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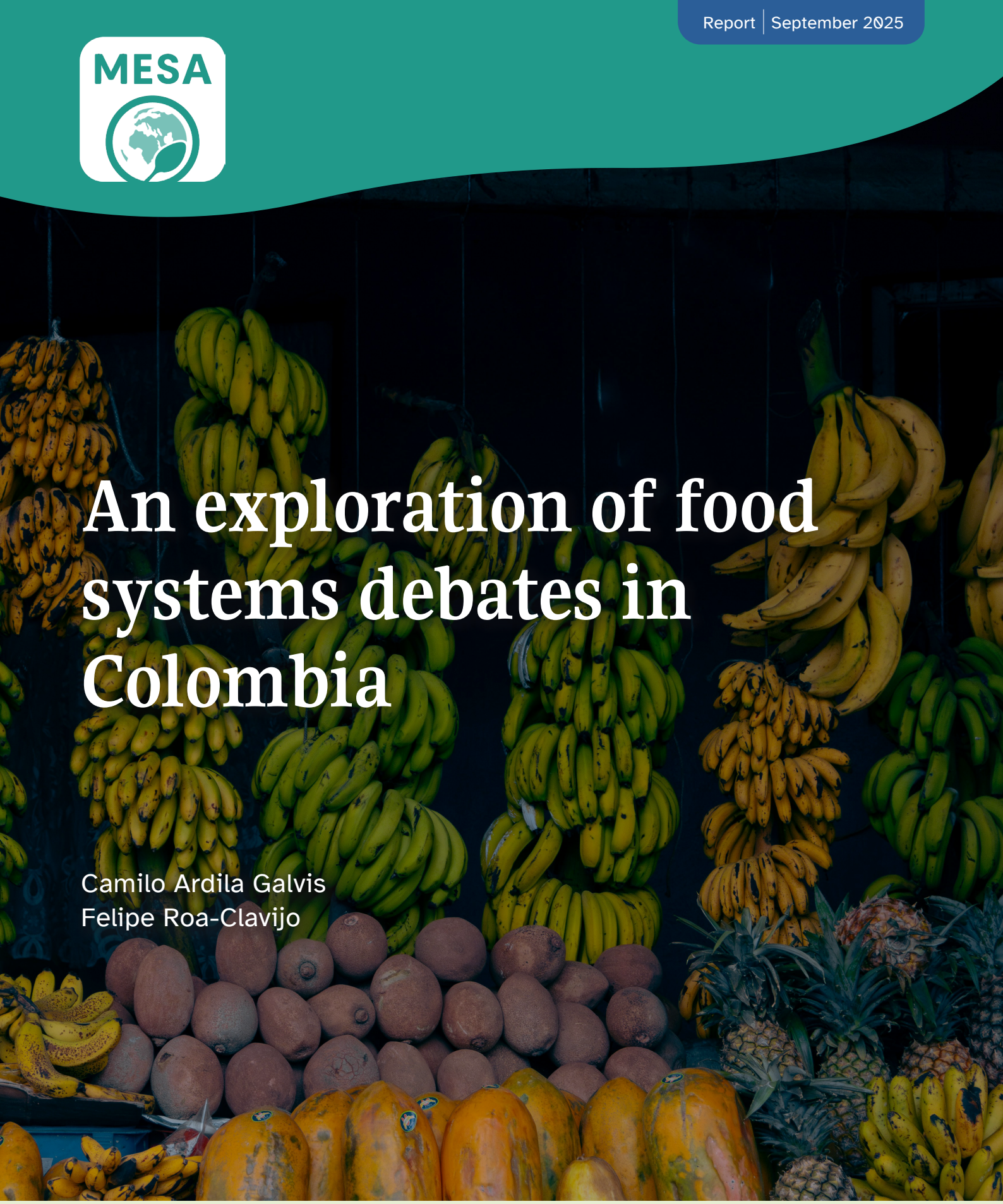

An exploration of food systems debates in Colombia

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Abstract

This essay examines the factors that energize or restrict debates on food systems in Colombia in the context of the multi-stakeholder conversations between the Government, rural organizations, agribusiness and academia. To answer the question, we address two main aspects. First, we analyse the perceptions of various stakeholders about food systems in the country, based on a workshop carried out in February 2024 and focusing on priority issues such as hunger and malnutrition, deforestation and biodiversity loss, the effects of climate change, and inequality. Second, we discuss the competition or complementarity of various axes at the centre of food systems discussions: large-scale agriculture and family farming, native seeds and genetically modified seeds, and local food systems and international trade. The essay concludes by drawing attention to the challenges of public policy coordination, information gaps, and the great diversity of actors, visions, and values in the discussions.

1. Introduction

There is a relative global consensus on some aspects of food systems. Firstly, the relevance of taking a comprehensive and holistic approach that addresses the complexity of the processes, relationships and actors associated with food production, processing, marketing, consumption and waste management is recognized (Lee- Gammage, 2017). Secondly, there is increasing awareness and consensus about the deep problems of food systems, which include global food insecurity, socioeconomic inequality, loss of biodiversity, malnutrition and diet-related non-communicable diseases (NCDs), and climate change, among others (Caron et al., 2018; HLPE, 2022). Thirdly, given the complexity of its challenges, there is consensus on the urgency of transforming food systems into sustainable, equitable, healthy and resilient food systems (Guterres, 2023; Brouwer et al., 2020), to meet the Sustainable Development Goals, the Paris Agreement and the Global Biodiversity Framework.

Recent regional research efforts have highlighted key challenges for Latin America and the Caribbean, in the food systems space. Discussing the vulnerability of food systems to global challenges, Penagos et al. (2023) state that the main challenges that Latin America faces are: 1) increasing food production by improving productivity in the agricultural sector; 2) using the benefits offered by urbanization to transform and modernize food production systems; 3) ensuring effective logistics that promote competitiveness and add value to agricultural products, including sustainable waste management; 4) addressing and mitigating problems related to food security and nutrition; and 5) formulating urban food governance policies and models that adapt to the specific characteristics of each country and subregion. Similarly, in their review of food policies in 10 countries in the region, Le Coq et al., (2022) highlight that, despite progress in the generation of food-related instruments and policies, there are still important limitations for the promotion of sustainable food systems in the region. These include the competition between different agricultural development models, historical inequality in the distribution and access to land and natural resources, and difficulties in coordinating different actors and levels of government to build integrated policies.

Despite the general alignment between global and regional food system issues, discussions progress differently in every country, responding to the national social, political, cultural, economic and ecological contexts. In this essay we explore the perspectives of various stakeholders about food systems in Colombia, a relatively new conceptual and practical approach in the country.

Aware that multi-stakeholder debates reveal different arguments, perspectives, interests and values, and considering the particularities of the Colombian case, the question we address in this essay is: **what are the factors that energize or restrict debates on food systems in Colombia?** To answer this question, we used several sources. We mainly take the discussions and reflections from a seminar that looked into different perspectives of the challenges and opportunities of food systems in Colombia[1]. Actors from the private sector, civil society, the national government, international cooperation and academia participated in this event. We complemented this with secondary information from academic and grey literature and statistics.

The question is addressed by examining the debates or discussions, which highlights the different views, perspectives and values that various actors have around the problems and solutions related to food systems. This approach also recognizes that, although partial consensus or agreements can be reached on the problems and the urgency for transformation, there are greater differences in terms of values, perspectives and paths to solutions (TABLE, 2024).

