that, for instance, the production of food of animal origin has on the environment and the amount of GHG emissions that result from it.

It was then deemed necessary to obtain a complete picture of how Europeans' habits are moving towards sustainability issues. For the purpose of the analysis performed in this particular dissertation, data concerning the eating habits of Europeans were analysed. It was, therefore, attempted to observe the extent to which Europeans are changing their perception of what a sustainable diet means and their inclination to change their eating habits. In doing so, a descriptive analysis of data collected through various surveys was conducted. It should be noted that the focus was on the millennial generation and Generation Z age group, i.e. from 14 to 29.

The Farm to Fork strategy, a ten-year plan of the European Union, aims to guide the ecological transition towards a sustainable and environmentally friendly food system. Therefore, the School Scheme was analysed in detail in

order to understand how the initiatives that have been implemented under this strategy are moving in the national territories.

It was initially examined the EU School Scheme Strategy and the directives that have been issued as guidelines so that those EU countries that decide to join the initiative can draw up coherent national strategies. This was followed by an analysis of the data from the Spanish and Italian Programmes before focusing specifically on the two cities in question.

Finally, the feedback sent to the Commission by various stakeholders in relation to the school programme was discussed. The scheme is, in fact, being reviewed by the Commission to be aligned with the Farm to Fork strategy. The feedback presented demonstrated some of the programme's shortcomings, and thus they were helpful in making some final recommendations.

Chapter 1

Background

The last 50 years of relentless economic development have brought progress and various adverse effects, which have converged into one severe and significant consequence: the disruption of our Planet's ecosystem. Since the Second World War, thanks to industrial development, people have been accustomed to an ever more significant simplification of daily life. Widespread affluence makes people particularly content and satisfied and has also turned the surrounding environment into a less clean place and has further increased the gap between the more developed countries and those with fewer resources.

The 2030 Agenda and UN SDGs

In 2015, world leaders at the United Nations decided to take countermeasures by drawing up a development plan geared towards global sustainability: the 2030 Agenda. In the 2030 Agenda, 17 sustainable development goals were identified. The common aim of these goals is to achieve overall sustainability in a balanced way, i.e. without anyone being excluded or left behind.

The European Union immediately embraced the themes of the 2030 Agenda by adopting a policy in favour of environmental sustainability and by actively committing itself, together with its member countries, to achieving the sustainable development goals proposed by the United Nations.

After considering all economic, social and environmental aspects that can comprehensively promote the ultimate goal proposed in the 2030 Agenda, the EU has come up with priorities. These include the Green Deal, which lists a set of strategic actions that the EU has decided to pursue in order to tackle the environmental and climate change problems that severely threaten the conservation of biodiversity both in Europe and globally.

As part of the European Commission's Strategy to implement the 2030 Agenda, the European Green Deal aims to transform the EU into a modern, resource-efficient economy and to achieve the goal of a climate-neutral economy - zero net emissions - by 2050. Likewise, the entire development

model will have to change so that economic growth is decoupled from resource waste.

Energy and industry are not the only key points of the Green Deal. It will also include policies to protect biodiversity in the EU and policies to design a sustainable, healthy, environmentally and animal-friendly food system.

The Post-2020 CAP in the Context of the Green Deal

Since the 1990s, the Common Agricultural Policy (CAP) has embarked on a path of progressive strengthening of commitment and attention to green issues and environmental sustainability for the primary sector.

One thousand billion euros over ten years to reduce greenhouse gas emissions to zero by 2050: this is the heart of the Green Deal, and the CAP is fully involved. Indeed, the CAP plays a key role both in terms of the number of resources invested and in addressing the Strategy's focal points.

The Green Deal is a strategy of economic recovery centred on the complete transition to a green economy. The goal is creating an increasingly green CAP that seems to be coming closer with the post-2020 reform. The latter introduces a number of innovations that significantly raise the environmental ambition of the CAP, including consistency with the European Green Deal itself.

Reducing the pressure exerted by agroforestry activities on natural resources, as well as strengthening the ecosystem services provided by primary activities to the benefit of the community, are at the heart of the action that the post-2020 CAP will have to take in order to grasp the objectives of the Green Deal fully.

The efficient and rational use of natural resources is not only an indispensable element in guaranteeing the environmental sustainability of the entire food chain but must also represent a potential factor for new competitiveness to be seized by agro-forestry and agro-food businesses in terms of technological innovation, product valorisation and innovation, and the creation of new value chains within new paths of bio-economy and circular economy.

The CAP must achieve the climate and environmental objectives set by the EU. It is also crucial that its "green ambition" is reinforced more effectively to align with the goals of the Farm to Fork and Biodiversity Strategy ("The new

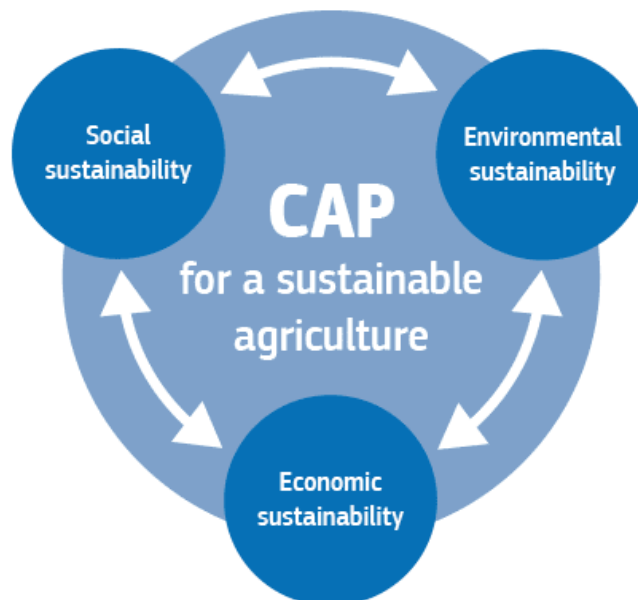
common agricultural policy: 2023-27 | European Commission,” n.d.), which will be further discussed in the next section.

For the European Union, agriculture is a primarily political, economic and environmental resource. That is why the CAP combines these three approaches with the aim of promoting and achieving a sustainable agricultural system throughout the Union.

Farmers, agri-businesses and rural communities also have an essential role to play in many of the key policy areas of the Green Deal, including:

- building a sustainable food system through the Farm to Fork strategy;
- adding to the new biodiversity strategy by protecting and enhancing the diversity of plants and animals in the rural ecosystem;
- contributing to the Green Deal climate action to achieve zero net emissions in the EU by 2050;
- support the new forestry strategy by protecting and maintaining healthy forests;
- contribute to the Zero Pollution Action Plan by safeguarding natural resources such as water, air and soil.

(“The new common agricultural policy: 2023-27 | European Commission,” n.d.)



It should be remembered that the overall framework of a more environmentally oriented CAP had already been outlined by the Juncker Commission (2014-2019). Nonetheless, the greening desired by the Green Deal of the von der Leyen Commission (from 2020) has further raised the bar for the environmental ambition of the reform.

The sustainability goals and themes outlined by the Green Deal for the entire agricultural, agri-food, fisheries and forestry system can be guided towards renewed economic competitiveness through the implementation of the post-2020 CAP. The cornerstones of this process will be:

The CAP is also called upon to integrate EU environmental and climate legislation fully into National Strategic Plans (NSPs). Each country is required to make a significant adjustment effort in developing NSPs to contribute to the ambitions of the Green Deal. Funding for income support, rural development, and market measures will have to be combined into the national strategies. Again, each member country, with a view to achieving the ten objectives of the CAP, shapes and designs its national plans according to domestic political and economic needs (“The new common agricultural policy: 2023-27 | European Commission,” n.d.).

On the budget side, funds for this policy will come from the EAGF (European Agricultural Guarantee Fund) and the EAFRD (European Agricultural Fund for Rural Development), which promise to benefit from a long-term budget. In the case of the last-mentioned fund, some EUR 8 billion will be earmarked to promote radical change in rural areas so that they too can be brought into line with the objectives of the Green Deal.

In order to design effective strategic plans that meet the Commission's objectives, it is helpful to look at evaluations, especially on the climate front, of the previous CAP (2014-2020). According to the EC report published on June 1 2021, the last CAP contributed to the mitigation challenges but not the adaptation challenges (European Commission. Directorate General for Agriculture and Rural Development. and Alliance Environnement., 2019). This is due to the fact that, although resources and tools were designed in the post-2013 CAP reform, the commitments made were not ambitious enough, but also due to the lack of targeted interventions. In this regard, we can think of how the lack of targeted interventions - for example, in terms of limiting soil erosion or increasing carbon stocks - has contributed to less effective results than expected.

The post-2020 reform, in the light of the CAP's New Delivery Model, will assess NSPs on the basis of whether each country has actually achieved its objectives and whether or not they are consistent with EU climate and environmental legislation. Consequently, each member country will have to produce a SWOT analysis - i.e. based on the assessment of strengths,

weaknesses, opportunities, and threats – which is conducted by taking into account each country's territories and agri-food sectors.

In short, an effective strategy not only aims to allocate resources to the right interventions but must also be able to adequately evaluate the actions carried out through the system of product, result and impact indicators available.

But back to the importance of mentioning the CAP in this thesis, "*agriculture and deforestation are among the most important contributors to climate change, but by the same token, farmers and forest users could play a key role in reducing greenhouse gas emissions*" (Alexander Müller, 2008).

In figures, agricultural activity is responsible for producing 33% of the world's total annual greenhouse gas emissions (World Resources Institute Database). As is well known, greenhouse gases are a significant cause of climate change. In essence, it can be said that there is a solid cause-effect relationship between climate change and agriculture. In fact, at the same time, agriculture is also suffering the effects of climate change: the worsening of extreme events, water shortages and thermal stress could trigger irreversible damage to agriculture itself as well as to agri-food systems. Policies, such as the CAP that regulate agricultural practices and related issues, must consider climate change mitigation and adaptation as part of a more general environmental and socioeconomic sustainability framework.

Especially in the last few months of the crisis, due to the Covid-19 pandemic and the recent invasion of Ukraine, the importance of safeguarding the link between climate action and food security has become apparent. This link is recognised in the Paris Agreement and integrated into the new CAP legislation and, therefore, into the Farm to Fork Strategy to ensure sufficient and safe food supply at affordable prices for all citizens in all situations and support the transition to sustainable food systems.

