



TRIPTOLEMOS  
FOUNDATION

**REFLECTIONS ON THE NEED TO SUPPORT  
SUSTAINABLE PRODUCTION OF FARMING  
FAMILIES IN DEVELOPING COUNTRIES**

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## REFLECTIONS ON THE NEED TO SUPPORT SUSTAINABLE PRODUCTION OF FARMING FAMILIES IN DEVELOPING COUNTRIES

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### 1. Introduction

**Globalized agriculture plays a crucial role** in shaping modern economy and society, as well as food availability and accessibility, and the European Union is no exception. Moving towards true sustainable development requires addressing **the need to have a Global Sustainable Agri-Food System**, one of the greatest challenges, along with the fight against climate change, that our society must face **urgently** and from a systemic, integral, multi-dimensional and multi-level perspective. Small farmers have a key role.

### 2. Objective

To highlight a series of key considerations to consider moving forward towards the sustainability of our agri-food system and ensure that it is being done appropriately in the European context and focus on dependence and interdependence with the products and producers from third countries, especially developing countries.

To demonstrate that a broad debate and commitment in society is currently more necessary than ever, considering all the factors and protagonists.

To raise awareness of the importance of small producers in food security and the global food system and the importance of adequate communication to society.

### 3. Food policies and sustainable production

**Europe has a set of policies to promote the sustainability of the food chain and must promote policy coherence in this area with third countries.**

Europe has a broad and solid regulatory strategic base for promoting sustainability under the umbrella of the **European Green Deal**, which acts as a roadmap to help make the European economy sustainable and enable the development of environmental, climate and food-related public policies. The most notable are the “From Farm to Fork” (F2F) Strategy (European

Commission, 2020), the reform of the Common Agricultural Policy (CAP), the Biodiversity Directive, the European Green Deal (European Commission, 2019) and the Healthy Soils Directive (European Commission, 2023). In the agricultural context, the European Green Deal advocates the transition to carbon-neutral agricultural practices that restore biodiversity and guarantee sustainable food production.

The **Farm to Fork Strategy aims to make food systems fair, healthy and environmentally friendly**. This strategy promotes sustainable agricultural practices that reduce the use of pesticides and chemical fertilizers, decrease greenhouse gas emissions and improve soil health. For example, the strategy sets clear and very ambitious goals, such as a 50% reduction in the use of chemical pesticides, a 20% decrease in the use of fertilizers by 2030 and 25% of land under organic farming by 2030 (European Commission, 2020). Reducing the use of pesticides and fertilizers not only benefits the environment, but also improves the quality of life of rural communities by creating a healthier and more sustainable environment. Reducing these chemicals reduces soil and water pollution, which has a positive impact on local biodiversity and human health.

Furthermore, **this Strategy encourages the adoption of agricultural practices that increase the efficiency of the use of natural resources**. This includes the use of precision agriculture techniques, which allow farmers to apply inputs in a more localized manner, thereby reducing input loss and improving productivity. Crop diversification and the integration of agroforestry systems are also promoted, which can increase the resilience of agricultural systems to climatic and economic shocks. A practical example of this strategy is the adoption of agroforestry systems in Spain (regenerative agriculture), where olive cultivation is combined with sheep grazing, improving biodiversity and soil productivity (Bullock, Aronson, Newton, Pywell, & Rey-Benayas, 2011).

Complementing this strategy, **the EU Biodiversity Directive** focuses on the protection and restoration of biodiversity in agricultural ecosystems (European Parliament, 2020). Biodiversity loss, driven by the homogenization of agriculture, is one of the main environmental threats. This directive promotes agricultural practices that foster biodiversity, such as crop rotation, organic farming and the creation of ecological corridors. Protecting at least 30% of EU land and restoring degraded ecosystems not only preserves biodiversity but also increases the resilience of agricultural systems to climatic and economic shocks (European Parliament, 2020). In Austria, the implementation of biodiversity practices in the country's organic farming programme has managed to significantly reduce pesticide use and improve soil health and biodiversity (Stolze & Lampkin, 2009).

**The EU Healthy Soils Directive** emphasizes the importance of soil health as a basis for sustainable agriculture. Healthy soil is essential for agricultural productivity, water retention and biodiversity. This directive sets out frameworks for the protection and restoration of soil health, promoting practices such as reduced tillage, the use of cover crops and the enhancement of soil organic matter (European Commission, 2023). These practices not only improve long-term productivity, but also protect vital natural resources for rural communities. Improving soil health can also increase its capacity to sequester carbon, thus contributing to EU climate goals. One example of success in improving soil health is the use of cover crops,

which has been shown to increase soil organic matter and improve water retention (Koudahe, Allen, & Djaman, 2022; Wulanningtyas et al., 2021).

**Integrating sustainability into all EU agricultural policies** is essential to ensure that agricultural practices contribute to the stated climate and biodiversity goals (European Commission, 2019). This is particularly relevant for rural areas, where agriculture is a major source of employment and economic development. The transition to a **carbon-neutral economy** can create new employment opportunities in sectors such as renewable energy, waste management, reduced use of plastics in agriculture and nature conservation, among others, thus strengthening rural economies. The use of biogas from agricultural waste is used to produce energy, thereby reducing carbon emissions and creating local employments (Ghosh, Shah, Sahota, Singh, & Vijay, 2020).

However, it is necessary to ensure that this sustainability is a “**competitive sustainability**”, since some studies warn of a potential impact of all these measures on the productive structures of the EU, towards a reduction in production and an increase in costs that would affect food accessibility. Thus, special attention must be paid to this possible situation of the sector, and it must be taken into account when making decisions on commercial and financing aspects due to its impact on food security and welfare conditions of the sector, **promoting the coherence and harmonization of policies** that help overcome these identified potential trade-offs. It is recognized that this is not an easy task at an internal level and presents additional challenges **to carry it out with third countries** outside the EU.

#### 4. Climate change and food value chain

**It is necessary to pay special attention to the interrelations between Climate Change and Sustainable Global Food Systems to guarantee food security.**

Agri-food systems **generate large volumes of food** for world markets, but in many cases, the different links in the chain (production, marketing and consumption) are associated with economic and social impacts. According to FAO (2019), **the intensive use of resources** and inputs generates deforestation, water scarcity, loss of biodiversity, erosion or contamination of terrestrial and marine ecosystems, producing environmental degradation. All of this is also associated with **increasing energy consumption by the agri-food system and high levels of greenhouse gas** (GHG) emissions, which contribute to climate change and account for approximately one third of global emissions (Global Alliance for the Future of Food, 2023).