GENERAL APPROACH TO COLOMBIA

To discuss food systems in Colombia is to discuss diversity. The country has more than 300 types of continental and marine ecosystems and 53% of the national territory is covered by different types of forests. Colombia is the second most biodiverse country in the world, hosting nearly 10% of the world's biodiversity in just 0.22% of the global terrestrial proportion (MinAmbiente and UNDP, 2014). The country's diversity is not limited to the biophysical: 84 Indigenous Peoples, 64 languages, black, Afro-Colombian, Raizal and Palenquero communities, as well as peasant communities make up the great cultural diversity of Colombia. This interrelation between biological and sociocultural diversity, known in Brazil as sociobiodiversity, is one of Colombia's greatest assets and a fundamental feature of any discussion about the country's food systems.

Diversity is also expressed at the economic level. While some perspectives on food systems focus more on local economies, territorial markets and short supply chains, other perspectives concentrate on global value chains and international markets. This great diversity also implies that various actors involved in food systems have different perspectives, which can be even complementary or opposite.

Even though the food system approach is relatively new in Colombia, diversity is also reflected in this type of analysis. For instance, FAO, EU & CIRAD (2022) generated a profile of Colombia's food system, highlighting five main challenges that the country faces: i) the social and economic vulnerability of small-scale actors; ii) food and nutritional insecurity; iii) imbalances between rural and urban areas, and within rural areas due to land concentration; iv) land grabbing, deforestation and land-use change due to extensive livestock farming, permanent crops and illicit crops; and v) water, soil and air pollution.

Likewise, the importance of analysing local, national, and international scales in the context of various actors and their perspectives has been discussed. In his work, Roa-Clavijo (2021; 2024) analyses alternative visions of the food system: producing food for feeding the village, the country, or the world. Family farming groups and small farmers prioritize the production for local markets, towns and villages. Meanwhile, other groups of farmers, generally on a larger scale, seek to supply national markets. Lastly, the national government, in its efforts to globalize and participate in international markets, has traditionally encouraged agro-exportation.

Other analyses address debates on production and consumption. For example, Ardila Galvis (2024) states that while in countries in the global north there is more discussion about reducing meat production and consumption, in Colombia the debate is directed towards making available "better meat" that is free of deforestation and conflict. He also reflects on sustainability issues related to

1 This debate took place on February 21 within the framework of the Launch of the MESA Colombia initiative. The recording can be found at https://youtu.be/eSyIwAcLLVo?si=nBZVHef-bpkqrMVS and some results are presented in Annex.

ultra-processed food, agrobiodiversity and agroecology.

Finally, there has been a series of regional or local food systems analysis such as those on the Central Region [Boyacá, Cundinamarca, Meta, Tolima, and Bogotá] Antioquia (FAO & MANÁ, 2016; Alianza Biodiversity-CIAT & FOLU, 2021) and Valle del Cauca (Rankin et al., 2021), among others.

After this brief context, we move on to a more in-depth analysis of the debates in Colombia. In section 2 we present a brief overview of four main food systems problems in the country; in section 3 we present three major debates or dilemmas on alternatives for food systems' transformation, and the way in which they fit into Colombian reality. Finally, we share some conclusions and reflections to continue the debate.

2. Perceptions of the food system in Colombia

A food systems approach offers a holistic view of all the processes, actors and relationships that support the production, processing, distribution, consumption of food and management of food waste. In this context of complexity, multiple components and actors involved, it is important to understand that actors' perceptions draw upon their experiences; what some may perceive as an urgent or important issue, for others may be secondary.

This section presents the four most urgent issues to be addressed in Colombian food systems according to the participants of the seminar (see Annex). These are hunger and malnutrition, deforestation and loss of biodiversity, the effects of climate change, and inequality and inequity related to food and nutritional security (see Figure 1). It is important to clarify that issues of access to land and peacebuilding were intentionally excluded from the seminar for two reasons. Firstly, there is a high level of consensus on the urgency and importance of these latter issues, not only for food systems in Colombia, but for the general development of the country (CISAN, 2021). Secondly, the concentrated attention that these topics attract can detract from and relegate the discussion of other vital issues for the transformation of food systems in Colombia, particularly those issues that have not been sufficiently analysed.

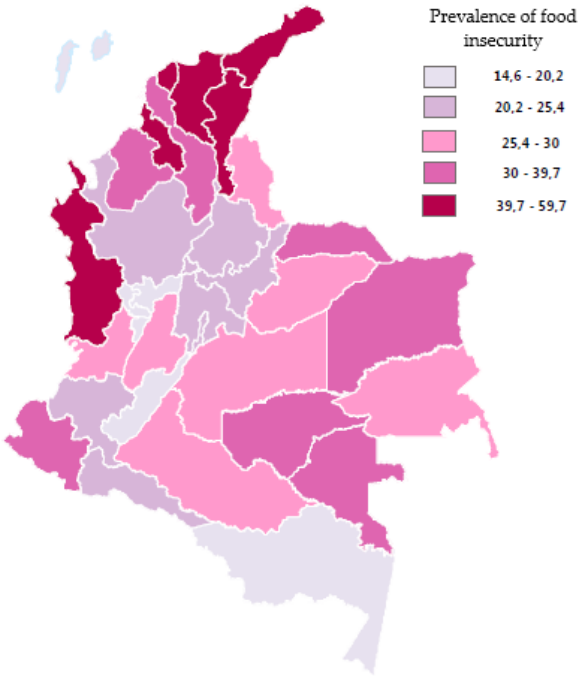
Figure 1. Urgent issues in the Colombian food system.

2.1 Hunger and malnutrition

Despite the enormous possibilities and advantages (geographical, climatic and ecological) to produce sufficient food in quality and quantity, it is paradoxical that hunger and malnutrition[2] are a chronic problem in Colombia, as evidenced by the few data available[3]. The main instrument to capture nutritional information on the Colombian population is the National Survey of the Nutritional Situation (ENSIN)[4] (MinSalud, Prosperidad Social, INS, ICBF & Universidad Nacional de Colombia, 2019), whose most recent exercise dates to 2015. For that year, the main results indicate that 54% of households were food insecure. Regarding early childhood, the ENSIN found that 10.8% of children under 5 years of age were stunted; 24.7% had anaemia; and only 36.5% had a minimum acceptable diet. In addition to hunger, the country faces significant challenges in terms of malnutrition. In this regard, the ENSIN revealed that 6.3% of children under 5 years of age were overweight, and 56% of adults (18 to 64 years of age) were overweight or obese. Regarding obesity, there is a higher prevalence in women than in men, with a rate of 22.5% versus 14.4%.

Starting in 2022, the country began implementing the Food Insecurity Experience Scale (FIES)[5], which revealed a prevalence of moderate or severe food insecurity in 28.1% of households nationwide, 26.8% for urban centres and 32.5% for rural areas. At the territorial level, Chocó and the Caribbean departments have the highest levels of prevalence of food insecurity (see Map 1).

Map 1. Prevalence of food insecurity in Colombia, 2022



Source: DANE, 2023

2 In this section we will refer to “excess malnutrition”: excessive caloric intake and insufficient caloric expenditure that can result in overweight, obesity and non-communicable diseases.

3 Some analysts such as Villalba & Zambrano (2023) and Roa-Clavijo (2022) highlight that, without updated and robust data, the country is sailing blindly in its fight against hunger and malnutrition.

4 The ENSIN uses the Latin American and Caribbean Food Security Scale - ELCSA, a direct measurement tool based on the experience that households have regarding Food Insecurity through 15 questions.