The EU Farm to Fork Strategy

The Farm to Fork strategy (F2F) "is central to the Commission's agenda to achieve the United Nations' Sustainable Development Goals (SDGs). The strategy is designed to help the EU make progress" toward "its climate and energy targets (SDG 7 and SDG 13), and improve the viability and sustainability of its agriculture sector (SDG 2) and the health of the EU population (SDG 3). It will also contribute to the EU's efforts to manage forests and halt deforestation, combat desertification, restore degraded land

and soil, halt biodiversity loss, protect threatened species (SDG 15), and protect and ensure the sustainable use of oceans (SDG 14)" (Keating, 2021).

Within a decade, by 2030, this ambitious Strategy, developed by the European Commission, aims to transform the European food system. How? There is a simple but ambitious answer to this question: making it healthier, fairer and more sustainable. And in order to do so, it is necessary to raise the overall quality of the entire agri-food chain in the name of environmental sustainability. These are all points included in the objectives of the ecological transition. In the European Green Deal context, the F2F Strategy is considered decisive in making Europe the first zero climate impact continent. The agri-food sector plays a crucial role in this context. The Strategy also focuses on the link between people, society and the Planet, generating positive consequences for all. Food and the way it is produced can strengthen this relationship, which has not been sufficiently valued for too long. We can argue that producing more sustainably and healthily would consolidate Europe's position as a benchmark for global food standards.

Objectives

The Farm to Fork strategy has as its main objectives:

- Ensure sustainable food production;
- Ensure food safety;
- Stimulate sustainable practices in food processing, wholesale, retail, hospitality and catering services;
- Promote sustainable food consumption and facilitate the transition to healthy and sustainable diets;
- Reduce food loss and waste;
- Combat food fraud along the supply chain

(COMMITTEE AND THE COMMITTEE OF THE REGIONS A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system CONTENTS, n.d.).



However, it must be stressed that the objectives of this Strategy are very ambitious, and it is also very recent. In order to be able to implement F2F effectively, it is crucial to reach out to young people and make them aware of this strategy's objectives. Young people are the ones who tend to be more prone to innovation and closer to sustainability issues. Therefore, a generational change in agricultural entrepreneurship will have to take place.

Consequently, there is also a need for vocational training to provide the new 'young farmers' with knowledge and know-how.

Awareness-raising and training on issues including sustainable food consumption, as discussed below, is fundamental to be started at an early age in primary schools. Because if one is embedded in an environment that is sensitive to these issues from an early age, it will be easier to consider sustainable practices a 'normality' that is part of their own culture.

It should also be noted that the underlying objective of the Farm to Fork strategy is the creation of a circular economy. In other words, an economy capable of ensuring a cultivation, production, distribution and sales cycle that reduces the distance between producers and consumers. And the choice of the name given to the Strategy, "Farm to Fork," can be interpreted from these elements.

However, this circularity is not only aimed at ensuring proximity that tends to be economically rewarding but also at empowering the citizens of the Member States and raising the awareness of the European population of the importance of creating food sustainability.

The Strategy aims to make citizens aware, informed, and involved in making healthy food choices through the procedure. And to adopt a diet that avoids food waste and overproduction.

Therefore, creating a favourable food environment that facilitates and encourages the choice of healthy and sustainable diets will benefit consumers' health and quality of life and thus reduce health costs to society. In recent years, research has shown that people have begun to pay increasing attention to environmental, health, social and ethical issues and are now more than ever seeking value in food (Europa.eu, 2020).

Even as societies become more urbanised, citizens want to feel 'closer' to the food they consume, and they want it to be fresh, less processed and from sustainable sources. In short, there is a need to empower consumers to choose sustainable food, and all actors in the food supply chain should see this as their responsibility as well as an opportunity.

Legislative Framework for Sustainable Food Systems

The Farm to Fork strategy is a communication issued by the European Commission. Therefore it is not binding, but it indicates the guidelines to be followed for future legislative acts.

As has already been mentioned above, the objectives of F2F have to be declined in the new CAP. Consequently, the Commission also asks that they be included in each Member Country's national strategic plans.

Among the F2F initiatives, there is necessarily the drafting of the proposal for a legislative framework for sustainable food systems, which will be drawn up, taking into account the relevant impact assessment.⁴ The Commission will adopt this legislative framework by 2023, and its guiding principle will be "If it isn't safe, it isn't food" (Food and Agriculture Organization of the United Nations, n.d.). Finally, another focus is on promoting policy coherence at the EU and national levels, mainstreaming sustainability into all food policies and strengthening the resilience of food systems.⁵

Sustainable Food Consumption

The point of the F2F Strategy that will be taken into consideration in order to develop the next steps of this thesis is "Sustainable Food Consumption and facilitating the shift towards healthy, sustainable diets".

Consumers are the ones who have to become aware of the vital link between human health and environmental health. But in order to achieve full awareness, it is necessary to raise awareness and promote people on these issues. Improving consumer information and strengthening the sustainable food supply are crucial elements of the EU strategy.⁶

It can be argued that the consumers that need to be leveraged more and more are the younger ones: especially the Millennials and Generation Z. According to a study conducted by the Credit Suisse Research Institute, they are more environmentally aware, willing to accept stricter regulations if necessary, pay a higher price for sustainable products and shift consumption towards more sustainable products. Another interesting point of this study

⁴ Inception Impact Assessment Ref. Ares (2021)5902055 - 28/09/2021.

⁵ ec.europa.eu. (n.d.). *Legislative framework*. [online] Available at: https://ec.europa.eu/food/horizontal-topics/farm-fork-strategy/legislative-framework_en#consultation-process [Accessed 23 Apr. 2022].

⁶ ec.europa.eu. (n.d.). *Sustainable food consumption*. [online] Available at: https://ec.europa.eu/food/horizontal-topics/farm-fork-strategy/sustainable-food-consumption_en.

is that young people are also more inclined to consume less food of animal origin, favouring instead the consumption of plant-based foods instead of meat and dairy products.⁷

At this point, it is essential to mention the School Fruit, Vegetables and Milk Programme. In the following sections of this thesis, we will investigate the implementation of the Programme in Italy and Spain, particularly in schools in Valencia and Trento, to understand and observe what happens in the practical implementation in schools and cities.

⁷ Id

Chapter 2

Environmental Impacts of Food Production and Agriculture

The Intergovernmental Panel on Climate Change (IPCC) has pointed out that there is a high degree of correlation between global economic and population growth and climate change and the increase in GHG since the pre-industrial era. This has led to atmospheric concentrations of carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) reaching unprecedented levels. Their effect has been noted throughout the climate system and is arguably the dominant cause of observed global warming since the mid-20th century (Intergovernmental Panel on Climate Change and Edenhofer, 2014).

Given the economic system's role in generating emissions, it is possible to envisage a global strategic plan aimed at reducing emissions from 40% to 70% by 2050 (IPCC et al., 2014).

With regard to environmental sustainability, agriculture plays a key factor. In fact, it is closely tied to human nutrition, which drives the demand for agricultural products (Swain et al., 2018).

In numbers, research has shown that food accounts for over a quarter (26%) of global greenhouse gas emissions. In addition to it, 50% of the world's habitable land (excluding glaciers and deserts) is used for agriculture, and 70% of global freshwater withdrawals are used for agriculture. It also has to be considered that 78% of the worldwide ocean and freshwater eutrophication is caused by agriculture. Lastly, 94% of mammal biomass (excluding humans) consists of cattle. Of the 28,000 total livestock species, 24,000 (86%) have been assessed as endangered by the IUCN Red List due to mismanagement in agriculture and aquaculture (Table.1) (Ritchie and Roser, 2020).

What are the environmental impacts of food and agriculture?

Our World
in Data

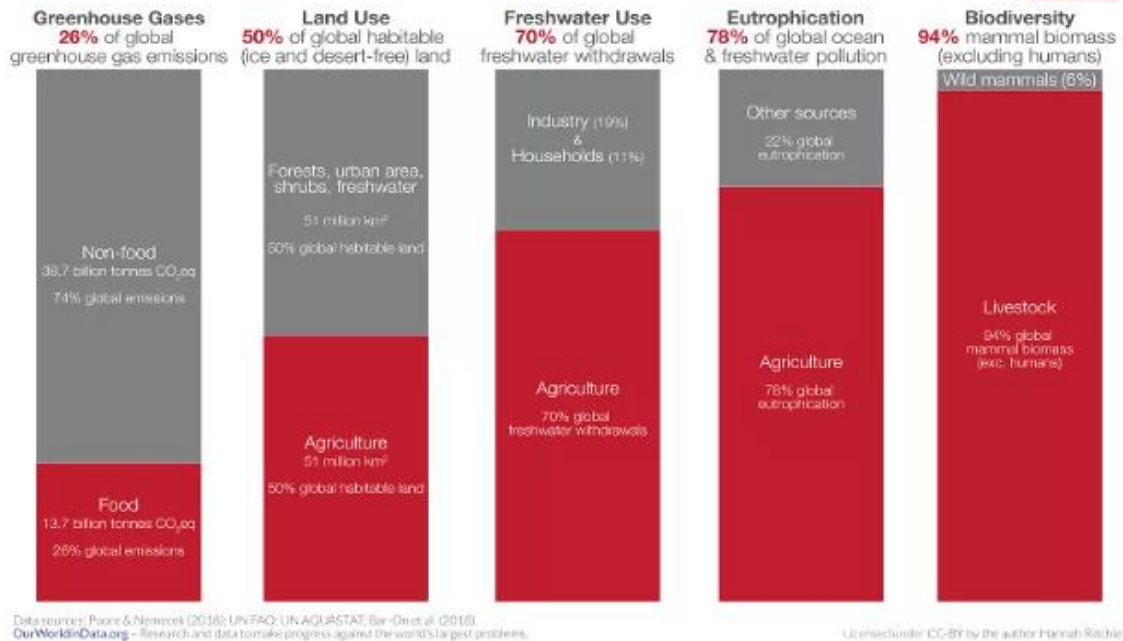


Table.1 "Environmental impact of food and agriculture." (Ritchie and Roser, 2020)

Hence, food and nutrition issues should be brought to the forefront to address climate change, improve environmental sustainability, protect biodiversity and reduce water stress.

Studies such as carbon footprint, water footprint, land use and ecological footprint have investigated the impact of nutrition consumption on environmental sustainability. By offering an integrated impact view of the different phenomena, it is possible to define the human ecological footprint and consequently reduce GHG (Karwacka et al., 2020).

In an analysis of the Life Cycle Assessment (LCA), it has been shown that food products of animal origin account for 80% of total food system emissions and have a higher climate and land exploitation footprint than plant products (Springmann et al., 2016).

As can be seen in Table 2, the most significant impact has been observed for ruminant meat. In comparison, most plant products, seafood and white meat, have lower effects on both land use and CO₂ emissions (Nijdam et al., 2012).