On the other hand, climate change manifests itself in the increase in climatic variability of precipitation and temperature, as well as in the modification of the patterns and intensity of extreme weather events, mainly droughts and floods, which have negative effects on agri-food systems. According to the latest IPCC report (2022), **climate change has slowed agricultural productivity** in the last 50 years worldwide. Thus, food systems contribute to climate change while being seriously affected by it. It is necessary to recognize and consider this interrelationship in order to encourage the reduction of GHG emissions by the system,

while promoting climate-smart and climate-adapted agriculture, in order to increase the resilience of the sector and reduce negative impacts.

It is estimated that, if we do not act, **GHG emissions linked to food systems will rise to 40% in 2040**. This puts on the table the urgent need to act by addressing the challenge of promoting sustainable production that is capable of feeding everybody, since we all need to eat several times a day, respecting planetary limits. It is therefore a question of finding solutions to a production that is currently sufficient but poorly distributed at a global level, with obvious contradictions such as the existence of more than 820 million people suffering from hunger in the world **while nearly 35% of what we produce is wasted or spoiled**. To this we must add that it is necessary to do so in a way that involves reducing our planetary footprint and protecting and preserving our environment and ecosystems.

This **analysis of interrelations** must be carried out taking into account the agri-food value chain and using a life cycle analysis (LCA) approach, taking into account the characteristics and nature of each of the links, from the production of inputs and raw materials and consumption of natural resources to production, transformation, transport, marketing and consumption, including waste, considering their role and potential for reducing emissions. This is especially important with regard to **the EU's food import needs** and the international transport activity that this entails, as well as with regard to the promotion of **sustainable agricultural practices in third countries**, especially developing ones.

**To mitigate the impact of climate change**, it is essential to promote agricultural practices that reduce greenhouse gas emissions and minimize pollution, i.e., it is essential to promote low-carbon agriculture. This includes the use of **regenerative agriculture techniques**, such as crop rotation, reduced tillage, and the use of organic fertilizers. The adoption of agroforestry systems can also contribute to reducing emissions and improving soil health, providing both environmental and economic benefits.

## **5. The relationship between sustainability and food security**

### **Need for clear narratives that promote a common understanding of Agri-Food Systems and Sustainability.**

Sustainability is a crucial factor in promoting development, especially in the agricultural and rural areas. **Sustainable agriculture** not only seeks to meet the food needs of the current population, but also to ensure that future generations can meet their own. **The relationship between sustainability and food security is intrinsic**. Sustainable agricultural production is essential to ensure a safe, nutritious, sufficient and accessible food supply for the world population. Thus, resources, land and soil are under significant pressure to meet the food needs of the population (FAO, 2021). In other words, unsustainable agricultural practices can lead to soil degradation, water pollution and biodiversity loss, which in turn negatively affect the ability to produce food in the future (Cerdà, Novara, & Moradi, 2021; M. Tahat, M. Alananbeh, A. Othman, & I. Leskovar, 2020).

For all these reasons, it is recognized that **the impact of sustainability in the rural environment is significant and multifaceted and affects all spheres of social, cultural, economic, governance and environmental life.** Any transformation in the global agri-food system must be aimed at improving its sustainability and, therefore, its positive impact on these dimensions or, in other words, on the quality.

It is necessary **to generate clearer narratives** on the need to transform the current agri-food system towards sustainability, placing this issue at the top of political agendas worldwide. Although the problem of food dependency has received special attention during the COVID-19 pandemic and with the recent war in Ukraine, **it is still not an issue perceived as a high priority by politicians and society as a whole.** It is also necessary for this narrative to include **social recognition of the role of agriculture** in the well-being of people and the planet and to revalue the role of producers and the rural environment, thus overcoming an undervaluation of the sector in the current system of values dominant in discourses and the media.

Furthermore, for the globalized agricultural system to function sustainably, it is **essential to reach a consensus on the interests of all the stakeholders involved.** This includes, in this case, European farmers and consumers, as well as farmers in developing countries, whose economy depends largely on exports. Today, there are very interesting markets such as those offered by some Asian countries, with fewer restrictions on sustainability issues, which makes it important for EU countries to support sustainable production in developing countries to position themselves as allies and create an interesting market for all those involved. Achieving this consensus involves a delicate balance between **protecting European quality** and sustainability standards and the need **to maintain fair, equitable and attractive trade relations.**

Drastically reducing emissions is a challenge that requires high **public and private investment** and radically avoid unsustainable practices. The current challenges are of such magnitude that public and private collaboration are essential. Separately it would be impossible. For this, it would be necessary for the institutions to listen more carefully to the industry and producers before launching their plans and legislation.

## **6. Food sovereignty and food self-sufficiency**

**The current deglobalization trends after the pandemic have revalued the interest in their own production.**

The expression "**food sovereignty**" is resurrected in Europe. France has changed the name of its Ministry of Agriculture to "Ministère de l'Agriculture et de la Souveraineté Alimentaire". Food sovereignty is also included in many programmes of political parties, trade unions and various European organizations. The meaning of this term, in the generally adopted sense, refers to the **capacity of a country to supply its food demand with its own resources**; it would be an expression with a technical meaning. However, it is an ambiguous expression since it is

related to the original meaning of the term, which has a strong ideological content with multiple possible interpretations of it.

The expression "**food sovereignty**" comes from the **Via Campesina** movement, which was born in 1992 and has its roots in Latin America. Via Campesina demands the ability of each country to decide on its food systems. It is a demand of the less developed countries facing globalization and the large oligopolies that condition their food security. Its philosophy is based on the ideological substratum of the liberation movements of Latin America against economic colonialism. This term has been legitimately adopted by various environmental organizations with different interpretations but which, in summary, refer to the way of producing, the type of consumption, the equitable use of resources, the defense of biodiversity, climate justice, etc.