5 The Food Insecurity Experience Scale (FIES) is a tool for measuring access to food in terms of quantity and quality. Through eight questions, the scale captures the experience of food insecurity in households and individuals and provides a measure of the severity of food insecurity.

Recently, the Food Security Assessment for the Colombian Population 2024, carried out by the World Food Programme, revealed that the percentage of households with moderate or severe food insecurity declined from 30% to 25%, equivalent to 13 million people, of which "1.6 million are severely food insecure, presenting extreme gaps in food consumption, high economic vulnerability and, in many cases, using irreversible survival strategies that put their integrity at risk" (World Food Programme, 2024, p. 2). Despite a slight improvement in the indicators over the last two years, which can be explained by the reduction in the general inflation rate, some territories such as La Guajira and the south of the country experienced a deterioration in food insecurity. The source highlights that the problem also lies in poor nutrition and vulnerability: the lack of dietary diversity at the national level remains a priority area for attention, and high vulnerability persists, with households employing survival strategies that could be exhausted in the long term, exposing them to the risk of food insecurity.

2.2 Deforestation and loss of biodiversity

Colombia is the most biodiverse country per square kilometre. However, our biodiversity is at risk due to climate change and other anthropogenic activity, much of which is linked to food systems. WWF-Colombia (2017) points out that 25% of the country's major ecosystem types are in critical condition and 21% are in danger. The *páramos* (Andean moorland), for example, strategic ecosystems in the production of the water consumed by millions of people and in the capture of carbon in the subsoil, suffered an annual loss rate of 17% between 1985 and 2005. Similarly, the same report highlights that 36% of plant species (among 1,853 species evaluated) are threatened with extinction and 14.4% of 284 terrestrial animal species, are critically endangered and 39.4% threatened. The situation is similar regarding both freshwater and saltwater marine ecosystems. These data are an alarming sign of the deterioration of the natural resource base in the country, seriously compromising not only the survival of many species, but also the provision of important services such as water supply, food supply, climate regulation, among others.

A yellow fruit hangs from a tree branch. Photo by Upendran via Unsplash.

This deterioration of biodiversity is related to the country's economic development processes, and its main drivers are the expansion of the agricultural sector, energy and mining production, wildlife trafficking, soil and water pollution, and the main threat: deforestation (WWF, 2017; Chaves et al., 2021).

Although some estimates indicate that 123,517 hectares were deforested in 2022, 29% less than in 2021, the country has lost 3,306,393 hectares of forest due to deforestation in the last 20 years (2001-2022). Currently, the departments with the highest incidence are Meta, Caquetá, Guaviare, Putumayo, and Antioquia (MADS & IDEAM, 2022). Deforestation in Colombia has multiple causes that include grassland conversion for land grabbing, poor extensive livestock farming practices, illicit crops, illegal logging, expansion of the agricultural frontier, illicit extraction of materials, and unplanned transportation infrastructure. However, illicit land use change, from forests to livestock farming, has been the main cause of deforestation (Murillo-Sandoval et al., 2023). In addition to the effects of deforestation on biodiversity loss, it has significant

implications for climate change with 47% of greenhouse gas emissions in the country being related to poor forest management (MADS & IDEAM, 2022).

The case of agrobiodiversity is equally worrying, as Colombia does not even have a measure of the status or balance of which and how much biological diversity is used for food and agriculture. However, some studies have highlighted the vulnerability of Colombia's agrobiodiversity. For instance, Colombia's Sixth Report to the Convention on Biological Diversity states that:

> The rise of monocultures, the introduction of genetically homogeneous seeds with greater profitability, the limitations to develop products with added value, the difficulty to develop specific market niches, and the weakness in the organizational processes of small producers, have hindered and discouraged the use of agrobiodiversity in the country. As a result, not only biodiversity has been lost but also the associated traditional knowledge and food autonomy of communities. (Ministry of Environment and Sustainable Development, United Nations Development Program and Ministry of Foreign Affairs of Colombia, 2019, p. 148).

2.3 Effects of climate change

In the context of climate change, food systems are not only causing and suffering this global phenomenon, but they also host a series of solutions. Colombia, however, is not a large generator of greenhouse gases (GHG) with its emissions representing around 0.57% of the global total and annual per capita GHG emissions of 5.4 tCO2e placing it 92nd in the world (World Bank, 2023). At the national level, 47% of emissions are related to poor forest management, with deforestation generating 33% and enteric fermentation generating 14% (MADS & IDEAM, 2022). This highlights the importance of prioritizing the agricultural, forestry and other land use (AFOLU) sector for climate change mitigation in Colombia.

In turn, food systems in Colombia are also suffering the effects of climate change, mainly due to changes in temperature and precipitation. According to national climate change scenarios (IDEAM et al., 2015), it is estimated that by the end of the century, the country's average temperature could increase by up to 2.14 degrees Celsius. Increases of up to 2.6 degrees are expected in large parts of northeast departments (Arauca, Vichada, Vaupés and Norte de Santander). The same scenarios estimate that the average rainfall could decrease between 10% and 30% in one third of the national territory by the end of the century; mainly in departments that are part of the Amazon basin (Amazonas, Vaupés, southern Caquetá), and the Caribbean region (San Andrés and Providencia, Bolívar, Magdalena, Sucre and northern Cesar). Rainfall is expected to increase up to 30% in mountainous regions such as Nariño, Cauca, Huila, Tolima, Eje Cafetero, western Antioquia, northern Cundinamarca, Bogotá and central Boyacá, which are key food producers and coffee exporters. These changes in rainfall patterns could affect nearly 18 million hectares of crops, with significant effects on food production.

According to the capacities-adjusted municipal disaster risk index elaborated by the National Planning Department (DNP, 2018), some 6.7 million people are socially vulnerable and exposed to threats from floods, mass wasting and torrential flows. Such threats present significant challenges for agricultural production, fisheries and aquaculture, food-producing communities and road infrastructure on which the country depends to transport inputs and food (IDEAM et al., 2015).

2.4 Inequality and inequity

Inequality is one of the main challenges facing Colombia as a nation. This is reflected and well known in the categories of income distribution, land distribution[6] or access to higher education. However, it

6 In the previous section we have explained that the discussion on access to land, which is fundamental when we talk about inequality and inequity, has been deliberately excluded in order to focus attention on other less studied aspects and on which there is less consensus.

is also true when it comes to food. At the national level, hunger in Colombia has little to do with food availability (as the country has an average energy availability of 3,113 kcal/person/day), and much to do with the other dimensions of food security -access, utilization and stability, where inequality plays a transcendental role.

To discuss inequality or inequity in the food system, we adopt the definitions of the High-Level Panel of Experts on Food Security and Nutrition of the World Committee on Food Security, in their 18th report (HLPE, 2023), presented in Box 1.

Box 1. Inequality and inequity in the context of food systems.

Inequalities are the observed differences in nutritional or food security outcomes or related food system factors (such as access to finance) between individuals and groups, based on social, economic, and/or geographical position (for instance, socioeconomic status, race or ethnicity, sex or gender (Nisbett et al., 2022).

Inequities are the socially, economically or politically driven reasons why systematic differences in food system opportunities or the distribution of food security and nutritional outcomes exist, related to how social groups are seen and treated by the rest of society, both within and outside the food system (WHO, 2008).

Source: (HLPE, 2023).