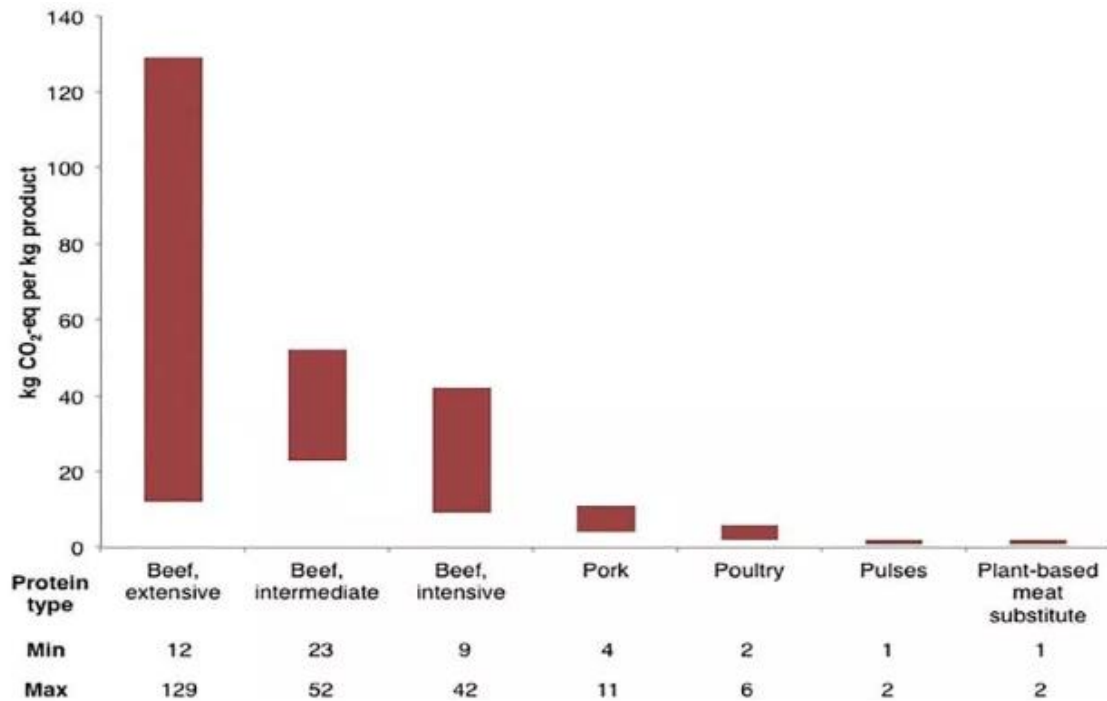


Table. 2 Intensity of greenhouse gas emissions (kg CO₂-eq per kg product) for different animal and plant protein sources. The bars indicate the minimum/maximum range of results in a literature review based on 52 life cycle analysis (LCA) studies. (Nijdam et al., 2012; Swain et al., 2018)

The literature demonstrates that there are significant environmental benefits when reducing red meat consumption (Karwacka et al., 2020).

Nevertheless, this does not mean that nutrition, based predominantly on plant foods, is necessarily associated with lower emissions and thus greater environmental sustainability. When it comes to plant-based nutrition, the seasonality of crops and the environmental impact of those products imported into countries should be considered once their growing season is over. Indeed, imports cause greenhouse gas emissions through air, land and sea transport. For instance, asparagus imported to the UK from Peru produces 5.3 kg of carbon dioxide for every kg of product. A further crucial aspect to consider is the issue of excessive water consumption in water-stressed areas for the cultivation of increasingly popular foods such as avocados, mangoes and nuts. Consequently, researchers recommend consuming seasonal and local products, regardless of whether they are plant-based (O'connor, 2021).

Sustainable lifestyles among young generations

There are a large number of youths, from Greta Thunberg and the Fridays for Future movement to the numerous environmental associations, who are mobilising every day to fight peacefully against climate change. This was an attempt to create a meeting point between young people and politics at all levels. World leaders were thus confronted with a young generation that is trying in every way possible to safeguard its future.

In order for juveniles to be increasingly engaged in environmental activism, it is essential that they are empowered with the skills and rights to participate in decision-making processes and resolve complex issues. Also crucial is young people's confidence in the effectiveness of participation and their belief that they can actively participate in the change.

For this reason, schools and universities are crucial players in promoting democratic activism, specifically environmental activism, in terms of shared responsibility and commitment to the community (Delli Zotti and Blasutig, 2020).

The concern of young people for climate and environmental issues also emerges from the Eurobarometer published jointly by the European Commission and the European Parliament on 25 January 2022 (“EU survey highlights support for greater crisis management role at EU level | News | European Parliament,” 2021). The Eurobarometer on “Future of Europe: Europeans see climate change as a top challenge for the EU” shows that nine out of 10 young Europeans in the 15-24 age group “believe that tackling climate change can help improve their own health and well-being”. (“Special Eurobarometer on the Future of Europe,” n.d.)⁸ Interestingly, the percentage drops to 84% for the age group from 55 and over.

A [survey](#) found that young people also share the idea that the European society of the future will be more attentive to food production and consumption. And that they will be concentrating on the production of plant and local products, decreasing intensive livestock farming and improving the use of water and soil resources (Zago, 2020).

⁸ European Commission - Press release.

https://ec.europa.eu/commission/presscorner/api/files/document/print/en/ip_22_447/IP_22_447_EN.pdf

Young generation's perspective on sustainable diets

The younger generations are the most concerned and committed to changing their habits. In this section, the main focus will be on changing patterns related to food choices.

If, until a few years ago, the change in diet was perceived as a passing fad, it is now felt necessary for humans and the planet's future well-being. According to a number of surveys carried out in different European countries in 2021 among a population in the 18-29 age group, it was shown that Germany is the country with the most vegetarians (11%) and vegans (5%) among young people in Europe ("Europe," n.d.). Poland and Spain follow with an equal overall percentage (8% of the sample) but with a more significant presence of vegans in the Spanish capital (2%) than in Warsaw (1%). In the third position, there is France with 4% vegetarians and 3% vegans and finally, Italy where vegetarians are 4% and vegans 2% ("Europe," n.d.).

Data collected from the studies mentioned above have shown that the shift towards more plant-based diets is a phenomenon that mainly involves young people. Researchers estimate that the number of vegans in Europe has doubled in the last four years (from 1.3 to 2.6 million people) ("Europe," 2020). When also considering other categories, such as vegetarians, pescatarians (vegetarians who eat fish), and flexitarians (a neologism for those who only occasionally eat animal protein), no less than 30.9 % of Europeans show a reluctance to consume meat.

A Special Eurobarometer survey that was conducted in the summer of 2020 showed "what factors influence their food buying and eating habits" and discussed what they believe is meant by 'sustainability'. It also assesses what would help them adopt a healthy, sustainable diet and shows who they think has a role to play in change. This Eurobarometer also seeks to discover what their concerns are and what should be done to ensure the EU's transition to a sustainable food system" (Special Eurobarometer 505 Making our food fit for the future - Citizens' expectations Report, 2020).

The main factors influencing food purchasing habits are taste (45%), food safety (42%) and cost (40%).

Therefore, diets and sustainable food are mainly associated with health (41% of Europeans). By contrast, 32% associate the term 'sustainable' with food that has been produced without the employment of pesticides.

When talking about a healthy and sustainable diet, six out of ten Europeans believe that it involves eating a variety of different foods, including lots of fruit and vegetables, as well as following a balanced diet. A 47% mentioned the consumption of seasonal and local foods.

With regard to following a sustainable diet, in general, two-thirds of the respondents claimed that usually, they eat healthy and sustainable food. More than half of those surveyed say that they follow a healthy and sustainable diet most of the time (56%), and a tenth of respondents say they eat such a diet always (10%)” (European Commission. Directorate General for Health and Food Safety. et al., 2020). Nevertheless, there are noticeable differences across countries in the responses given concerning this issue.

An interesting aspect is related to the fact that “food producers and manufacturers are seen as key actors in making the food system sustainable above public authorities, but not all Europeans recognise their own role as consumers” (Special Eurobarometer 505 Making our food fit for the future -Citizens’ expectations Report, 2020).

As a matter of fact, 65% cited producers – farmers, fishers, aquaculturists – as those who bear the burden of making our food systems sustainable. Food manufacturers were cited by 58%, National Governments were cited by 47%, and only about 4 out of 10 Europeans said that consumers are key players in initiating change towards sustainability (Special Eurobarometer 505 Making our food fit for the future -Citizens’ expectations Report, 2020).

School as an Institution to Foster Sustainable Food Awareness

Good eating habits are more easily acquired during childhood. In fact, it has been shown that, typically, children who consume a high amount of fruit and vegetables maintain their eating habits over time, compared to those who tend to consume a lower amount of vegetables. The latter not only do not change their habits but also pass them on to their offspring. Another important fact to mention is that families with a lower income tend to consume less fruit and vegetables.

Eating, or rather nourishment, is fundamental to ensure life and survival. Today, individual and collective food choices cannot be limited only to quality if the aim is to ensure the safety of those who consume it or to satisfy their taste and nutritional needs. Indeed, as highlighted by the UN 2030 Agenda,

the individual and collective responsibility for food choice must look at humans' relationship with nature, considering ethical, cultural and production aspects as increasingly interconnected elements (European Commission - European Commission, n.d.).

It is indeed reaffirmed in SDG 4 the importance of education in promoting sustainable development among people. This SDG is also closely linked to other SDGs and dimensions of the 2030 Agenda: the environmental, economic and social SDGs, an action plan for people, the planet and prosperity (Refugees, n.d.).

Over the past few years, with the increased collective awareness of climate change, the issue is becoming more and more a focus of attention in the technical-scientific context, education, and the everyday lives of a number of individuals.

Schools are regarded as the social institution that can lead the way in raising awareness of sustainability issues, environmental protection and care for the Planet. Therefore schools are configured and recognised as a place to implement practical actions of Environmental Education, Sustainability Education, Cultural Heritage Education, Global Citizenship Education, as well as Health Education and Food Education. Through these themes, it is possible to contribute to spreading awareness, especially among the younger generations, on issues such as personal and collective well-being, the adoption of correct lifestyles, and the fight against climate change in order to build inclusive, just and peaceful societies by 2030. Given these issues' extreme relevance and urgency, they should be addressed from a qualified global, scientifically and internationally shared perspective, with an eye to ecological, social and economic sustainability principles. Moreover, these issues must be studied thoroughly and considered from an interdisciplinary perspective, hence, also in the context of intercultural dialogue and education for solidarity, peace and legality. This situation represents a complex yet stimulating challenge to which the entire education and training system is called upon to respond appropriately.