In Europe, the idea of sovereignty does not fit with the anti-colonialist conception of the origin of the expression. This expression, being shared by certain movements with a strong ideological content, does not offer a precise vision of a critical issue such as food supply. Food sovereignty, in its original sense, refers to the ability to make decisions. In this sense, **the countries of the European Union are sovereign over their food**, since Europe is not a victim of economic colonialism in the terms typical of developing countries. Therefore, it makes sense to specify the meanings and propose those terms that offer a precise meaning.

Thus, "**Food sufficiency**" refers to **having food without specifying where it comes from**. In other words, it is not a term that is related to the origin of food. In this sense, it is clear that **in Europe there is food sufficiency**, although within an environment of global trade, from which we obtain enough food to satisfy the corresponding demand.

"**Food self-sufficiency**", on the other hand, is **the appropriate term to refer to a country's capacity to satisfy its food demand from its own natural resources**. It is a concept of food security in the face of hypothetical geopolitical difficulties that restrict or condition international trade. The "degree of food self-sufficiency" is the corresponding indicator that indicates the relative capacity of each country to cover its own demand. This indicator can be calculated from different points of view. It can be calculated from the energy content of food; in relation to the food proteins produced and consumed; in relation to the surface area necessary for food production or by purely economic criteria, implicitly accepting that price is a variable correlated with the nutritional value of food.

The degree of food self-sufficiency refers exclusively to primary natural resources. Thus, for example, let's suppose a desert without any vegetation, its degree of food self-sufficiency would be zero, but its food sufficiency could be full, in relation to demand, from sufficient imports. A situation that some Arab countries with great economic capacity from oil are approaching, although in the middle of the desert.



## 7. Is the EU food self-sufficient?

### **The Triptolemos Foundation has calculated the food self-sufficiency of the EU**

From the detailed study of the supply and demand of food energy for human use in the EU (Gil-Martin et al, 2023)<sup>1</sup> (Triptolemos Foundation 2021, Chapter 1)<sup>2</sup> It is concluded that the energy balance is very close to the equilibrium point. The results are obtained from the calculation of the degree of food energy self-sufficiency of the EU 27, in the current form of consumption and based on its photosynthetic production.

The Green Deal incorporates objectives such as reducing pesticides by 50%, fertilizers by 20%, increasing land under organic cultivation from 8% to 25%, or reducing agricultural land by 10%, which, although they are aligned with the decarbonization of the economy and respect for the environment, they can cause a significant drop in European food production which, if there are no important technological improvements or changes in eating habits, would place the energy balance in a clear situation deficit (around 20%).

The calculations show a **fragile balance** in the degree of food self-sufficiency in the EU. This would negatively affect Europe's food sovereignty and lead to higher food prices that would further aggravate the social gap. **This should have implications and considerations in the strategy of production, consumption and international trade.**

## 8. Food security and food sovereignty

**It is essential to promote a series of related principles and concepts to move towards sustainability in a relevant and effective way.**

**Food and nutrition must be considered and treated as a right and a common good**, avoiding the commercialization of food to overcome the problems of food insecurity and hunger in the world. Today, talking about rights is essential when we refer to sustainable development and therefore, working under the umbrella of Human Rights guarantees decision-making, the involvement of different holders (of Rights, Responsibilities and Obligations) and the adoption of measures that contribute to guaranteeing their fulfillment as a right, since it is a basic need for the life of everybody.

**According to the FAO**, the Right to Food is understood as the right that every person has to feed themselves with dignity. This implies the right to have continuous access to the resources that will allow them to produce, earn or be able to buy enough food, and not only to prevent

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<sup>1</sup> Gil, J.C.; Colomer, Y.; Jarauta, E. and Clotet, R. [European Union in the Context of the Current Model of Production and Consumption: Food Self-Sufficiency from a Photosynthetic Energy Perspective](#). American Journal of agriculture and forestry, June 2023. ISSN Print 2330-8583 and ISSN online 2330-8591.

<sup>2</sup> Triptolemos Report on the [Impact of the Green Deal with a Sustainable Global Food System approach](#) Triptolemos Foundation 2021. ISSN 2938-0731

hunger but also to ensure health and well-being. It is considered a right included in the Covenant on Economic, Social and Cultural Rights (United Nations, 1966) and the signatory countries of the pact have the obligation to ensure its compliance. Thus, the Right to Food can, and should, be used as a framework and permeate the transformation of agri-food systems for sustainability. The adoption of innovative approaches, such as considering food as a common good (Vivero-Pol, 2017) responds to this rights-based approach and can help achieve it.

Another initiative that contributes to materializing **the Right to Food is the Parliamentary Fronts against Hunger**<sup>3</sup>, which emerged in 2009 in Latin America and the Caribbean to fight hunger, ensure food security and food sovereignty, positioning this issue at the highest political level, transcending political parties. Currently there are 25 Parliamentary Fronts, at least four at the regional level and 21 at the national level, from which more than 50 laws have been promoted to comply with the Right to Food in the region. This initiative was initially promoted by FAO with the support of AECID (Spanish Agency for International Development Cooperation) and has the support of Latin America and the Caribbean Hunger-Free 2025<sup>4</sup> Initiative. This initiative has transcended to Europe and Africa where it has been presented and has good potential for scaling up. It is hoped that it will serve as an inspiration and be considered as an example of good practices on how to position the right to food at the highest level of the political agenda of public policies. Thus, laws enacted in these contexts must contribute to the development of sustainable agri-food systems that guarantee the fulfilment of the right to food in their territories.

Another key principle that must be incorporated in this area is that of **precaution**<sup>5</sup>, that is, assuming that when there are signs of possible damage or negative effects on people or ecosystems and we do not have all the necessary and sufficient information for decision-making, we must act under this principle and avoid, stop or change any measure or action related to such signs. This is a risk management approach that must be added to a proactive approach and adopt a risk management system that allows us to foresee, anticipate, avoid, prepare, confront and recover from any event or threat that may occur. Within the framework of disaster **risk management**, it is a widely used and accepted approach that can serve as an example and be extended in its use when we approach the analysis of sustainable food systems.