Despite the country's deficiencies in terms of updated and robust information on hunger and nutritional status, the recent measurement by the National Statistics Institute of Colombia (DANE) of the Food Insecurity Experience Scale (FIES) allows us to consider inequalities in terms of food security outcomes. The 2022 FIES offers some key insights:

- The prevalence of food insecurity increases from 24 to 40 out of 100 households when the household size increases from 2 to 5 or more people.
- The presence of children under five years of age, adolescents, or people aged five years and older with disabilities, increases the probability that the household experiences moderate or severe food insecurity by 10 percentage points.
- The prevalence of moderate or severe food insecurity is higher in households headed by women (31 out of 100), compared to those headed by men (26 out of 100).
- In terms of ethnicity, households headed by a person who identifies as indigenous are most likely to experience moderate or severe food insecurity (46.3%), followed by those headed by a person who identifies as Black, Afro-Colombian, Raizal and Palenquero Communities (40.7%). Households headed by a person who does not identify with any ethnic group are less likely to experience moderate or severe food insecurity (26.1%).

Inequality can be compounded in many directions, in that it:

> is frequently intersectional in nature (several inequalities interacting in detrimental ways) and that its impacts are intergenerational (affecting the same social groups repeatedly over time) and interterritorial (while they may play out differently in different contexts, we see the same equity issues across all places) (HLPE, 2023, p. 11).

Despite the lack of detailed data to conduct a rigorous intersectional analysis, we can yet draw some inferences. For example, a single-parent household headed by a woman, with the presence of minors and which identifies itself as part of an ethnic group, has a much higher probability of suffering from food insecurity. If, in addition, this household is in the Caribbean region, which is the most affected by food insecurity (see map 1, above) and one of the territories with the greatest impacts from climate change, the situation worsens even more, and the solutions to this problem demand greater complexity.

3. Conflicting or complementary visions for the transformation of food systems?

Diverse stakeholders tend to agree on the need for food systems transformation to achieve their multiple objectives of food and nutritional security, inclusive development, environmental viability and climate change mitigation. Similarly, there is some shared recognition of the urgent issues for this transformation in Colombia, such as those explored in the previous section. On what the solutions or pathways to change should be, however, there is much more disagreement.

In such pathways for change, there may be trade-offs or disputes between two or more alternatives, generating debates that are often driven by different, even conflicting, interests and values. Deconinck (2023) argues that the difficulty in reforming the policies necessary for the transformation of the food system lies in disagreements between different stakeholders about facts, interests and values, either individually or in combination. In this context, understanding the different sources of disagreement can help policymakers anticipate risks and identify the most promising approaches, and the necessary actors to participate in less polarized and more constructive debates.

This section explores three axes of disagreement, pointing out the main arguments in the literature in favour of each proposal, the state of the arguments in Colombia, and some of our reflections and proposals on the future of these debates.

3.1 Large-scale industrial agriculture and family farming

ARGUMENTS FOR AND AGAINST

The debate between family farming[7] and large-scale industrial agriculture is significant in the context of food systems. The debate usually focuses on advantages and disadvantages for producers, productivity levels, responsiveness to global food demand, and environmental impacts. On the one hand, family farming has been recognized for its crucial role in food and nutrition globally, representing more than 90% of the world's productive units and producing nearly 80% of food (FAO & IFAD, 2019). Its advocates argue that this type of production system promotes biodiversity, uses

7 We use the term family farming here to include small-scale producers (or small producers). Although there are differences between the concepts, it is accepted that the majority of small producers are family farmers, including one or more households, and based exclusively or mainly on family work (HLPE, 2013). In addition, we use the more widely recognized term family farming, without ignoring the fact that Colombia has a definition of Peasant, Family and Community Agriculture.

more resilient production methods, contributes less to climate change, and plays a fundamental role in food and nutritional security, both in terms of food supply and in promoting nutritionally adequate and healthy diets (Arulingam et al., 2022; van der Ploeg, 2013).

Furthermore, family farming often strengthens cultural traditions and is a key player in wealth creation in rural areas and in national efforts to foster more equitable socio-economic development. However, its productive efficiency is questioned, as some studies suggest that it cannot compete with the scale and technology of industrial agriculture in terms of yield and costs (Rodríguez- Sperat and Jara, 2018), while others show family farms have higher productivity per unit of land area (Ricciardi et al., 2021).

On the other hand, industrial agriculture's capacity to produce food in large quantities stands out, which it has been argued of being essential to feed a growing world population (Alexandratos & Bruinsma, 2012). This type of agriculture benefits from economies of scale, advanced technology, and can reduce production costs, which translates into lower prices for consumers. However, its critics point out that the main current problems of food systems are due to industrial intensification and its export emphasis (IPES- Food, 2016; Boardman et al., 2003; Benton & Bailey, 2019; Fakhri, 2021). These authors highlight environmental impacts such as water and soil pollution, deforestation, loss of biodiversity, and contribution to climate change. They also mention economic aspects related to inefficiencies due to concentration of power, impacts on health and nutrition resulting from the decrease in dietary diversity, exposure to agrochemicals by producers, consumers and communities, as well as the increase in zoonotic diseases and antimicrobial resistance.

IN COLOMBIA

Family farming in Colombia has been the focus of important recent developments in terms of its recognition and regulatory framework. As a result of a broad participatory process, the Ministry of Agriculture and Rural Development enacted Resolution 464 of 2017, which adopted the Strategic Guidelines of the Public Policy for Peasant, Family and Community Agriculture (ACFC, for its name in Spanish) (MADR, 2017). One of the key actors energising this process has been the National Network of Family Farming (RENAF), a civil society platform that brings together more than 140 peasant, indigenous, Afro-descendant, rural women, artisanal fishing, cooperative, university, NGO, and faith-based organizations. Its main objective is to promote family farming through the implementation of networking strategies to strengthen advocacy and "*apropiación social del territorio*" (social appropriation of the territory)[8] towards the construction of the *buen vivir* (good living) (RENAF, 2024). Other organizations that have participated in this construction and the promotion of family farming are the National Association of Peasant Users (ANUC) and the National Association of Peasant, Black and Indigenous Women of Colombia (ANMUCIC), among others. A common objective of these organizations is the creation of differentiated public policies for this productive sector, policies that incorporate the socio-cultural, ecological and economic reality of these communities and their agricultural systems. They also advocate for a comprehensive agrarian reform and a recognition of the

A row of maize in Cali, Colombia. Photo by Jacquelyn Turner.

8 The original expression, in Spanish, refers to the appropriation of the territory, by the communities, in pursuit of political projects. It is important to bear in mind that RENAF, as many other social movements in Latin America have a decolonial and bottom-up approach of the concept of *territorio*, highly charged with symbolic meaning. For a discussion see: Halvorsen, S. (2019). "Decolonising territory: Dialogues with Latin American knowledges and grassroots strategies". Progress in Human Geography, 43(5), 790-814. https://doi.org/10.1177/0309132518777623

role of peasants and rural women in the development of the country.

On the other hand, the private conglomerate that represents the agro-industry in Colombia is the Colombian Farmers Society (SAC in Spanish), which currently has 31 members, including companies, associations and business associations that produce the most important agro-industrial crops in the country. It includes the National Federation of Palm Oil Growers (Fedepalma), the Association of Sugar Cane Growers (Asocaña), the National Federation of Poultry Farmers (Fenavi) and the Colombian Association of Pig Farmers (Porkcolombia), among others. Likewise, the SAC has members with more small-scale producer participation, such as the National Federation of Potato Farmers (Fedepapa), the National Federation of Coffee Growers and the National Federation of Panela[9] Producers (Fedepanela).