Importance of Sustainable Food Education Policies

With the aim of beginning the transformation of the food system, universal strategies and recommendations were published and established by the EAT-

The Lancet Commission in 2019, including the fight for human health and environmental sustainability. It was found that there is a need to improve availability as well as access to healthy food from sustainable food systems. Furthermore, as emphasised above, there is also the necessity to educate and raise awareness amongst people on such matters through targeted food programmes (Willett et al., 2019). Education gives students the tools they need to understand, think and act critically about sensitive and current issues such as climate change, environmental degradation, biodiversity loss, poverty and inequality (“Education for sustainable development | UNESCO,” n.d.).

Therefore, schools should strive to integrate environmental education, ecological literacy, or sustainability education into their curricula. A recent study assessed the extent to which environmental issues are integrated into primary and secondary education policies and curricula across 46 member states of the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2021). This research revealed that terms such as 'climate change and 'biodiversity' are rarely mentioned despite the fact that 92% of the documents made some reference to environmental issues. Therefore, it can be argued that what has been done so far does not sufficiently ensure the inclusion in learning curricula of lessons that address current global challenges (UNESCO, 2021).

When considering the food system's environmental, economic and social impacts, educational practices in which sustainable food consumption topics are included are crucial to increasing sustainability practices among tomorrow's citizens.

An investigation has shown several programmes, initiatives and regulations undertaken in different countries concerning this matter (dos Santos et al., 2022).

For instance, health concerns for students, farmers' living conditions and the environment have led to a shift towards the consumption of local or organic food in school canteens.

Furthermore, there are initiatives that go beyond 'the school gates' to reach out and finance local and small farms. As a result, the spectrum of these policies is broadened: not only the environmental aspect is considered but also economic and social aspects, such as support for small local farms, food security and social inclusion.

As already emphasised earlier in this dissertation, the mismanagement of food systems is among the leading causes of damage to the environment and

people's health ("The Global Syndemic of Obesity, Undernutrition, and Climate Change: The Lancet Commission report - The Lancet," n.d.). Among these, there is undoubtedly the production and consumption of meat (particularly red meat) and food waste. The latter is also a significant cause of both GHG emissions in the environment and consumption of freshwater (De Laurentiis et al., 2017; *Food wastage footprint*, 2013; González-García et al., 2021; Mekonnen and Hoekstra, 2012).

Therefore, some schools have adopted policies that have promoted the adoption of vegetarian/vegan menus. Not only does this reduce the supply of meat, but it also provides the means to enable the planning of more environmentally sustainable menus that take into account both carbon footprint and/or water consumption. Consequently, appropriate – and not excessive – portions are offered in school canteens that follow nutritional, economic, and cultural guidelines (dos Santos et al., 2022).

The creation of a sustainable school food service “is the litmus test of a country's commitment to sustainable development, as it involves nothing less than the health and well-being of young people and vulnerable people” (dos Santos et al., 2022).⁹

As it was remarked, several initiatives and policies have been undertaken at the global and European levels to improve and promote the role of school nutrition education that follows and respects the principles of sustainability in its three main dimensions: environmental, economic and social. However, it must be emphasised that the scope of school nutrition is rather broad and depends not only on the geographical location of countries but also on their social, economic, political and cultural conditions, together with the different regulatory frameworks of each individual country. This means that the resulting challenges necessarily require solutions that are tailored to the local context (dos Santos et al., 2022).

European School Fruit, Vegetables and Milk Scheme

The European Commission has launched a programme to promote nutrition education in schools within the CAP framework. This Programme provides for the free distribution of fruit and vegetables, as well as some dairy products, to students from kindergarten to secondary school. The Programme offers 250 million euros for each school year, divided into 145

⁹Morgan, 2008

million for fruit and 105 million euro for milk and dairy products. This initiative goes hand in hand with the free 'School Milk' Programme that has already been in place since 1977 (“Combined EU School Fruit, Vegetables and Milk Scheme begins operating in European Schools,” n.d.).

After being approved by the European Parliament in 2016, the two initiatives have been combined under a standard scheme: the 'European School Fruit, Vegetables and Milk Scheme'. Recently, the Programme has been submitted for review by the Commission in order to adapt it within the framework of the F2F Strategy. From May 5 to July 28 2022, consultations are open in order to reform it in order to promote healthy and sustainable diets (“School scheme explained,” n.d.).

The Programme reaffirms the EU's commitment to promoting better nutrition standards in young people and the need to address children's low consumption of fruit and vegetables by durably increasing the portion of fruit and vegetables in their diet at the stage when their eating habits are being formed.

As mentioned above, the low consumption of these foods is a European-wide concern. Although several EU countries have implemented school programmes at the national or regional/local level, they tend to be limited in scope. For this reason: *“it was deemed necessary to involve the EU common framework and funding to enable the creation of a large-scale programme”* (COMBINED EVALUATION ROADMAP/INCEPTION IMPACT ASSESSMENT TITLE OF THE INITIATIVE Review of the EU school fruit, vegetables and milk scheme, n.d.).

The legal framework of the Programme allows the Member States to join it on a voluntary basis and after having developed a national/regional strategy, defined on the basis of their priorities and needs, through which the criteria for its implementation are established, as well as the criteria for financing or co-financing the distribution of fruit, vegetables and milk of local origin.

An evaluation conducted in 2012 on the previous School Fruit Programme and later on the School Milk Scheme has indicated that both projects have a positive impact in the short term on children's consumption of fruit, vegetables and milk (“Combined EU School Fruit, Vegetables and Milk Scheme begins operating in European Schools,” n.d.).

The importance of supporting such projects through educational activities has been emphasised to stimulate a long-term shift in children's food

choices. With the establishment of the new Programme, in fact, are promoted various educational activities that enable the pupils to gain a better understanding of agriculture as well as their eating habits and therefore develop greater awareness and sensitivity to these issues.

Review of the EU School Scheme

As previously discussed, the production of meat and animal by-products has a more significant environmental impact than plant-based foods. Therefore, it is natural to wonder why a programme such as the EU School Fruit, Vegetables and Milk Scheme, which aims to promote healthy and sustainable eating habits, actively encourages the consumption of milk, cheese, yoghurt and fermented milk products.

Many reports and studies demonstrate that dairy milk production is unsustainable for the environment. According to research conducted by the Institute for Agriculture and Trade Policy (IATP), the pollution of thirteen of the largest dairy companies is greater than that of the world's largest fossil fuel producers ("Milking The Planet," 2020).

A further study carried out by Oxford University analysed the environmental impact caused by the production of cow's milk compared to other plant-based alternatives such as oat milk, almond milk, soya milk and rice milk. The findings of this analysis proved that all plant-based options were far more sustainable as they emit fewer polluting gases and consume less land and water (Poore and Nemecek, 2018).

When comparing vegetable milk to cow's milk, three main measures to consider are carbon, ecological, and water footprint.

First, it must be said that cattle breeding emits a massive amount of polluting gases (CO₂, N₂O, NH₃ and methane) into the atmosphere. These emissions originated not only from cattle breeding but also from all related activities, such as transport, energy and feed production. Investigations have shown that greenhouse gas emissions from plant-based milk production are far lower than those from cow's milk. Indeed, the latter results in almost three times the emissions of any non-dairy substitute to obtain an equivalent of one glass (Poore and Nemecek, 2018).

In the second place, to produce 200 ml of cow's milk every day for a year requires 650 square metres of land, almost the equivalent of two tennis

courts. While plant-based alternatives have a much smaller ecological footprint – oats, for example, would only need a tenth of the soil to achieve the same supply (Poore and Nemecek, 2018).

The most considerable differences can be noted among the various types of plant-based milk when is taken into account water consumption. But in spite of this, records of water consumption for cow's milk production remain far higher than for its vegetable counterpart. In figures: approximately 120 litres of water are used to produce a glass of cow's milk, whereas less than 10 litres are used to make a glass of oats or soya milk (Poore and Nemecek, 2018).

Hence, it has been recognised the necessity to strengthen the contribution of the EU School Fruit, Vegetables and Milk programme to sustainability, food production and consumption in line with the basic principles of the new CAP 2023-2027. Therefore, the aim is to review the EU programme both on the basis of the lessons learnt since its implementation in 2017 and on the lines of the Farm to Fork strategy to promote sustainable food consumption (“Review of the EU school fruit, vegetables and milk scheme,” n.d.). To this end, the Commission has initiated a public consultation from May 5, 2022, until July 28, 2022, at midnight – Brussels time – which follows the period (June 29, 2021 – July 27, 2021) of feedback on the Programme sent to the Commission by different stakeholders.

Stakeholders' Perspective on the School Scheme's Review

The previous paragraph mentioned the feedback sent by different interest groups in the context of the Review of the School Programme initiated by the Commission. The following one will be investigated the stakeholders' perspectives on the matter.

The main stakeholders identified for consultation are consumers and their organisations – especially children and their parents. In the talk are also included primary and secondary-level educational institutions and associations are also included in the consultation. Another stakeholder group identified are businesses – SMEs – in the fruit and vegetable and dairy sectors and, finally, the authorities in the Member States dealing with agriculture, health/nutrition, education and the environment (COMBINED EVALUATION ROADMAP/INCEPTION IMPACT ASSESSMENT TITLE OF THE INITIATIVE Review of the EU school fruit, vegetables and milk scheme, n.d.)

As the graphic in Fig.1 illustrates, out of the 505 valid responses received to the consultation questionnaire, 66.14% of the respondents were EU citizens. Other categories contributed with 11.8% and Public Authorities with 11.49%, while NGOs accounted for only 0.99%.¹⁰

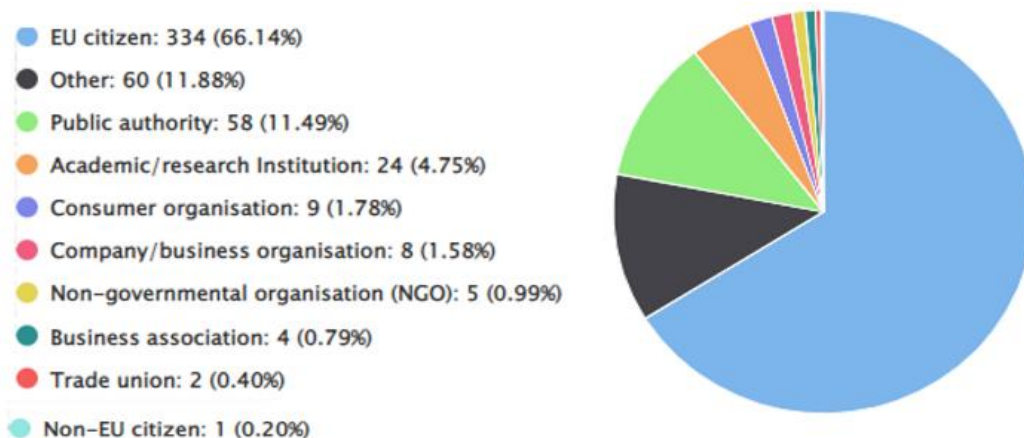


Fig. 1 Total of valid feedback instances received by category of respondent: 510 (EC- European Commission, n.d.)