Likewise, the promotion of **agroecology** as a working approach in agricultural production that promotes ecological and socially fair practices has been positioned as a key criterion in the analysis of the sustainability of agri-food systems (Altieri, 1989; Gliessman, 2013; Altieri et al., 2015). The adoption of this approach has been embraced by different institutions, organizations and entities, at all levels and scales, reflecting a reference system when we talk about sustainable agriculture, since it considers social, environmental and economic aspects of production. It proposes a different way of proceeding with respect to conventional

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<sup>3</sup> <http://parlamentarioscontraelhambre.org/>

<sup>4</sup> <http://www.ialcsh.org/>

<sup>5</sup> <https://eur-lex.europa.eu/ES/legal-content/glossary/precautionary-principle.html>

agriculture and is considered the basis for advancing towards the achievement of Sustainable Development Goal 2, zero hunger, claiming the relevance of **family farming** and the role of the peasant in his role in feeding the world. It also incorporates a long-term perspective, avoiding short-term approaches that promote economic enrichment over other key aspects of farmers' lives, such as environmental and social health. This long-term perspective must also permeate **strategic planning and public policy formulation tools**.

## 9. The gender approach and cultural diversity

**The inclusion of the gender and cultural diversity approach is essential to ensure sustainability, especially at the sociocultural level**

Women play a very relevant role throughout the food chain, especially in production, marketing and family feeding, as well as in adaptation to climate change. Food systems are an important source of employment and livelihood for women, which in many cases is more important than for men (FAO, 2024). However, **women's access to productive resources, especially land, financing, technology or training and education, is still lower than for men**. In turn, they suffer disproportionately from the impact of poverty, hunger and the negative impacts of climate change. Policies aimed at reducing the inequalities and gaps mentioned above, or aimed at generating opportunities, will contribute to **the empowerment of women**, and therefore to improving their livelihoods, nutrition and well-being. The need for sex-disaggregated data and for measuring impacts, for example, on the empowerment of women are essential actions in terms of sustainability that must accompany these policies.

**Research applied to the identification of good agri-food practices** allows us to understand what is working in a given context and offers the possibility of replicating it, with the necessary modifications for its adaptation, in order to try to replicate the recognized success stories. This allows for technological and social innovation and the recovery of very valuable local knowledge and learning that should guide and inspire novel solutions and contribute to a fair and sustainable transformation. In this sense, **the exchange of experiences** between organizations or regions, “peer-to-peer” activities such as the well-known “peasant-to-peasant” training system among farmers through “field schools” in Central America, are another example of how to promote “bottom up” approaches that value local and peasant knowledge and empower communities.

## 10. Food exports and imports

**It should be noted that the EU is a major exporting power**

In 2022, its agri-food exports amounted to almost 230 billion euros compared to imports of nearly 172 billion, with a clearly positive balance. But, in addition, **exports are concentrated in high-value products** such as cereal derivatives, dairy products, wine or pork, while **imports are mostly unprocessed raw materials in which the EU is deficient**, such as soybeans, corn,

nuts, coffee or cocoa. Fruits and nuts, oilseeds and protein seeds and coffee, tea, cocoa and spices represent 40% of the EU's total agri-food imports. This does not hide the importance of the negative effects that, for some producers, especially of fresh unprocessed products such as fruit and vegetables, may result in the entry of productions obtained under less restrictive working and productive conditions, which makes them very competitive in terms of prices.

However, it must also be considered that **European agriculture benefits from a system of public aid that no other third-country producers have**. Annually, support for European agriculture exceeds 55 billion euros, of which around 40 billion are direct aid to farmers and market measures and are based on compensation for the reduction in prices caused by the liberalization of agricultural trade. It is true that **aid is not well distributed** and that not all sectors and farmers benefit equally, and those most affected are probably the least benefited. In this sense, a reform of agricultural policy is needed that effectively integrates environmental and income-support objectives.

On the other hand, **the necessity for imports to meet the same conditions and requirements** as those existing in the EU in aspects related to the use of phytosanitary products or antibiotics poses **problems that are difficult to manage**. It must be considered that there are often variations in the products permitted in the different productions between the Member States. However, any agreement in this regard must be made within **the framework of WTO** rules, which is difficult considering that **not all countries defend the same model of environmental protection and the fight against climate change**. Otherwise, we would be exposed to the possibility of third-world countries taking trade reprisals against Community exports. A different problem is the requirement not to use these products when they may cause risks to human health, such as the use of antibiotics in animal fattening.

One possible way of dealing with these problems is the initiative taken by the EU **to fight against deforestation and forest degradation in third countries** and to prevent European products from being replaced by more carbon-intensive imports. In **the first case**, a Regulation on the marketing in the Community market of raw materials and products associated with deforestation was approved in 2023 and affects imports of cattle, cocoa, coffee, palm, soy, wood, rubber and derived products. Their entry into the EU must ensure that they are free of deforestation and that they have been produced in accordance with the relevant legislation of the country of origin. **The second case**, which affects fertilizers, is the carbon border adjustment mechanism, also approved in 2023. This mechanism requires importers to buy certificates equivalent to the carbon price they would have had to pay if the goods had been produced in accordance with Community standards.

In this scenario of trade openness, international commitments and different production models, the fight against climate change and support for sustainability, **European farmers** have an important response that many producers in **third countries** do not have, and that is to increase the value and quality of their production. To do this, it is important to resolve many of the structural problems that European agriculture faces today: modernization of farms, training and capacity building in new technologies, generational change or reduced associationism, but there are also opportunities that offer new perspectives for competing in

markets, such as innovation and digitalization, where European farmers have competitive advantages over many producers in third countries.

This is particularly relevant in the context in which **Europe needs to import agricultural products**, an aspect that has become particularly important for the continent, given that the limited availability of arable land, the projection that these must decrease, and the high demand for increasingly diverse agricultural products create a significant dependence on international trade. In this way, although Europe pursues food self-sufficiency, under high quality standards and a commitment to the sustainability of the system, it depends on certain imports and must pay special attention and care to ensure that they are as sustainable as possible. This opens a path of exploration on principles, mechanisms and aspects of improvement and barriers to overcome focused on achieving this goal.

## 11. Environmental dumping

### **Possible mechanisms: the need to “balance” quality and sustainability standards is a great challenge**

In the complex context of global agri-food systems, **the European Union faces the major challenge of balancing its strict internal agricultural production standards with global market dynamics** and the lower demands of other countries or regions, such as Asia or Africa. European regulations, which include regulations on pesticide use, animal welfare and sustainable practices, are among the most stringent in the world. For example, the EU has implemented significant restrictions on the use of neonicotinoids to protect bees, something that is not always required in other exporting countries (EFSA, 2018). This creates a situation where imported products must meet these high standards to access the European market, which can make trade negotiations difficult and increase costs for foreign producers, especially in developing countries where access to technology or financing for investments is generally more limited. All of this means that **the European market can be seen as unattractive** if the conditions for complying with the restrictions they demand are not facilitated. On the other hand, the entry of products from third countries, with lesser requirements than domestic products, has been one of the main complaints of the sector, which has led to the mobilizations that have taken place at the beginning of 2024.