The SAC's priority is profitability and economic viability of agriculture. To this end, it promotes the technification of agricultural production and the strengthening of national and international free trade. Likewise, it positions the price to consumers as one of its central concerns. In order for food to be economically affordable, states the SAC, all efforts must be made to reduce production costs, including the import of agricultural inputs such as fertilizers, herbicides and even animal feed such as corn and soybeans, taking advantage of the conditions of international trade (SAC, Fedepalma & INALDE, 2020).

Finally, it is well known that Colombia has a very high concentration of land, and resolving this situation, as we have mentioned above, is essential for the country's development. Colombia has a Gini coefficient[10] for land (2014) of 0.897, where 70.5% of the agricultural units are of less than 5 hectares and occupy 2.7% of the agricultural area, while 0.5% of the units are of more than 500 hectares and occupy 68.2% of the agricultural area. However, when we seek to understand the relative importance of each type or size of agricultural unit for food production there is a lack of updated official data and instead a set of different and even contradictory estimates. For example, while Resolution 464 of 2017, based on secondary sources, indicates that producers from Peasant, Family and Community Agriculture (ACFC) contribute "between 40% and 60% of the value of production, [and] produce more than 70% of the country's food", FAO, EU & CIRAD (2022) state that family farming contributes only 35.3% of roots and tubers, and 22.8% of vegetables, these being the items where family farms make the greatest contribution.

REFLECTIONS

As this debate will probably continue in the country, it is essential to abandon this dichotomy and to instead recognize the many agricultures that exist in Colombia, which not only include family farming and large-scale agribusiness, but also indigenous and Afro-Colombian communities, small and medium-sized agribusinesses, artisanal fisherfolks, etc. Colombian agriculture has been formed from its heterogeneity and diversity; different farm sizes, different forms and degrees of relationship with markets, institutions and territory, and different visions and objectives of the food system try to converge. The transformation of the food system, and debates thereon, requires then a recognition and appreciation of these differences.

We propose that two things are needed for this to happen. First, better characterization of the different actors that are part of the agricultural complex in Colombia. This implies generating reliable and regularly updated data on socioeconomic and environmental conditions, on outputs of the different productive systems, on their impacts and contributions to food production. Policy for food system transformation faces various challenges, including information gaps and contested facts

9 *Panela* is a raw, traditional unrefined sugar made from sugarcane juice that's common in many countries in Latin America. Its production in Colombia is associated with small and medium scale farmers.

10 The Gini coefficient is the most commonly used measure of distribution of income, land, etc. —simply put, a Gini coefficient of 0 reflects perfect equality, where all income or wealth values are the same, while a Gini coefficient of 1 (or 100%) reflects maximal inequality among values, a situation where a single individual has all the income or land while all others have none.

(Deconinck, 2023). Without a common and robust evidence base, the possibilities of disagreements, misinformation and polarization are amplified.

Second, even if the first element is addressed, disagreements and tensions due to divergent interests are inevitable in a diverse society. To manage these tensions, it is necessary to create spaces for public policy discussions with all types of actors, spaces that "level the playing field" and change from the current situation, where a particular group – usually large-scale industrial agriculture – has a disproportionate influence on political decision-making. Achieving better policies requires efforts to guarantee open and equitable access to policy-making processes (Deconinck, 2023), including the formation of the public agenda.

3.2 Native seeds and genetically modified organisms (GMO)

A topic that has generated much debate and polarization in recent years relates to the type of seeds (and genetic material in general) on which food systems rely. Two strands of the debate stand out in Colombia: native and creole seeds, usually associated with the promotion of agroecology, and genetically modified seeds, known as Genetically Modified Organisms (GMO) and associated with the Green Revolution model.

ARGUMENTS FOR AND AGAINST

In general, the arguments in favour of GMOs point out that they offer economic benefits, since genetic modification of seeds can increase yields and reduce production costs, as well as improve farmers' access to the market by satisfying specific consumer demands and increasing competitiveness in global markets. Some environmental benefits are argued, related to the possibility of reducing pesticide use and GHG emissions; as well as social benefits, since there is potential to improve the nutritional content of some crops and increase food availability, favouring food security (Klümper & Qaim, 2014; Brookes & Barfoot, 2016). Critics of the use of genetic modification emphasize environmental risks, such as the impact of GMOs on biodiversity (e.g. genetic pollution, water contamination, damages to farmland wildlife), the emergence of superweeds and super pests, and potential damage to ecosystems. They also mention economic risks related to the monopolization of the seed market by large biotechnology corporations, which affects small farmers and causes an increase in seed costs; and health risks associated with the consumption of GMOs, such as allergies and antibiotic resistance (Shiva, Barker, & Lockhart, 2011; Fagan, Antoniou, & Robinson, 2014).

Seeds in storage at CIAT in Cali, Colombia. Photo by Jacquelyn Turner

Those who advocate the increased use of native and creole seeds often sit in opposition to advocates of GMOs. Native seed advocates, such as La Via Campesina (2013) and Shiva, Lockhart, & Shroff (2015), among others, point to socio-cultural benefits, emphasizing that native seeds are part of the heritage and traditions of indigenous peoples and rural communities, and represent a connection with

their history and identity. They also propose that this model supports food sovereignty by allowing communities to control their food production, which guarantees access to diverse and culturally appropriate food.

Positive contributions to biodiversity and local ecosystems are emphasised, as this type of seed generally requires less water and chemical inputs. Economic advantages relate to the reduction of maintenance requirements in the long term, the ecosystem services provided by crops based on these seeds, and the revitalization of local economies through the local production and marketing of seeds. Native and creole seeds nonetheless generate criticism: there may be higher initial cost when starting an agricultural project, relative lower yields and greater volatility and risk in the market for native seeds, which can discourage some producers or limit their use in certain regions or products. In addition, critiques highlight the relevance of aesthetic and cultural preferences for the uniformity in the appearance of certain foods, which can generate resistance to the use of native seeds, as they usually don't deliver uniform products.

IN COLOMBIA

Both models are being implemented in the country. On the one hand, Colombia is a State Party to the Convention on Biological Diversity (Law 165 of 1994) and the Cartagena Protocol on Biosafety (Law 740 of 2002), with Decree 4525 of 2005 regulating the latter law and various aspects of GMOs. Planting of transgenic seeds of corn, soybeans, cotton, sugar beets and rice is authorized as raw material to produce food for human consumption. However, currently only corn and cotton are being produced. Regarding the correct labelling of foods derived from GMOs, the Consumer Statute (Law 1480 of 2011) lacks a provision establishing the mandatory labelling of this type of food, in response to which the Constitutional Court of Colombia (2015) has indicated that this gap "leads to a situation of serious and unacceptable risk for the constitutional rights of consumers".

On the other hand, indigenous and peasant communities have been working with and defending native and creole seeds for decades. There are various initiatives, organizations and networks in the country that work to strengthen native and creole seeds (e.g., the Free Seeds Network of Colombia, Grupo Semillas, MAELA, etc.). Similarly, there is one municipality (San Lorenzo, Nariño) and five indigenous territories (Zenú Indigenous Reservation of San Andrés de Sotavento in Córdoba and Sucre; Cañamomo and Lomaprieta Reservation in Riosucio, Caldas; Iquira and Llanobuco Reservations in Huila; and Mayabangloma Reservation in La Guajira) that have declared their territory as GMO-free zones.