The result concerning feedback submitted in the period from the 29th of June 2021 to July 27 appears to be different (Fig.2). In this instance, it can be observed that the total number of valid submissions was 73, where NGOs sent almost 32.88% of the feedback, followed by 27.40% by European citizens and 16.44% by business associations. Further data to mention are the leading countries from which feedback was sent: Belgium (21%), Poland (19%), France (15%), followed by the Netherlands (10%) and Italy (7%).¹¹

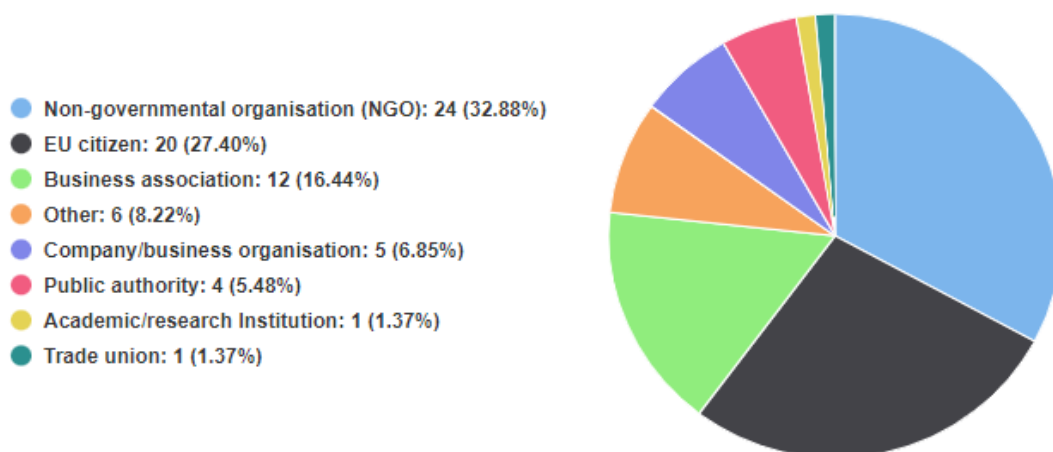


Fig. 2 Total of valid feedback instances received by category of respondent: 73 (EC- European Commission, n.d.)

¹⁰ https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12971-Review-of-the-EU-school-fruit-vegetables-and-milk-scheme-EU-aid/public-consultation_en

¹¹ https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12970-Riesame-del-programma-UE-Frutta-verdura-e-latte-nelle-scuole/feedback_it?p_id=25977074

Listed below are some of the main feedbacks that have been delivered by NGOs, EU citizens and companies/business organisations on the need to move towards plant-based alternatives to animal derivatives.

Cecilia McAleavey submitted the one presented below on Oatly's behalf (a Swedish company that produces vegetable drinks).

"For the EU to take global leadership and spearhead the fight against climate change and to achieve its long-term commitment to decarbonise its economy it must facilitate a shift to plant-based production and consumption. Oatly believes it is essential that the EU school scheme promotes sustainable and healthy eating habits among children. Including plant-based foods, such as fortified plant-based drinks, in the EU School Scheme is an important tool in promoting sustainable plant-based diets. Moreover, including plant-based drinks would recognise the needs of children who cannot or do not want to drink traditional cows' milk. It is important to remove structural hurdles hindering the shift to plant-based diets." (McAleavey, Oatly)¹²

Similarly, the European Alliance for Plant-based Food (Belgium) argues that the EU school fruit, vegetables and milk programme should be more inclusive and should *"promote food products responding to children's needs – as diverse as they are –, and enable the shift to sustainable plant-based diets, in line with the EU Farm to Fork Strategy."* According to the EAPF, indeed, the current scheme *"encourages misconceptions among children according to which cow milk and milk products are necessarily good for their health and the only available source of essential nutrients to their development"* without taking into account the environmental impact of the consumption and production of milk and milk products. Therefore, the Association proposes that *"both the EC and the Member States revise the EU School Scheme and integrate plant-based foods as part of eligible products. We particularly encourage the EU to promote: "Food products enabling the shift to healthy and sustainable plant-based diets; Schools as agents of change; A level playing field for plant-based food products on the EU agri-food market."* (Lauret, EAPF)¹³

The Italian NGO LAV (Lega Anti Vivisezione – Anti Vivisection League) welcomes the Programme's approach in line with the Farm to Fork strategy that *"supports healthy and sustainable lifestyle choices by promoting food equality among young people in schools"*. Nevertheless, LAV also emphasises

¹² Feedback reference: F2663238 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12970-Review-of-the-EU-school-fruit-vegetables-and-milk-scheme/F2663238_en

¹³ Feedback reference: F2663160 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12970-Review-of-the-EU-school-fruit-vegetables-and-milk-scheme/F2663160_en

the need to include alternative plant-based beverages and the replacement of 'dairy products with plant-based alternativ

es based on legumes, oilseeds or cereals that have a significantly lower environmental impact.

They are thus calling for "*public funds to be employed to enable the necessary change towards the maximum spread of 100% plant-based protein foods and a significant and steady decrease in dairy products.*" Thus, the revision of the School Scheme, according to LAV, must integrate "*plant-based protein foods – in particular plant-based beverages – among the eligible products, by virtue of their wholesomeness, inclusiveness and reduced environmental impact*" and that "*food education programmes should be based on scientific evidence and not on logics that respond to commercial interests.*" (Segurini, LAV)¹⁴

Not only NGOs, businesses and companies or associations, but also private EU citizens contributed with feedback in light of the review of the Programme. In line with the focus of analysis of this dissertation, the following comment was submitted by an Austrian citizen:

"The focus of your initiative must be to promote and teach about a healthy plant-based diet. Kids can learn that there is no need to produce and consume animal products and intentionally harm sentient beings. And they can learn about all the positive aspects, which the transformation/elimination of the animal industry would mean for all of us. You are well aware that our food systems must change. You know that consumption of animal products needs to drop significantly. Optimisation of land use, animal welfare and the current amount of animal products consumed every day, will never fit together. Support the right things now!" (Nadja Hennig, EU Citizen).¹⁵

Hence, besides study data, individuals are also demanding a policy shift towards a more significant promotion of consumption of plant-based foods and beverages in order for the EU School Fruit, Vegetables And Milk Scheme to align with the sustainability goals of the Farm to Fork strategy.

¹⁴ Feedback reference: F2663193 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12970-Review-of-the-EU-school-fruit-vegetables-and-milk-scheme/F2663193_en

¹⁵ Feedback reference: F2663013 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12970-Review-of-the-EU-school-fruit-vegetables-and-milk-scheme/F2663013_en

Chapter 3

This chapter will discuss the implementation of the 'European School Fruit, Vegetables and Milk Scheme' in the Spanish city of Valencia and the Italian city of Treviso in order to observe precisely how the Programme is implemented at the national level in Spain and Italy to monitor the influence of EU policies on citizens' behaviour (in this case among school students) and the lessons that can be learned in terms of governance in the management of EU-promoted programmes.

Case Studies: Valencia & Treviso

Spanish National Strategy

The Spanish National Strategy is approved by the Royal Decree, following the proposal of the Ministry of Agriculture, Fisheries and Food (MAPA). In line with the provisions of European Union regulations, the Decree develops the general measures necessary to participate in the School Programme related to the preparation of the Multiannual National Strategy and is also the means to integrate the provisions for the implementation of this Programme in the different Autonomous Communities.

The Royal Decree also lays down the criteria for eligible costs, annual funding requests to the European Union and provisions on accompanying educational measures that are fundamental pillars for instilling healthy eating habits in our child population.

In line with the Commission's guidelines, in Spain, priority has been given to the distribution of fresh products. However, it is also permitted to distribute processed fruit and vegetable products to meet children's unique nutritional needs. Other agricultural products, such as olive oil, pitted table olives, and honey, can be distributed for tasting as part of accompanying educational measures. (Government Of Spain Ministry Of Agriculture, Fisheries, Food And The Environment Directorate-General For The Food Industry Sub-Directorate-General For Food Promotion Spanish Strategy For The Implementation Of The School Fruit, Vegetables And Milk Scheme From School Years, N.D.)

Finally, this Royal Decree guarantees the distribution of local and regional products to less developed and peripheral regions.

Budget

The Spanish national Strategy for the implementation of the Fruit, Vegetables and Milk Programme in schools from 2017/2018 to 2022/2023 foresees explicitly the allocation of approximately 12,932,647€ for the Fruit and Vegetables Programme and 6,302,784€ for the Milk Programme for a total of 19,235,431€. As far as aids are concerned, it can be observed from Tables 5,6 and 7 the contribution from the EU, regional and national funds.¹⁶

EU aid (€)	Period from 01/08/2017 to 31/07/2023		
	School fruit and vegetables	School milk	Common elements
Distribution of fruit and vegetables/milk	88 124 231.82	13 936 305.48	
Accompanying educational measures	8 149 282.28	996 276.82	1 500 000
Monitoring, evaluation and publicity	4 241 873.03	795 800	1 733 389.10
Total (€)	100 515 387.13	15 728 382.30	3 233 389.10
Overall total (€)	119 477 158.53		

Table. 5 Union Aid for the School Scheme

AMOUNT (€)	School fruit and vegetables		School milk		Common elements	
	Public contribution (€)	Private contribution (€)	Public contribution (€)	Private contribution (€)	Public contribution (€)	Private contribution (€)
1. Product and distribution	6 750 826.71	420 000	63 807.27			
2. Accompanying measures	2 545 128.01		38 087.45		615 000	
3. Monitoring, evaluation and publicity	639 583.97		16 884		493 347.28	
Total (€)	9 935 538.69	420 000	118 778.72		1 108 347.28	

Table. 6 Regional Aid

¹⁶ Spanish National Strategy https://ec.europa.eu/info/sites/default/files/food-farming-fisheries/key_policies/documents/es-school-scheme-strategy-2017-23_en.pdf

AMOUNT (€)	School fruit and vegetables	School milk	Common elements
1. Product and distribution		2 000 000.00	
2. Accompanying measures	1 789 768.00	899 998.00	
3. Monitoring, evaluation and publicity			105 000.00
Total (€)	1 789 768.00	2 899 998.00	105 000.00

Fig. 7 National Aid

Target Group

The phase in which eating habits are established is mainly during the preschool and primary school periods. Consequently, the target group is children between the ages of 6 and 10 years, although pupils aged 3 to 18 can participate in the Programme. The target group generally includes pupils attending kindergartens or preschools, primary and secondary schools and special education centres.¹⁷

Further Information regarding products for school distribution

In the Spanish national strategy, there are certain parameters set by Spain's national health authority, the Agencia Española de Consumo, Seguridad Alimentaria y Nutrición (AECOSAN). These limits concern maximum quantities of salt and fat for specific products.