The protests by **European farmers** have brought to light one of the most obvious dysfunctions of the European Green Deal: **environmental dumping**. That is, the comparative advantage in favour of international competitors due to lower environmental requirements in food production, which generates differentiated costs.

The European Commission, from the beginning of the Green Deal, has been aware of this problem. The EU ministers of agriculture expressed this in the form of a sentence: **“new sustainable policies entail the risk of unsustainable imports”**. Faced with the possibility of adding border barriers to compensate for the imbalance in environmental requirements, the **World Trade Organization (WTO)** stressed that possible border restrictions, beyond global

agreements, to equalize the costs of different environmental measures would be considered production subsidies, something that would go beyond the established global agreements. Faced with this, the European Union proposed establishing **bilateral agreements** to achieve equalization of production systems between importers and exporters. However, changing agreements always requires offering compensation, which is sometimes more problematic than the agreement itself.

## 12. Mirror clauses

**Agricultural organizations advocate so-called mirror clauses, which would establish reciprocity between the production systems of the importer and exporter.**

From a **commercial realism perspective**, the European Union is not at all interested in conditioning its imports, being a major exporter of food. Despite this, we have heard political speeches offering to prevent the import of products from abroad if they do not meet the same requirements, something that French politicians, above all, are fond of offering. But everything remains in words. Or almost... The only way that can provide some options is the one that refers to proven serious aspects from the health field.

Since the progressive liberalization of international agricultural trade and its submission to WTO rules began in the 1990s, **numerous conflicts have arisen as a result of this greater openness**, with implications for agricultural producers. On the one hand, the entry of agricultural **products from third countries** into competition with those produced in the country under different conditions and regulatory frameworks leads farmers to question the unfair competition that this entails and to demand the imposition of border measures that imply equal conditions (mirror clauses). This is not the only problem: **the EU's climate policies**, which are more restrictive than those of many third countries, **may lead many companies to relocate their production** to these countries or may also constitute an incentive for increased imports of these products obtained under more advantageous conditions, putting the Union's climate objectives at risk and contributing to the deterioration of the sustainability of agriculture in third countries, the degradation of natural resources and the loss of biodiversity.

The fight against **climate change** and the conservation of natural resources are global objectives and must be considered as such. The role and responsibility of the EU in supporting the economic and social development of developing countries, many of which depend on income from their agricultural exports, must also be considered, together with the geostrategic importance of many of these countries, which leads to the need to establish preferential agreements for the entry of their products into European territory. We are therefore in an open market with international commitments.

### **13. GlobalGAP and other similar tools: their application faces several challenges**

#### **GlobalGAP and other similar tools play a crucial role in improving agricultural sustainability**

This situation can be interpreted as an opportunity to improve the functioning of the system at a global level. For example, **one of the key tools in promoting sustainability in agriculture is GlobalGAP**. GlobalGAP is a set of international standards aimed at ensuring safe and sustainable agricultural production (Cardona, Martínez Camelo, & Bolaños Benavides, 2021). GlobalGAP establishes rigorous criteria for land management, water use, chemical application, and worker well-being, ensuring that agricultural practices are environmentally friendly and socially responsible. These standards are essential to ensure traceability and transparency in agricultural supply chains, which benefit both producers and consumers (Tey et al., 2016). GlobalGAP and other similar tools play a crucial role in improving agricultural sustainability by providing a clear and consistent framework for the best agricultural practices.

However, **the application of these tools** in development contexts **faces several challenges** (Fiankor, Flachsbarth, Masood, & Brümmer, 2020). In many developing countries, farming families often lack access to the technology, training, and financial resources needed to meet GlobalGAP standards. Implementing these tools can be costly and complicated, especially for smallholder farmers operating on very narrow profit margins (Henson, Masakure, & Cranfield, 2011).

In addition to **technological and financial barriers**, there are cultural challenges that hinder the adoption of standards such as GlobalGAP. In many regions, traditional agricultural practices are deeply rooted in local culture, and changing these practices can be a slow and resilient process. **Lack of knowledge and understanding of the long-term benefits** of sustainable practices can also be a significant barrier. Some farmers may not be aware of how reducing pesticide use can improve soil health and biodiversity (Sutherland et al., 2018). **Strong and capable agricultural extension systems are critical for this.**

Overcoming these challenges **requires an integrated approach that combines technical and financial support with training and awareness-raising programs**. International organizations, governments, and NGOs can play a crucial role in providing the resources and knowledge needed to help farmers adopt sustainable practices. This includes providing grants and low-interest loans to finance the transition to sustainable practices, as well as implementing training programs that teach farmers about the benefits and techniques of sustainable agriculture. **In Kenya**, training and financial support were provided to smallholder farmers based on GlobalGAP, enabling them to access international markets and improve their agricultural practices (Asfaw, 2008).

Thus, **the implementation of these certification schemes is not an easy task**, since both the metrics and the standards are appropriate for the context of developed countries (high levels of technology, intensive use of resources, high efficiency, mechanization, stricter regulations on employment conditions, etc.). **They do not fit the characteristics of the productive units,**

productions and profile of farmers in developing countries, which are very different. Thus, it would not make sense to propose many of these indicators, that is they would not be relevant to these development contexts. Others would have the potential to be adapted and only a small part would be relevant and pertinent to apply today, although **they depend on each country or region**.

**An adapted version of these certification systems**, contextualized for these developing territories and different types of producers, **could be a good starting point** for their implementation, **focusing on** increasing the quality of processes and production in the agricultural sector; ii) promoting the improvement of agricultural practices towards sustainability; and iii) encourage a production model that respects the environment, is low in emissions and socially fair.

## **14. Certification systems and future opportunities**

### **The implementation of certification systems and quality standards provides significant added value**

In the long term, it would be possible to aspire **to gradually increase the levels of demand** in these contexts until they reach today's European standards under a sustainable and fair production model. This would be seen as a way of promoting development by generating a production model aligned with sustainability in the sense of reducing emissions, sustainable use of natural resources, protecting livelihoods, preserving agro-biodiversity, adapting to climate change and promoting people's social well-being.