At the institutional level, one of the first notable mentions of native seeds is found in the Peace Agreement, where reference is made to "the promotion and protection of native seeds and seed banks" as part of the Comprehensive Rural Reform. Likewise, Ministerial Resolution 464 of 2017, which establishes the policy guidelines for ACFC, presents the definition of "farmer's seeds" and proposes several actions in this regard. Additionally, Agrosavia - the national agricultural research centre - has initiated work on the subject, seeking to integrate local native seed processes and systems into the National Seed System (Guzmán, 2022).

Until recently, legislation regarding native seeds has been lacking or unclear. In 2023 the Constitutional Court, in response to a writ of protection of constitutional rights (called *tutela*[11] in Colombia) from various indigenous authorities, ordered the Ministry of Agriculture and Rural Development, through Sentence T-247-23, to lead the adoption of measures to protect, on the one hand "traditional knowledge and practices of indigenous peoples with respect to their genetic

11 A *tutela* is an easily accessible mechanism for the protection of human rights to which any citizen in Colombia may resort when their fundamental constitutional rights are being violated, either by a private individual or a public authority. This could be if they're not getting adequate medical care, educational rights, or other of their social-economic-political rights guaranteed in the constitution. If a tutela is granted, the person gets a court order they can take back to the involved party to get them to act in accordance with what the constitution and the court says.

heritage, especially their seeds and, on the other, the control of risks arising from the release of modified living organisms as a result of biotechnology" (Constitutional Court of Colombia, 2023).

In this regard, the Colombian Agricultural Institute (ICA) generated a proposal[12] to respond to the Court order, but it was rejected by various organizations and social platforms[13] that considered it unfair and against the autonomy, food security and sovereignty of the communities, and the freedom of native and creole seeds. Moreover, the organizations complain that the proposal was assigning the responsibility of avoiding contamination by GMOs to those who conserve native and creole seeds and not to those who produce and plant GMOs seeds.

REFLECTIONS

The debate is far from over, both nationally and internationally, as evidenced by a document endorsed by more than 300 independent researchers worldwide (Hilbeck et al., 2015), where they emphasize that the scarcity and contradictory nature of the scientific evidence published to date prevents conclusive statements about GMOs. They point out that there is no consensus on the safety of genetically modified foods, there are no epidemiological studies investigating the potential effects of genetically modified foods on human health and there is no consensus on the environmental risks of genetically modified crops. This adds to the lack of sufficient and official information on the state -threats and opportunities- of Colombian agrobiodiversity, as noted in section 2.2.

In this regard and considering the recent advances in regulating GMOs and native and creole seeds, we consider it necessary to move the debate forward on two fronts. Firstly, it is essential to promote broad and constructive dialogues based on multiple forms of evidence, involving multiple stakeholders (legislators, producers and consumers) to advance towards a better coexistence of these approaches. These dialogues must seek to identify both the existence of disagreements and the origins of them. These may be based on evidence gaps, misconceptions/disinformation, gaps between public perceptions and evidence, opposing interests, differences in values, or a combination of the above. Depending on the case, different public policy approaches should be employed (Deconinck, 2023).

Secondly, the incipient policy development surrounding the regulation and promotion of native and creole seeds puts their promoters at a disadvantage, as they don't have clear and robust policy instruments for the development of this type of systems. We consider it necessary to advance in the regulation, promotion and protection of this type of native and creole seeds. A starting point should be the creation of a strategy (program) that responds to the court order (Sentence T-247-23) and includes the participation of the actors that have been promoting and defending this type of seeds in the country.

In short, given that both models are present in the country, the challenge is to have differentiated policies that are in line with the socio-economic realities of the stakeholders who promote and practice either approach.

3.3 Localized food systems and global food trade

ARGUMENTS FOR AND AGAINST

A third debate on the future of food systems concerns the dichotomy of scale, where one narrative advocates for territorial or localised food systems, while the other highlights the need to take full advantage of the benefits of international trade and the need for efficient coordination at the global

12 https://www.ica.gov.co/noticias/ica-alista-reglamentacion-semillas-nativas-criolla

13 See for example the statement of the Seeds of Identity Program and the Free Seeds Network of Colombia.

level (Wood et al., 2023; Enthoven & Van den Broeck, 2021; Born & Purcell, 2006). While this debate is not new, and these perspectives are not always presented as mutually exclusive, new conditions or developments (e.g. climate crisis, COVID-19, Ukraine-Russia conflict, among others) have revitalized the debate.

In general, the position in favour of a globalized food system argues that global free trade improves efficiency and innovation, expands the variety of products available to consumers, and contributes to food security in regions that cannot grow their own food, or have serious limitations to do so. In contrast, those in favour of localised food systems argue that they improve consumers' access to fresh and healthy food, provide farmers with a high sense of recognition or social belonging, foster social ties, boost the local economy and lead to more environmentally sustainable production and a lower carbon footprint (Wood et al., 2023; Enthoven & Van den Broeck, 2021).

The multi-level Plaza Market of Pereira, Colombia. Photo by Jacquelyn Turner.

The debate has been addressed by TABLE[14], from which we bring some of the conclusions and reflections (Carlile & Garnett, 2021). The challenges of modern food systems, including the destruction of natural resources, unequal distribution of power, negative impacts on health and increased food insecurity are not exclusive to local or global systems. The line between what can be perceived as local and global is often blurred and sometimes non-existent, and therefore the local-global dichotomy is not useful.

It is therefore more pertinent to focus attention on the broad spectrum of different scales that coexist and interconnect within the food system. For example, local or territorial food systems might be beneficial in contexts where a variety of foods can be grown locally, but some countries or territories will inevitably need to rely heavily on food imports to ensure their food security. This diversity of scales is critical to food system resilience. Over-reliance on global trade, on a few large producing or supplying companies, on a few high food producing regions, or on a small number of commodities, makes food supply extremely vulnerable to shocks.

IN COLOMBIA

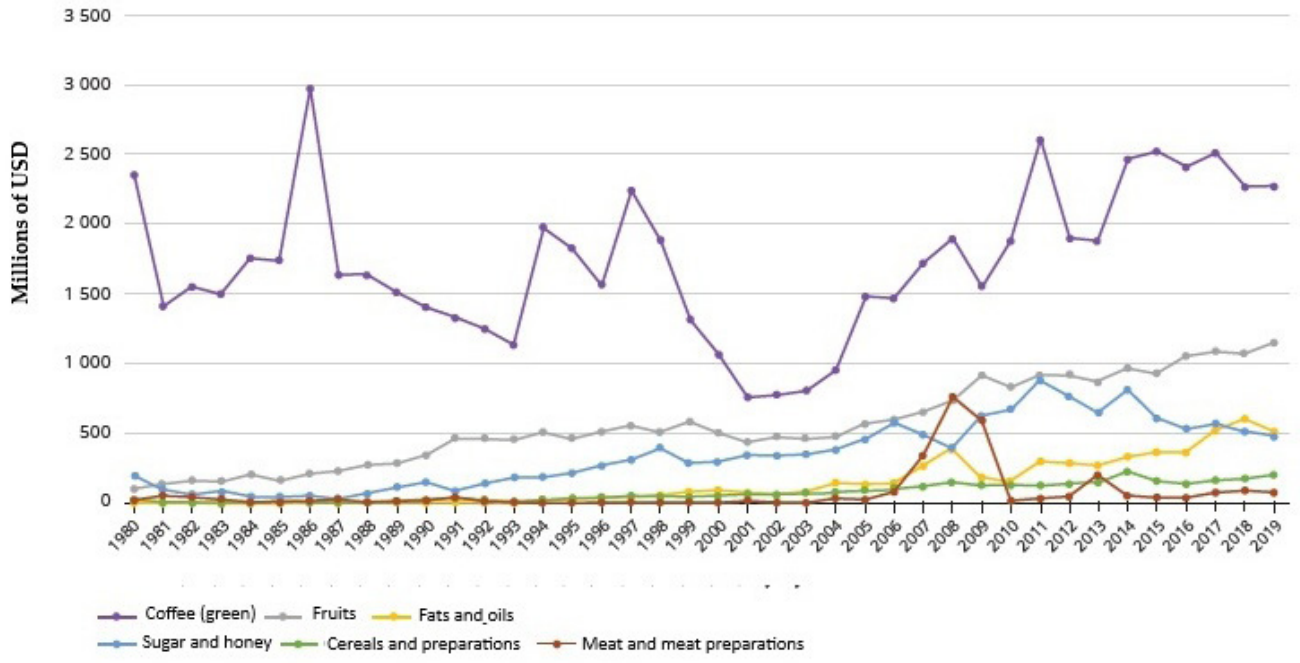
The first thing to highlight is Colombia's advantage as a tropical, megadiverse country with a variety of climate zones, to have a food system with high availability of diverse foods, and a dynamic participation in international food trade. (FAO, European Union and CIRAD, 2022).