For instance for Gazpacho:

- Fat: 9.75 g/250 ml
- Salt: 0.625 g/250 ml
- For portions of less than 250 ml, the salt and fat contents should be adjusted proportionally.¹⁸

For Fresh-cut salads dressing for a portion of up to 70 g should consist of the following:

- 10-11 g of extra-virgin olive oil (approx. one tablespoon).

¹⁷ Spanish National Strategy https://ec.europa.eu/info/sites/default/files/food-farming-fisheries/key_policies/documents/es-school-scheme-strategy-2017-23_en.pdf

¹⁸ Spanish National Strategy https://ec.europa.eu/info/sites/default/files/food-farming-fisheries/key_policies/documents/es-school-scheme-strategy-2017-23_en.pdf

- Efforts should be made to avoid adding salt to the product. However, if the schoolchildren do not accept the salt-free dressing, a maximum of 0.7 g of salt may be added.
- If ready-made fresh-cut salads are distributed with single-use salt and oil sachets with which to dress them, the salt and oil content must match the amounts mentioned above.
- For portions of less than 70 g, the salt and fat contents should be adjusted proportionally.¹⁹

As for Milk Products such as Pasteurised milk, Heat-treated milk, Lactose-free heat-treated milk, Cheese, Plain yoghurt and Curd, these are not meant to be distributed under the National Strategy. In fact,

"As laid down in Article 4(3) of Royal Decree 511/2017 of May 22 2017 setting out the implementation in Spain of the European Union legislation on the school fruit, vegetables and milk scheme, special emphasis will be placed on the distribution of fresh fruit and vegetables and of drinking milk. To foster the distribution of these products, the possibility of distributing products in Annex V to Regulation (EU) No 1308/2013 has been eliminated. The prioritisation of fresh fruit and vegetables and milk has been fostered by setting a more attractive maximum aid than the one for processed products. Similarly, AECOSAN calls for the distribution of fresh fruit and vegetables and of milk and therefore establishes strict criteria with regard to the amount of added fat or salt in processed products that can be distributed, thus preventing a wide range of processed products." (Government Of Spain Ministry Of Agriculture, Fisheries, Food And The Environment Directorate-General For The Food Industry Sub-Directorate-General For Food Promotion Spanish Strategy For The Implementation Of The School Fruit, Vegetables And Milk Scheme From School Years, N.D.)

Under the Spanish National Strategy are also included other agricultural products that are meant to be distributed to children: extra-virgin olive oil, table olives and honey.

The criteria according to which both fruit and vegetables and milk are chosen include health and environmental considerations, variety and the availability of local or regional products. This criterion does not apply to milk as far as seasonality is concerned.

Priority is then given to those organic, environmentally friendly foods from short supply chains. Emphasis is also placed on quality and whether products come from fair trade.

¹⁹ Id.

The competent authorities at the regional level will then select the distributors according to the regulations set out in Article 9 of Royal Decree 511/2017 of May 22, which regulates the application of EU regulations on Spanish territory for the fruit, vegetables and milk school scheme.

With regard to distribution, it is planned once a week for a period of 12 to 24 weeks. Furthermore, food will be distributed in the mornings so that it does not coincide with the usual school meal times.

Italian National Strategy

Nationwide, the Programme for Schools is managed at the administrative level by the Ministry of Agricultural Food and Forestry Policies (MIPAAF) in collaboration with the Ministry of Education, University and Research, the Ministry of Health, the Agency for Agricultural Disbursements, the Regions and the Autonomous Provinces of Trento and Bolzano. As regards, respectively, the accompanying measures and the monitoring of the Programme, MIPAAF collaborates with CREA and ISMEA.

Several operational measures are employed for the management of the School Programme: from issuing tenders for the selection of product suppliers and distributors to the conclusion of cooperation agreements (economic and otherwise) with public bodies.

Budget

The Italian national Strategy for the implementation of the School Fruit, Vegetables and Milk Programme from 2017/2018 to 2022/2023 envisages a total aid from the EU of €148,289,022.00, divided into €100,267,812.00 for School Fruit and Vegetables and €48,021,210.00 for School Milk. Table 8 shows in detail the breakdown of allocated funds. (Annex To The National Strategy For The Implementation Of The School, N.D.)

EU aid for the school scheme (EUR) - Estimate	School fruit and vegetables	School milk	Total
Allocation 2017/2018	16.711.302,00	8.003.535,00	24.714.837,00
Total allocation 2017/2023	100.267.812,00	48.021.210,00	148.289.022,00
<i>Distribution of school fruit and vegetables/school milk</i>	<i>78.710.232,42</i>	<i>36.015.907,50</i>	<i>114.726.139,92</i>
<i>Accompanying educational measures</i>	<i>14.538.832,74</i>	<i>7.203.181,50</i>	<i>21.742.014,24</i>
<i>Monitoring, evaluation, publicity</i>	<i>7.018.746,84</i>	<i>4.802.121,00</i>	<i>11.820.867,84</i>

Table 8

It can be noted that the financial management of the two sub-programmes will be carried out separately and on an accrual basis. Furthermore, unlike what was observed in Spain, Italy does not foresee any national aid for the Schools Programme.

Target Group

Similar to the Spanish Strategy, also in the Italian one, the target group is pupils between 6 and 11 years of age who are enrolled in both public and private educational institutions participating in the initiative. More specifically, however, the "School Fruit and Vegetables Scheme" aims to involve approximately 950,000/1,000,000 students in about 7,000 schools. At the same time, the "School Milk Programme" aims to involve 350,000 children with the main focus on third to fifth graders. Schools in all regions are interested, but priority is given to the school population in urban centres within each region.

Further Information regarding products for school distribution

With regard to the fruit and vegetable programme in schools, the products distributed also include mixed greens: ready-to-eat salads/vegetables, but salt and oil are not provided with them. The choice for distribution is products that are at least and not less than 85% fresh, with a prevalence of fruit products – approx. 80% – over horticultural products.

The distribution of cheese, yoghurt and other dairy products includes products without added salt and/or fat.

As in the Spanish case, the criteria according to which fruit, vegetables, and milk are chosen include health and environmental considerations, variety and availability of local or regional products, as well as seasonality.

There are some differences with respect to priorities compared to Spain. The focus is still on organic products, environmentally friendly foods and products that respect the quality schemes established by EU Regulation N. 1151/2012. But products from short supply chains and fair trade are not covered.

Distribution is foreseen three times a week – both for milk and fruit and vegetables – for a period of 4 to 12 weeks (unlike in Spain, where a period of 12 to 24 weeks is foreseen). Likewise, for Italy, the distribution takes place in the morning or during the afternoon snack and therefore not in conjunction with the main meals.

Valencia

“Work to develop sustainable food systems that are inclusive, resilient, safe and diverse, that provide healthy and affordable food to all people in a human rights-based framework” (“Milan Urban Food Policy Pact,” n.d.).

These are the basic principles of the Milan Urban Food Policy Pact (MUFPP), an initiative coordinated by FAO that was launched during the 2015 Universal Exposition in the Italian city.

Furthermore, with this agreement, the cities joining the initiative work to reduce food waste and the effects of climate change while ensuring biodiversity. In 2017, Valencia was chosen as the designated city to lead the covenant's efforts and to become the capital of sustainable food: hosting several events and fostering collaborations between different organisations and universities.

Valencia was chosen thanks to its reputation as a city known for its market gardens, municipal markets, and gastronomic wealth of typical local products that are part of the famous Mediterranean diet.

In addition, in 2019, the CEMAS (Centro Mundial de València para la Alimentación Urbana Sostenible – World Sustainable Urban Food Centre of Valencia) was officially inaugurated through a joint initiative of the Municipality of Valencia and the FAO. This centre was created as a result of the Valencia Municipality's determination to develop sustainable food policies.

Valencia is home to vast nature reserves that provide seasonal fresh products with a minimal environmental impact on the Planet. Among such reserves is the 'Horta de Valencia', the agricultural area surrounding the city that is home to thousands of fruit and vegetable crops and extends to the Albufera, a place on the outskirts of Valencia where different varieties of rice are grown. Thanks to the Horta de Valencia, a vital link has been created between the rural and the urban areas. For instance, small farmers can count on the direct sales system of their organic products in the Mercavalència (the nerve centre for the distribution of local products to catering professionals and grocery shops) ("Valencia, model for food sustainability | Visit Valencia," n.d.).

The School Programme in Valencia

Taking into account the year 2018-2019, more than 135,000 schoolchildren from 614 Valencian schools participated in the campaign "A menjar sa!". Public funds from the European Union finance the Valencian community programme, the Ministry of Agriculture, Fisheries and Food and the Regional Ministry of Agriculture, Environment, Climate Change and Rural Development. "A menjar sa!" aims to promote the consumption of fruit, vegetables and milk among primary school students in the Valencian community. Its goal is also to improve their habits by orienting them toward the consumption of healthier products while raising their awareness of the importance of consuming local foodstuffs that are produced using sustainable and environmentally friendly methods.

In Valencia, in the academic year 2018-2019, through this Programme, it has distributed more than 231,000 kg of loose seasonal fruit and convenience foods (cherries, loquats, oranges, plums, peaches and apricots) and vegetables (carrots), 19,000 litres of orange juice, 37,000 litres of pasteurised milk and 43,000 kg of natural yoghurt. All products were produced in the Valencia region, and most of them are organic and covered by quality labels. Alongside distribution, the plan strives to involve parents and the educational community through complementary activities such as conferences on food waste in 25 centres and more than 500 workshops for 10,000 pupils on nutrition at school. (Press, 2019)

The nature of the products to be distributed is contained in the Strategy approved by the Valencia Region for the 2018-2019 school year.