These potential advances in the application of quality standards (both in terms of their progress and their levelling) could generate **interesting opportunities for producers in developing countries**, mainly in relation to improvements in marketing options and market access. The implementation of certification systems and quality standards provides significant added value to production and the possibility of entering new markets, given that marketing emerges as a limiting factor in development contexts. However, as mentioned above, it is important to consider a view of the food system as a whole and to bear in mind that **the movement of products from one country to another incurs an increase in emissions** linked to transport that would not occur if the products were local. This would therefore be a **trade-off** to consider when making an overall assessment of the sustainability of the system.

## **15. Social justice and geopolitical responsibility**

### **The values of proximity must be recognized for environmental reasons**

Undoubtedly, the values of proximity must be recognized for environmental reasons, since **avoiding transport means a reduction in emissions**. At the same time, the cultural commitment to local production is an option for sustaining rural life. However, the conditions



for producing food are very diverse for climatic and socio-economic reasons. Obviously, not everyone can produce all foods or cannot produce them with the same efficiency. For this reason, it makes perfect sense to produce food where there is a comparative advantage to doing so. In addition, a set of socio-economic and environmental conditions must also be considered.

Food production is a highly complex activity and only from complexity can appropriate policies be established. Arguments of social justice and geopolitical responsibility suggest the utmost **caution**. There are international agreements that must be respected and European farmers who must not be the victims of these agreements. **Being aware of this complexity can guide solutions**. These are **two apparently contradictory issues**: accepting imports with fewer environmental restrictions and defending one's own agriculture, but positive responses must be found by treating the issue as two separate topics with unique alternatives for local agriculture. For example: promoting and financially supporting improvements in production efficiency through appropriate technology; identifying, assessing and disseminating the environmental quality of European production; identifying proximity and valuing its culture and heritage and a set of specific measures aimed at the specific problems of each product.

## 16. The important role that family farming plays

### **We are in the United Nations Decade of Family Farming (2019-2028).**

It is estimated that **80% of the world's food production falls on family farming, which occupies between 70% and 80% of agricultural land and accounts for 90% of agricultural holdings**, according to FAO. We are in the United Nations Decade of Family Farming (2019-2028)<sup>6</sup> that promotes a new perspective of looking, seeing and understanding what it means to be a farmer and highlights **the important role that family farming** plays in ending world hunger in a sustainable way, highlighting its ancestral traditional knowledge, aimed at the conservation of global agro-biodiversity, the creation of local economic opportunities for the community environment, generational change and settlement of the rural population, reducing rural-urban emigration processes, promoting diversified and local systems that promote local production and short supply chains in urban centers.

It is important to pay special attention to the challenges faced by farmers in developing countries and the most vulnerable and disadvantaged groups, particularly women, who only have 15% legal ownership of land, and indigenous peoples, who manage 33% of our forests together with local communities. **Reducing inequalities and creating spaces for dialogue and participation that include all voices is essential to progress towards sustainability**.

In general, the focus should be on **implementing sustainable practices**, such as those promoted by the EU, to improve the resilience of agricultural systems to climatic, economic

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<sup>6</sup> <https://www.fao.org/family-farming-decade/home/es/>

and social shocks, thus ensuring food security. It is essential to support small farmers and family farms as they are responsible for feeding the planet.

Rural communities depend largely on agriculture for their livelihood and economic development. The implementation of sustainable agricultural practices can **improve the quality of life of farmers and their families**, creating economic opportunities and strengthening social cohesion (Siebrecht, 2020), therefore, the approach to sustainability has a strong social component that needs to be considered and valued. The transition to sustainable agricultural practices can also generate employment in new areas, such as biodiversity management and soil restoration, thus contributing to rural development. Furthermore, promoting short marketing circuits, such as local markets and sustainable public food procurement programs, can **strengthen rural economies** and improve access to fresh and nutritious food for local communities (Chiffolleau & Dourian, 2020; Lioutas & Charatsari, 2020). On the other hand, crop diversification and the implementation of agroforestry systems can increase the resilience of agricultural systems to extreme climate conditions and reduce dependence on external inputs (Rivero, Mittler, Blumwald, & Zandalinas, 2022; Yu et al., 2022), as well as enhance biodiversity and carbon sequestration (Bentzon-Tarp et al., 2023).

The public sector must consider that we are facing big challenges, and the additional costs and investments required may propel a concentration of the agri-food sector, since only farms of sufficient size will be able to consider the change.

## 17. Challenges and barriers faced by small farmers

**The challenges and barriers for local farmers to improve the sustainability of the agri-food system are diverse and complex.**

Given the major role played by family farming and small producers in feeding global production, the analysis of the barriers and challenges to overcome focuses on this type of producers.

### 17.1 Limited access to natural, technological and financial resources.

Smallholder farmers often have limited access to essential resources such as land, water, credit and technology. This can make it difficult for them to increase their production and improve their livelihoods. For example, **84% of small farms (less than 2 ha) in the world operate only 12% of the world's agricultural land** (Lowder, Scoet, & Raney, 2016). In Latin America and the Caribbean, small family farms account for 84% of agricultural holdings and manage only 30% of agricultural land (FAO, 2014).

Similarly, smallholder farmers, especially in arid and semi-arid areas, often have difficulty accessing **water resources** and having adequate irrigation, which limits their productivity, according to the World Resources Institute <sup>7</sup>. Similarly, it is estimated that 500 million small farmers in developing countries do not have **access to formal financial credit** (Grossman & Tarazi, 2014), often due to the lack or invalidity of titles to the ownership or use of the

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<sup>7</sup> <https://www.wri.org/freshwater/water-security>

land, which is the main guarantee for agricultural credit. Access to credit is necessary to cover the time difference between the expenses generated by the crop and the income produced by the sale at the end of the growth cycle.