Despite having a diverse food supply, a few products have a predominant weight in the national harvested area, such as coffee (20%) and a group composed of rice, palm oil, sugar cane and corn (10%). In addition, three of these five products are not directly food.

Coffee remains, by far, the main Colombian agricultural product and the most important, despite the increase of fruits, sugar, and palm oil export during recent decades (see figure 2). Regarding imports (see figure 3), since the economic opening in the 1990s there has been an increase in the import of cereals and cereal preparations. Additionally, since the 2000s there has been a moderate growth in animal feed, some fruits and vegetables, and fats and oils.

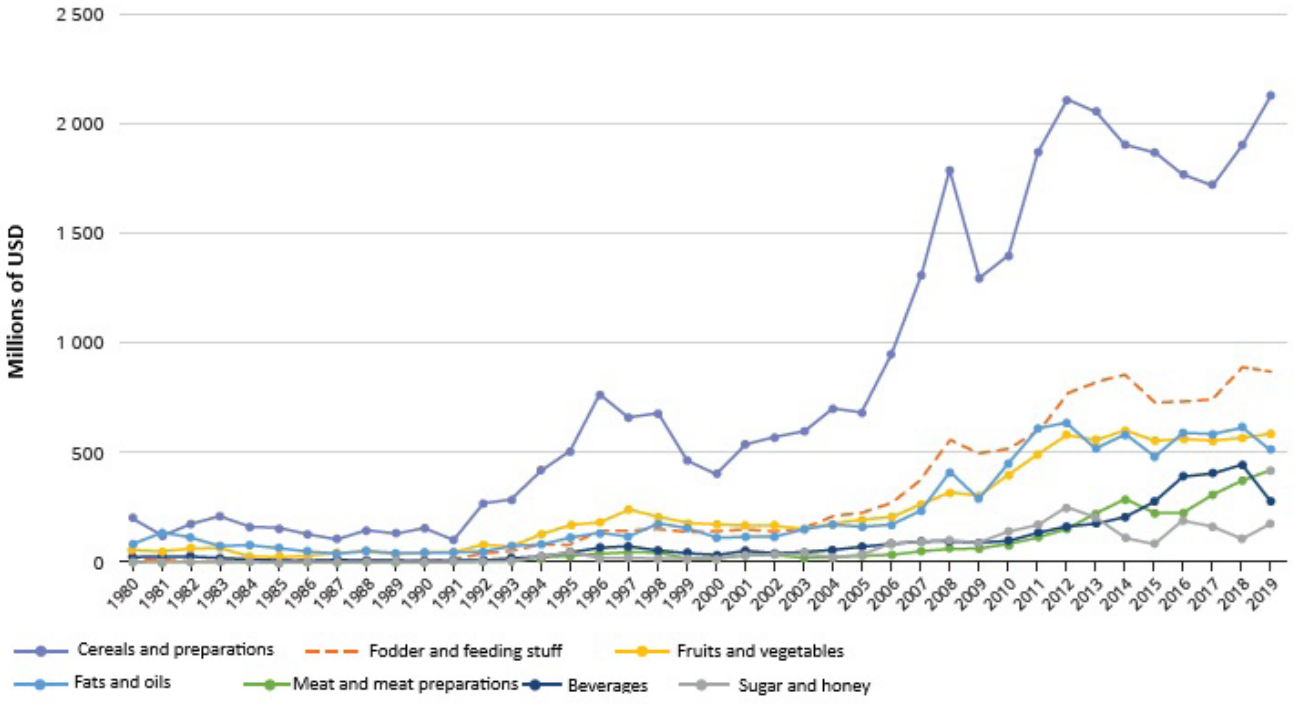
14 Scaling the Food System (TABLE)

Figure 2. Exports of main agricultural products (in millions of USD), 1980-2019



Source: Translated from FAO, Unión Europea & CIRAD (2022).

Figure 3. Imports of main agricultural products (in millions of USD), 1980-2019

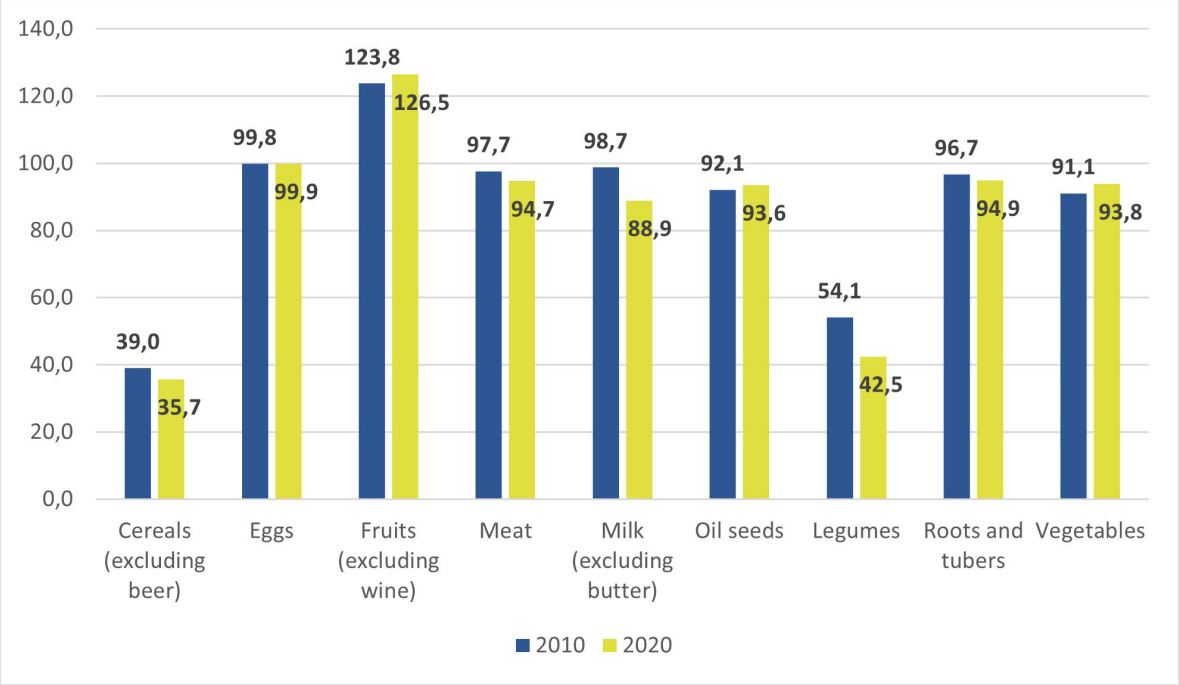


Source: Translated from FAO, Unión Europea & CIRAD (2022)

These trends show that Colombia maximises its competitive advantages as a producer of its own food and simultaneously participates in the global agri-food market, both as an exporter and importer. However, these data tell us little about the level of international dependence or self-sufficiency that the country has. In other words, they do not indicate how localized or globalized Colombia's food security is. To get an idea of this situation, we can use the Food Self-Sufficiency Coefficient.