It should also be recalled that in accordance with the National Fruit and Vegetable Distribution Programme (of which the various regional programmes are part), priority should be given to the distribution of fresh fruit and vegetables in whole pieces (portions) due to their fibre and vitamin content.²⁰

In accordance with the 2018–2019 Strategy of the Valencian Region, only a maximum of 10 % of the budget available for the distribution of products may be allocated to the sector of pre-prepared ready meals, and distribution must always be made in reusable collective packaging. These goods are those that have undergone minimal processing (essentially washing, cutting and packaging in a modified atmosphere) for ease of use.

Furthermore, the packaging used for the distribution of milk and dairy products must be environmentally friendly, favouring the use of reusable, collective and biodegradable packaging.²¹

Treviso

In Veneto, sustainable development, innovation, and people's centrality are the hallmarks of the primary sector.

In particular, the rural territory of Treviso is characterised by a vast and valuable landscape and environmental variety. The cultural contexts, the agroecosystems, and the provincial region's environment are essential resources for agricultural production. In terms of morphology and vegetation, the area of the so-called *Marca trevigiana* is remarkably diversified and thus, over time, has allowed for the affirmation of differentiated, local and niche agricultural production with unmistakable qualities.²² It is important for the analysis of this thesis to mention the variety of dairy products (local cheeses from small dairies) that form an essential part of local dairy production.

With regard to the fruit and vegetable sector, however, it is necessary to mention the vital crop of Veneto tradition, which is recognised internationally

²⁰ Strategy of the Valencian Region:

<https://agroambient.gva.es/documents/163228750/167000458/ESTRATEGIA+CV+2018-2019+V4.pdf/074bba29-53ff-4adb-8faa-b65663b85b5d>

²¹ Id.

²²

http://urbanistica.provincia.treviso.it/ptcp_upload/docs_piano/Relazioni%20dei%20Gruppi%20di%20Lavoro%20del%20Documento%20di%20Piano/Allegato%20G Aspetti%20agroforestali/Allegato%20G Aspetti%20agroforestali.pdf

and has obtained PGI (Protected Geographical Indication) recognition: Radicchio Rosso di Treviso.

The School Programme in Treviso

In the implementation of the Schools Programme in Treviso, the data encountered regarding the number of schools that participated in the Programme are mainly at the Veneto Regional level. Moreover, in Veneto, and consequently also in Treviso, the primarily promoted Programme among students is the School Milk Scheme. Therefore, the latter will be covered to a greater extent than the Fruit and Vegetable one. In the following paragraphs, thus, these issues will be further explored.

The number of schools involved in Veneto's Fruits and Vegetable project was 2,942, with approximately 11,361 classes and 219,846 pupils (Ministero delle politiche agricole alimentari e forestali, n.d.). And with regard to the distribution of fruit and vegetables, in the year 2019-2018, the tender contract of €1,834,941.25 (+VAT) was awarded to Alegra Soc. Agricola, a commercial subsidiary of the Apo Conerpo Group (European leader in fresh fruit and vegetables). (DG PQAI - Segreteria PQAI - Prot. Interno N.0030956 del 30/04/2019)

As previously mentioned, the data encountered concerning the School Programmes in Veneto are mainly related to the School Milk Project.²³ The rationale behind this can be found as the region produces 9% of Italian cow's milk, ranking 3rd after Lombardy and Emilia Romagna. The milk sector at the regional level involves 3,117 farms and generates a total production of 1,178,557 tonnes for a value of 400,751,570 euros. In particular, the areas affected are Vicenza and Treviso, followed by Verona, Padua and Belluno ("Il comparto lattiero-caseario in Veneto," 2014).

As a consequence, it was decided to give more relevance to the Milk in Schools campaign to promote the territory's excellence. From 2018 to 2019, the campaign involved around 35,000 primary school pupils from the main provinces of the Veneto region, including Treviso. From April to June, pupils from 265 schools and their families were involved in the regional food campaign financed by Europe to the tune of EUR 590,000. The Programme also offered educational opportunities to discover one of Veneto's leading and specific primary production sectors.

²³ <https://www.icpieve.edu.it/sites/default/files/articoli/2017-2018/nota-della-regione-del-veneto.pdf>

For the 2018-2019 year, organic milk, yoghurt made from fresh milk and PDO-labelled cheeses were delivered three times a week during snack time. Fresh products were also offered for family consumption, combined with activity proposals that children could carry out with their parents to learn how to correctly choose, consume and store milk and dairy products.

This is an initiative of the Veneto Region's Agriculture Department, which, in agreement with the producer organisations Lattebusche of Belluno, Latteria di Soligo of Treviso and Latterie Vicentine of Vicenza, together with Unioncamere, promotes knowledge and consumption of milk and its derivatives among young people.

It is essential to mention that, in compliance with the National Strategy, also in the province of Treviso, for the distribution of milk and dairy products in unit packages, they have to be prepared in recoverable and/or reusable packaging or made of recyclable or biodegradable material. Furthermore, the schools are responsible for the disposal of organic waste resulting from the consumption of the products distributed.²⁴

General Outcomes of the 'European School Fruit, Vegetables and Milk Scheme'

From what could be seen from the previous paragraphs, in both countries, despite the two programmes being combined under a common scheme, there are still differences in implementation. Priorities are often given to one part of the Programme rather than the other, pointing to the lack of harmony in implementation between the Member States (European Commission. Directorate General for Agriculture and Rural Development. and AFC Consulting Group AG., 2013).

Nevertheless, the scheme Fruit and Vegetables and Milk in both cities have the same objectives: in the short term, to increase healthy consumption habits among young students through the distribution of clean food in schools, and in the long run, to teach pupils about healthy and sustainable eating and behaviour habits (European Court of Auditors, 2011).

According to the data, as well as in the opinion of experts and stakeholders, the Programme has more relevance with regard to the goal of increasing fruit

²⁴

<https://www.politicheagricole.it/flex/cm/pages/ServeAttachment.php/L/IT/D/3%252F0%252Fb%252FD.bc1a76b204ccca9027bd/P/BLOB%3AID%3D13500/E/pdf>

and vegetable consumption in the short term. In spite of this, according to parents of the children involved in the initiative, as well as school directors and competent authorities interviewed, the Programme is also relevant in the long term (European Court of Auditors, 2011). This is also due to the fact that the variation of the food distributed allowed the children to discover new and different types of tastes. Another study showed that the more frequently fruit and vegetables were distributed, the greater the likelihood that children's nutritional behaviour would change in the desired direction (European Court of Auditors, 2011). Furthermore, according to data collected by the Ministry of Agricultural Policy and sent to Brussels, satisfaction with the measure was high, with only 10% of the children not eating the portions provided to them. As for the Milk Scheme, from the beginning of its implementation in 1999, it was criticised mainly on the grounds of its unfavourable cost/benefit ratio. Therefore, the cancellation of the Programme was already requested, although it failed (European Court of Auditors, 2011).

In the analysis of the two countries, it could be observed that precisely in the Italian region (Veneto), the promotion of milk consumption is still an integral part of the European Community's policy. Consequently, there has not yet been a substantial shift towards a greater focus on the environmental sustainability of food. The fact that milk and dairy products are promoted among children through a far-reaching campaign does not allow the Programme to be consistent with the directives of the Farm to Fork Strategy.

Major criticisms of the European School Scheme

Altogether, the EU School Scheme can be seen as a positive initiative, as more and more scientific institutions are emphasising that the adoption of more plant-based diets is good for our health but also an urgent necessity for that of the Planet.

Nevertheless, there are several points that are still not fully developed in a coherent manner.

Criticism for the use of unnecessary plastic packaging and the non-seasonality of the products comes mainly from Italy rather than Spain. As can be read in a Greenpeace article, "cherry tomatoes packaged in disposable plastic bags, distributed in January: an out-of-season product and an unjustified production of waste, counterproductive both from the point of

view of sustainability and education about it" ("Pomodorini fuori stagione, con contorno di plastica usa e getta," n.d.).

The same article also reports that for the years 2018-2019, distributions to schools not only did not respect seasonality but also territoriality.

The Programme implemented in Italy fails to pay any attention to the environmental impact and the importance of the short food supply chain. These snacks are not only packed in plastic but often arrive from regions up to 600km away. In addition, there is the problem of the delivery of unripe or overripe and sometimes mouldy fruit or vegetables. This only penalises the consumers of the future: children often refuse to eat the food delivered.

Another critical point is the issue of milk promotion. The main criticism of the 'Milk in Schools' programme is the 'discriminatory' approach of the initiative, which does not provide a nutritionally equivalent alternative for children who do not drink milk, and in particular, does not take into account vegan children.

Also paradoxical is the fact that it does not take into account the high environmental impact of milk production and that, if it is promoted in schools across Europe, it increases demand and consequently production, going against the principles of the Green Deal that aim to curb emissions.

Discussion

This research made it possible to observe how European policies are implemented in individual countries. Consequently, it was possible to observe the strengths and weaknesses resulting from the application of the same Strategy in different countries with different national implementation strategies.

It can be stated that food affects the environment and our health. Therefore, unless we are mindful of what we eat and what we put in our shopping trolleys, we will not get closer to the goals of the Paris conference: from food comes the survival of the Planet.

Humans should ideally live in harmony with nature and use the Planet's resources in a 'circular' way. However, as can be seen, for hundreds of years, we, people, have placed ourselves at the top of the food pyramid and for decades have not realised that a species - including man - must find sustenance and not over-exploit natural resources. To bring a concrete figure to this, we may refer to Overshoot Day as the day “when humanity's demand for ecological resources and services in a given year exceeds what Earth can regenerate in that year. We maintain this deficit by liquidating stocks of ecological resources and accumulating waste, primarily carbon dioxide in the atmosphere” (“About Earth Overshoot Day - #MoveTheDate of Earth Overshoot Day,” n.d.). In 2021, the Overshoot Day, calculated by the Global Footprint Network, was reached by European countries in May, and globally, it was reached on July 29.

It should be noted that the way in which resources are managed, and specifically animal breeding, is highly polluting. The waste that is produced and released into the environment, downstream of the production of meat, milk and animal by-products, is recklessly high and has a strong environmental impact.

The Mediterranean diet, whose principles are frugality and moderation, made it possible until a few decades ago to consume all foods, including dairy products, without having an overly impactful effect on the Planet. However, this changed with the economic boom of the 1960s, and today we are paying the consequences. As it was mentioned earlier in this paper, 30% of GHG comes from factory farming which produces thousands of tonnes of methane which has a more significant greenhouse potential than carbon dioxide.

Therefore, if we refer to the 2030 Agenda's goal of curbing global warming, it must be stated that we cannot ignore a return to a more frugal and moderate food model. While this does not mean that we must all undertake a plant-based diet, moderation is undoubtedly necessary.