**Limited access to credit makes it difficult for smallholder farmers** to invest in productive inputs such as seeds, fertilizers, and machinery, limiting their ability to increase production and thus being a major contributor to hunger and poverty in rural areas. For example, while crop yields **in East Asia have increased six-fold over the past 40 years**, contributing to significant poverty reduction in China and other East Asian countries, **crop yields have only doubled in sub-Saharan Africa and parts of South Asia**, with correspondingly smaller reductions in poverty (Funglie et al., 2020). Lack of access to affordable credit and government subsidies can limit farmers' ability to adopt sustainable practices (Zerssa, Feyssa, Kim, & Eichler-Löbermann, 2021; Zhong, Jiang, & Li, 2023).

**Technological disparities across regions also represent a major challenge.** In many rural areas, the infrastructure needed to support advanced technologies, such as precision agriculture, may not be available. This includes a lack of access to high-speed internet, modern equipment, and agricultural extension services. To overcome these challenges, governments and international organizations need to invest in infrastructure and provide financial support to farmers (Rijswijk et al., 2021; Ruiz-Martínez & Esparcia, 2020).

### **17.2 Inequality and difficulty in accessing stable markets.**

Small farmers need access to physical and digital markets. This **includes access to transparent prices and certifications**, as well as avenues for **collaboration with partners** in the food chain. It also involves producers understanding the demands of the **value food chain** in terms of the quality and correct and safe use of the crop protection products and fertilizers they purchase. On the other hand, the **volatility of agricultural prices is a major problem** affecting small farmers around the world. This situation exposes them to great **income uncertainty** and **makes it difficult** for them to plan for the future and invest in their farms. For example, in 2014, coffee prices fell to a 10-year low, causing many small coffee farmers in Latin America and Africa to lose their livelihoods (ICO, 2014). Unequal competition with large-scale agriculture is another challenge they must face. **Smallholder farmers face increasing competition from large-scale agriculture**, which often has more resources and can produce food at lower cost. This can make it difficult for small-holder farmers to sell their products and earn a decent income. This problem needs to be addressed through policies that help stabilize prices, increase the resilience of smallholder farmers, and promote sustainable agricultural practices.

### **17.3 Lack of access to quality education and training.**

FAO estimates that **more than 50% of smallholder farmers in developing countries do not have access to formal agricultural training**. A World Bank study found that in sub-Saharan Africa, only 13% of smallholder farmers had received any form of agricultural training in the previous 12 months. Smallholder farmers thus often have limited access to education and training, which can make it difficult for them to learn new agricultural techniques and improve their practices. All of this can limit their productivity and competitiveness.

**New sustainable practices often require new technical knowledge and skills that local farmers may not possess.** Training and continuing education are essential to overcome these obstacles and help rural communities adapt to agricultural innovations. Agricultural education and extension programs can play a critical role in educating farmers about the benefits and implementation of sustainable practices. Collaboration between governments, non-governmental organizations and universities can facilitate access to these educational resources and promote wider adoption of sustainable practices. In India, a training programme for dairy farmers demonstrated an improvement in the productivity and performance of their productions, and indirectly in their quality of life (Jena, Chander, & Bardhan, 2022).

Furthermore, **changes to traditional farming practices can be difficult to implement** also due to cultural resistance from a lack of knowledge about new sustainable technologies and methods. Cultural adaptation to these new sustainable technologies and production methods is crucial to ensure a successful transition to sustainability (Ruzzante, Labarta, & Bilton, 2021; Takahashi, Muraoka, & Otsuka, 2020).

#### **17.4 Combating the impacts of climate change:**

Climate change is having a significant impact on agriculture, with more extreme weather events such as droughts, floods, and pests becoming more common. This particularly affects smallholders in developing countries, damaging crops and reducing yields, making life even more difficult for smallholder farmers. The Global Commission on Adaptation (GCA, 2019) states that without adaptation, **climate change may reduce global agricultural yield growth by 5–30% by 2050**, with the world's 500 million small farms being the most affected. At the same time, fisheries and aquaculture yields are expected to decline due to climate-change-induced changes in temperature, chlorophyll and ocean acidification (GCA, 2019).

**Smallholder farmers are particularly vulnerable** to the impact of climate change, as they typically have fewer resources to adapt to changing climate conditions. For example, in 2018, a severe drought in East Africa affected more than 20 million people and led to a widespread food crisis, OXFAM <sup>8</sup> reports, and floods and storms affected an estimated 50 million people in Asia and caused more than 5,000 deaths during 2020, according to the United Nations <sup>9</sup>.

#### **17.5 Gender inequality and discrimination.**

Female farmers are often at a disadvantage compared to men, as they often have more limited access to land, credit and other resources. They may also be subject to discriminatory practices in their countries' markets and regulations, for example, in relation to access to land. In **Latin America and the Caribbean (LAC), only 49% of women have a bank account, 11% save and 10% have access to credit, figures that for men represent 54%, 16% and 13% respectively**, according to the Development Bank for Latin America and the Caribbean (CAF) <sup>10</sup>.

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<sup>8</sup> <https://www.oxfam.org/es/sequia-en-africa-oriental-si-no-llueve-pronto-no-vamos-sobrevivir>

<sup>9</sup> <https://news.un.org/es/story/2021/10/1498952>

<sup>10</sup> <https://www.caf.com/es/conocimiento/visiones/2017/03/mujeres-y-financiamiento/>

According to a recent study by LATFEM and We Effect (LATFEM & We Effect, 2021), “Seven out of ten rural, indigenous and Afro-descendant women in Bolivia, Colombia, Guatemala, Honduras and El Salvador have access to land to produce food, but only three have title to the fields and land they work.” Female farmers play a crucial role in global food security, but often face significant disadvantages compared to male farmers. Addressing gender inequalities and gaps in agriculture is necessary to empower female farmers, increase agricultural productivity and reduce rural poverty.

Addressing these challenges is essential to ensure that smallholder farmers can continue to produce food for a growing global population and to improve their own livelihoods.

## **18. Food security, climate change and rural development: the challenges of globalized and sustainable agriculture**

### **Globalized and sustainable agriculture is essential to address the contemporary challenges of food security, climate change and rural development**

The Farm to Fork Strategy, the Biodiversity Directive, the **Green Deal and the EU Healthy Soils Directive provide a strong framework to promote agricultural practices** that are both sustainable and economically viable. These policies underscore the importance of reducing pesticide and fertilizer use, restoring biodiversity, and improving soil health, all while fostering efficient and resilient agricultural production.

**Sustainability in agriculture is not just an option, but an imperative need** to ensure a viable future for generations to come. Implementing sustainable agricultural practices can mitigate the negative impacts of climate change, preserve biodiversity, and improve soil health, all while ensuring a sufficient, nutritious, and accessible food supply.

It is essential to agree on the interests of all the stakeholders involved, from farmers to consumers and policy makers. Only through a joint and coordinated effort can we move towards agriculture that is both fair and sustainable. The call to action is clear: we need to redouble our efforts to implement and promote sustainable agricultural practices that benefit all participants in the food chain and ensure the health of the planet.

We must move towards a **more solid and present narrative on the political agenda**, agreed upon by all participants, it is necessary to move forward with firm steps in the face of the challenge of the sustainability of global and sustainable agri-food systems. This narrative must reflect a shared vision and include the long-term perspective as a strategic vision, the right to food as a paradigm and sustainability as a working approach.

**Import dependence can make Europe vulnerable to global market fluctuations and geopolitical tensions.** For the globalized agriculture system to operate sustainably, it is essential to balance the EU's strict quality standards with the reality of the global market, especially in developing countries. This involves supporting farmers in the adoption of new

technologies and sustainable practices, providing the resources and training necessary to meet international standards such as GlobalGAP. At the same time, it is crucial that these standards are accessible and adaptable to the economic and cultural realities of different regions, especially in developing countries.

Therefore, **a great opportunity is detected to promote sustainable agriculture** adapted to the climate in those regions that still have lower levels of development and therefore, an attempt can be made to develop more fair and sustainable agri-food system development models.

As has been shown on other occasions throughout history, a transformation of those dimensions can only be achieved if it is accompanied by more research. The **use of data and information is vital** to promote good agricultural practices. We have a lot of data and information on how good practices can be promoted at all levels and for the participants involved in the food chain and this is essential to move towards sustainability, protect the environment and improve the food security of people who suffer. hunger.

However, there is a significant **challenge for producers in developing countries**, especially smallholders and family farmers, to meet high European standards. Limited access to essential resources such as land, water, credit and technology is a major challenge for smallholder farmers around the world. Investing in helping smallholder farmers access these resources is essential to improving agricultural production, increasing rural incomes, and reducing hunger and poverty.

**Economic and technological challenges are also significant** in the implementation of sustainable agricultural practices. Access to finance and technology is essential to enable farmers to adopt new practices. However, many farmers in developing regions face difficulties in obtaining the financial resources necessary to invest in sustainable technologies.

The impact of sustainability on rural communities also presents several social and cultural challenges. **Lack of access to training** can make it difficult for smallholder farmers to learn new agricultural techniques, improve their practices and increase their productivity.

The growing **problems of inequality and access to markets** must be overcome, developing policies and incentives that allow them to compete under fair conditions throughout the agri-food chain.

The promotion of sustainability and climate-adapted agriculture is especially necessary and **urgent for small producers in developing countries**, since they disproportionately suffer the impacts of climate change that causes reduction of their crops, loss of their livelihoods, environmental degradation and increased levels of hunger and poverty.

**Women play a key role** in feeding the population and also in adapting to climate change and therefore it is urgent to support their empowerment and the reduction of gaps and inequalities around access to productive resources and livelihoods, especially land, access to financing and markets, as well as decision-making at all levels, from family to community and political.

It must be ensured that **farmers can increase their productivity and sustainability, while consumers can access high-quality and safe products**. Furthermore, by improving the resilience of agricultural systems to climatic and economic shocks, long-term food security and stability can be ensured. EU policies, such as the Green Deal, provide a framework for this balanced approach, promoting both competitiveness and sustainability.

## **19. Future outlook: the EU cannot act alone**

### **A broad debate and commitment in society is now more necessary than ever**

A broad debate and commitment in society, considering all factors and stakeholders, is now more necessary than ever, not only in the EU but at a global level, so that politicians, representatives of society, approve the necessary legislative measures, based on proven scientific knowledge and with a systemic vision. Considering that the short-term vision, which sometimes predominates in our political system, constitutes a major obstacle to allowing the broader risks of climate change to be translated quickly and directly into effective actions.

**The EU must use all its capacities to mobilize its neighbours and partners**, so that they join it in an urgent sustainable development strategy in the short term, due to the climate emergency and the urgency of environmental disasters, but long and sustained over time, accepting the need to preserve its security of supply and its competitiveness, through quality, safe food that is respectful of the environment and social conditions.

**Europe must seize this opportunity** (perhaps the last) to position itself globally, leading the development of clean solutions and technologies to combat climate change, while promoting the creation of a competitive agricultural sector that produces food in a sustainable way, economically, socially and environmentally.

The **Triptolemos Foundation defines the sustainable global food system** in four interrelated axes: 1) availability and accessibility, 2) economy, 3) legislation and regulations and 4) knowledge, behaviour and culture (Colomer, Y. et al, 2016). The four axes are aligned with the 17 Sustainable Development Goals (SDG). The challenges identified in this document will only be resolved if they are approached holistically as a food system, considering all its variables and not only the economic and environmental ones, but also the cultural and legislative ones... The balance of the food system will work, as happens in biological systems, when there is any dominance of some of the factors over the rest. If there is dominance of any factor or axis, the balance is destroyed. This approach has the recognition of **UNESCO** with the Triptolemos UNESCO Chair on *“Science and innovation for sustainable development: global food production and safety”*.

**We must act in a coordinated manner** with commitment, and with a global projection on the four axes to achieve a sustainable and socially balanced global food system. The EU cannot act in isolation. Doing so on only on one or some of the axes, whether out of interest or ignorance, unbalances the system, with the serious consequences that, as we see, this entails.

**The promotion of globalized and sustainable agriculture requires an integrated approach** that combines robust policies, financial and technical support, and global cooperation with all producing countries, including countries of the South. By adopting and adapting EU strategies and directives to the real possibilities of these countries, we can move towards promoting agricultural and fishing systems that are resilient, fair and sustainable, providing FAO sufficient food for people and sustainable for the planet.

The **challenge of modern agriculture** is to achieve a balance, through the conjunction of all available traditional, scientific and technological knowledge, to feed the whole population with an adequate, sustainable, healthy diet with all the modern tools available, as well as assuring the availability and accessibility of food at affordable prices. All production systems must contribute to achieving these objectives, from organic and regenerative to more industrialized agriculture.

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