It is crucial to clarify that blaming consumers alone for the excessive demand for animal-origin foods and derivatives is not entirely appropriate. One should, in fact, think about the 'seductiveness' of industrial marketing; indeed, it is due to companies and their marketing that have spread the idea that eating is first and foremost an Experience and not a primary/primitive act necessary for sustenance. It is not the product itself that is being sold, but the intention is to 'seduce' the consumer and convince them that by choosing that particular food, they are selecting the Experience linked to it. Clear signals must be sent to the market. In this sense, consumers have great power in making clear how their choices are shifting to those companies that are inherently reluctant to change course and promote the consumption of more sustainable foods, given the additional costs that would burden them.

Therefore, it should be considered that costs would also increase for consumers, who would then have to be inclined to pay more for the products. Consequently is necessary to make consumers realise that the choice to buy less but of higher quality is essential. For instance, when it comes to reducing meat consumption, if meat is bought twice a week at most but of higher quality (from local farms that are committed to high standards of quality and sustainability), the price at the end of the month will not increase. The only chance is that the consumers will be "buying" for their health and the animals' and the planet's health. Hence it is clear the need to raise awareness of those who will be the future consumers, i.e. today's children, through targeted projects and initiatives.

As we have seen in the development of this dissertation, the EU has also internalised the need for a change of course, and in this regard, the new CAP has been approved, for which there are many expectations. A few months prior to the approval of the CAP, the Parliament approved various measures (from Farm to Fork to initiatives towards green agriculture, etc.) in order to pursue the path of food sustainability on multiple fronts. It must be emphasised that the CAP predates the Farm to Fork strategy: the work on the drafting of the CAP proposal dates back to the Juncker Commission and is less in line with the objectives of later approved measures promoting short supply chains, organic farming and sustainable food in general. Suffice it to

say that despite the fact that the CAP aims at helping organic farmers, small producers and farmers, almost 70% of investments are actually destined for intensive livestock industries. These monocultures pay no attention to biodiversity and where vast amounts of pesticides and herbicides are employed. Therefore, this will negatively affect small producers who are once again overpowered by large industries and much less valued through labelling that would allow the consumer to be aware of the quality of small entities.

Governments at the local, state and regional levels should set high standards that serve as guidelines for outlining and deciding what is 'healthy and sustainable'. Accordingly, there is also a need for a precise, EU-wide definition of what is considered a healthy food, according to a plant-based, low-salt, low-sugar diet that takes everyone into consideration.

Until now, poor nutrition has only ever been seen as a health issue, separate from environmental concerns. But nowadays, as the literature has shown, health problems are not only related to nutrition but also to the fact that nutrition itself is a significant driver of climate change.

In analysing the school programmes, the intention was to emphasise the need to move away from an approach focused only on nutrition and to ensure that Food Education is more meaningful and effectively developed, with conscious and comprehensive attention to the multiple value aspects of food and nutrition.

Therefore, through food education, we must contribute to raising pupils' awareness of sustainability and personal and collective wellbeing. For instance: on the importance of adopting correct lifestyles and, in general, the functionality and the necessity of protecting food chains and systems. That includes understanding the seasonality and typicality of food products. Another critical point is the aspect of responsible consumption: this means teaching how to limit waste and the use of non-renewable or difficult-to-dispose-of resources (Griseri, 2020).

Schools are involved as the most suitable framework for effective educational action to form a 'food consciousness' in the individual, which is a personal asset also valuable for adulthood (*L'educazione alimentare nelle scuole italiane*, n.d.). That is the reason why schools, companies and every civil society group must establish sustainability and food waste policies that are consistent with the goals of Agenda 2030 and the Green Deal.

Therefore another critical point to mention is the question of whether the programmes promoted by the EU are in concordance with the European Green Deal. As we have seen specifically in the EU School Fruit, Vegetables and Milk programme, although this scheme has noble objectives, several points still need to be reviewed ("Feedback from," n.d.).

For this reason, the School Scheme is currently under review, and several recommendations have been sent to the European Commission by various entities, NGOs, citizens and companies.

The requests cover several issues, all of which aim to improve the Programme. In general, most believe that it is necessary to promote a plant-based diet in schools in order to create a critical base of conscious consumers in the future and to meet the goals of the 2030 Agenda, the Farm to Fork strategy and the European Green Deal agenda. "Schools should, in fact, be a place of impartial training and education and a constantly updated laboratory with the aim of guiding families towards correct nutrition, which is able to remedy mistakes made at home" ("Feedback from," n.d.).

It is also essential to ensure the distribution of local, loose and ripe fruit and vegetables. As has been shown in the section outlining the critical points of the programme, currently, the school fruit offering in some countries includes unripe, non-local and plastic-packed fruit in single-use portions, with the result that it is not consumed. Therefore, at the policy level at the EU level, it is essential that standard guidelines are established to ensure quality control of the products.

Another point to be made is that taking into consideration all the parameters discussed so far regarding the sustainability of food production processes, it could be considered a contradiction to promote cow's milk. In fact, the idea should be to favour foods with a better sustainability profile, such as fortified vegetable drinks.

"If this choice is not to be made, it would at least be desirable to avoid the promotion of dairy products from intensive dairy farms, in line with what is stated in the Farm to Fork strategy" ("Feedback from," n.d.).²⁵

The argument for offering calcium-enriched vegetable milk drinks through the European School Fruit, Vegetable and Milk Programme is also reflected

²⁵ (Pomo, 2021)

in the recent petition launched by the European Alliance for Plant-based Foods, ProVeg International and Oatly on the schoolmilk.org platform.

The petition was launched in accordance with three main concerns: “Promote inclusivity at school meal times; Protect our planet; Go cruelty-free.” (“Let’s include everyone,” n.d.).

According to the ProVeg International website, the choice to consume vegetable milk contributes to inclusivity, as this is offered to pupils who either because they are intolerant – approximately 68% of people globally are lactose intolerant (Storhaug et al., 2017) – or by choice do not consume dairy products. (“ProVeg calls on the EU to include plant-based milk in the EU’s school scheme,” 2021)

The environmental aspect, which was discussed extensively throughout the thesis, is taken up in the motivations for the petition.

And finally, considerations are also made about animal welfare, which has become a growing concern among young Europeans in recent years. “On many dairy farms, cows live in cramped stalls, unable to walk, turn around, groom, look to the side, or naturally interact with other herd members. There is a growing awareness among children of the animal-welfare implications of drinking milk.” (“Let’s include everyone,” n.d.).

In essence, the analysis conducted in this thesis outlines the fact that no clear criteria are established for schools regarding sustainable food and nutrition. This means that there is still a long way that needs to be covered, and schools need more support from clear and consistent European policies in order to be able to implement initiatives successfully (Tippmann, 2020).

According to some researchers, “the criteria for education for sustainable food and nutrition should not focus on possible ways to make one’s diet more climate-friendly but instead on the surrounding situation.” (Tippmann, 2020).

An additional point to emphasise is the fact that when sustainable food and nutrition are integrated into school education, it is necessary to take into account the “rapid changes and transdisciplinarity of the topic” (Tippmann, 2020). In other words, if, through the accompanying measures of the School Scheme, pupils are taught not to waste food, to reduce the use of plastic and to appreciate fruit and vegetables, it is not consistent with demonstrating the opposite by distributing rotten food in plastic packaging. In doing so, the desired result is not achieved, and children will be more reluctant to change their habits.

Conclusions

Several issues addressed throughout the length of this thesis have demonstrated the importance of addressing sustainability issues not only at an institutional and governmental level but also at a school level.

As extensively discussed in the paragraphs, European sustainability policies have great potential for implementation. Nevertheless, there are still some weaknesses that need to be addressed.

Raising awareness of sustainability issues must commence at a young age, as children have a greater capacity to assimilate information.

Environment and its protection are closely linked to the agri-food sector. Therefore, in the eco-sustainable development and safety of the excellence of the agri-food sector, the concept of 'sustainable food' must find its place, which entails, on the one hand, the efficient use of resources and, on the other, the preservation of biodiversity.

In this regard, the need to promote initiatives on healthy and sustainable nutrition tailored to children is the best way to educate new generations from an early age on the challenges of the future. Indeed, today's children will be tomorrow's policymakers, which is a crucial aspect to bear when addressing these issues.

As discussed widely during the dissertation, Generation Z and the Millennials appear to be more inclined to engage in sustainable lifestyles. These generations can be said to have embarked on the path toward changing their habits thanks to the spread of information mainly from online platforms and social media. While these should not constantly be demonised, they can never be held to the same standard as the education provided by educational institutions.

It was also argued that a critical role in combating climate change also belongs to consumers, as their choices, in this case concerning food, influence demand and, consequently, production. A programme such as the EU School Fruit, Vegetable and Milk has a great potential to promote good habits among young children so they will be more inclined to make sustainable consumption choices in the future. As has been further observed, this programme can also change students' eating habits in the short term.

In spite of this, it is necessary to amend this Programme to be fully compliant with the 2030 Agenda and the SDGs. And in order to make this happen, plant-based drinks should be promoted in schools. Doing so can dispel the myth that animal-derived milk is the only healthy one. And by helping to reduce demand for it, the environmental impact of production and animal exploitation will also be reduced.

However, the revision of the school curriculum needs to be implemented at different levels. As it turned out, there are still no clear criteria guiding schools to educate on sustainable food and nutrition effectively. This could be improved by implementing European policies to support educational institutions specifically. This could be done through initiatives with standard guidelines to be followed more strictly in all EU countries and financed according to EU standard criteria.

As a matter of fact, it was observed that since the Strategies are implemented at the national level, they often differ from one country to another in terms of criteria, especially in the choice of food to be distributed to children. Instead, criteria should be rigidly established, such as the choice of short-chain and fair trade foods in all countries.

In the event that the stakeholder suggestions to the Commission to include plant-based beverages in the Scheme come into force, it would then be vital that this issue is also regulated in the EU strategy and not at the discretion of each Member State. Indeed, in order to implement a Scheme that leads to a change in eating habits toward the green transition, there should be a common framework to follow. Nonetheless, the responsibility of individual countries should not be eliminated, but rather a compromise must be reached to jointly address the challenges of the difficult historical period in which we are currently living.

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List of Tables and Figures

Table.1 - "Environmental impact of food and agriculture."

Table 2 - Intensity of greenhouse gas emissions (kg CO₂-eq per kg product) for different animal and plant protein sources.

Figure 1 – Total of valid feedback instances received by category of respondent: 510

Figure 2 – Total of valid feedback instances received by category of respondent: 73