Figure 4 shows that, in the cases of cereals and legumes, two food groups of great importance for food security and sovereignty, Colombia has a self-sufficiency of 35% and 42%, respectively (in other words, a dependence on international markets of 65% and 58%). At the other extreme, for the group of fruits, self-sufficiency is 126% and it is the only food group in which the country depends on its own production to supply itself.

Figure 4. Food self-sufficiency ratio for Colombia 2010 and 2020, selected food groups



Source: Own elaboration based on FAOSTAT (2022).

Finally, another characteristic is the excessive centralization of food flows towards wholesale canters in the largest cities. Some estimates indicate that wholesale centres deal with 18% of the production of roots, tubers and bananas and 35% of the production of fruit and vegetables; where half of the marketing of these food groups is concentrated in Bogotá (35%) and Medellín (15%) (FAO, European Union and CIRAD, 2022). This centralization, together with the dependence on land transport by trucks, generates a high logistical vulnerability of the Colombian food system.

REFLECTIONS

As noted above, diversity of scales is essential for the future of the food system. If we opt for an extreme localization of the Colombian food system, what will happen to the coffee produced by more than five hundred thousand families, of which 95% is destined internationally? Who will buy the cocoa produced as a promising alternative for the substitution of illicit crops? What implications, in terms of price increases, would a 100% national production of cereals for animal feed have, considering that chicken and pork constitute the main source of animal protein consumed in Colombia?

At the other extreme, turning completely to a globalized system would imply abandoning or wasting comparative advantages that Colombia has as a megadiverse country with the capacity to produce varied foods all year round. Taking the above into account, how would we manage the vulnerability to future blockages to international trade generated by pandemics, wars or logistical obstacles? Which sectors could absorb the millions of jobs in the agriculture, livestock, hunting, forestry and fishing sector, currently the second biggest employing sector in Colombia—jobs that would be lost as a result of a greater shift towards globalisation?

The challenge, we believe, is to find a more accurate, relevant and inclusive balance between both approaches or views. Likewise, it is necessary to identify the socioeconomic opportunities, and public policy needs to take advantage of both the localization of some processes in our food system and the globalization of food trade. Finally, in this debate it is important to keep in mind, more strongly than in the previous two, that globalization has expanded the range of actors and interests that affect food systems, while improved communications have increased the possibilities of sharing information and generating transnational mobilization (Swinnen & Resnick, 2023). This makes the debates more complex as it brings to the table possible divergences on facts, interests or values on a global scale and can strengthen or weaken coalitions of actors that promote certain reforms or agendas.

4. Conclusions

We began this essay by asking what are the main aspects that energize or restrict the debates on food systems in Colombia in the context of multi-stakeholder dialogue between government, agricultural organizations, agroindustry and academia. As we have analysed throughout the document, Colombia has geographic, cultural, environmental, and socioeconomic particularities that shape not only its food systems, but also its debates. In this context, we present four conclusions and two open questions for future discussions.

First, there is a governance challenge that implies the coordination of intersectoral policies while developing specialized agendas towards the transformation of agri-food systems. The systems approach connects aspects that have historically been separated or that have not been addressed firmly, both from public institutions and from other actors. Until recently, the emphasis on the productivity paradigm overshadowed environmental aspects such as soil health, biodiversity, and water use and availability. Today, the challenge is to interconnect agricultural production policies with policies for climate change adaptation and mitigation, soil protection, biodiversity conservation and use, water conservation and use, healthy diets, and food inequality, among others. This general-level coordination, already complex, has the additional challenge of being driven by specific developments in each of these sectors and by the visions of the different actors, which are often antagonistic. For example, developments and innovation in agriculture are needed for climate adaptation, and further research is needed on the relationship between food and biodiversity.

Second, the lack of information constitutes a major obstacle to the development of nuanced and constructive debates, as well as to informed decision-making in the context of food systems. Due to the great complexity involved in the systems approach to food, various types of qualitative and quantitative information are required, from various levels. Additionally, there is a need for this information to come from different sources or systems of knowledge (traditional, scientific, empirical, theoretical). This information should be collected, analysed and used for decision-making that contributes to meeting the objectives of food systems. However, the current situation is that debates are being generated, and decisions are being made, with incomplete information that is not accessible to all actors. This information gap, as pointed out earlier, increases the possibilities of disagreements, misinformation and polarization, especially with a diversity of actors, interests and values. For instance, Colombia has been without official statistics on nutrition for several years, it does not have updated information on biodiversity and climate change, and the most recent agricultural census was conducted 10 years ago and there is still no indication of when the next one will happen. The absence of this type of information is a key obstacle in promoting debates about how food system transformation is to occur, as well as in deepening public process.

Third, the number and diversity of actors is both an asset and a great challenge. On the one hand, it contributes to the existence of different visions of food systems. This is important, especially in a biodiverse and multicultural country, because different visions value different environmental, cultural, economic and political components of food. However, this diversity can also generate important difficulties for debates, decision-making and governance of food systems. The diversity of actors

implies diverse interests and values, which can lead to the exclusion of some visions or actors if participatory and adaptive deliberation and negotiation frameworks, which are often slow and costly, are not established. Generating constructive debates and achieving better policies require building a shared understanding of the facts, balancing divergent interests (or compensating potential losers) and peacefully resolving differences over values.

Fourth, we focused the analysis on debates that emerged from a specific event and setting of actors. This approach has left out other debates and contested issues. For example, when talking about family farms, or the distinction between native and modern seeds, different definitions could emerge, or various interpretations of a formal definition could lead to different or conflicting views and proposals. Even though we did not address this kind of discussions here, we are aware that definitional ambiguities are an important part of the debate around food systems.

Finally, we leave two questions open for further debate. As we have highlighted, the transformation of food systems requires urgent actions. But, in a context of multiple actors, intersectoral and specialized policies, and in which there is a lot of incomplete information and uncertainty for decision-making: How do we manage the trade-offs between complexity (which demands longer and slower processes) and the need to make policy decisions in the short term?

Likewise, taking into account that our values and ideological beliefs influence what we consider a legitimate, necessary, or true change in the food system and considering that the ways of seeing and interpreting the world (based on our training and experience) influence not only how the problem is addressed, but also what is considered the appropriate context for change and where the priorities for change should be placed (Garnett, 2023), we consider it pertinent to ask: Which of the visions and proposals are dominating the debates or are being incorporated by decision-makers? Is there clarity and transparency about the values and ways of understanding the world that lie behind these proposals?

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6. Appendix

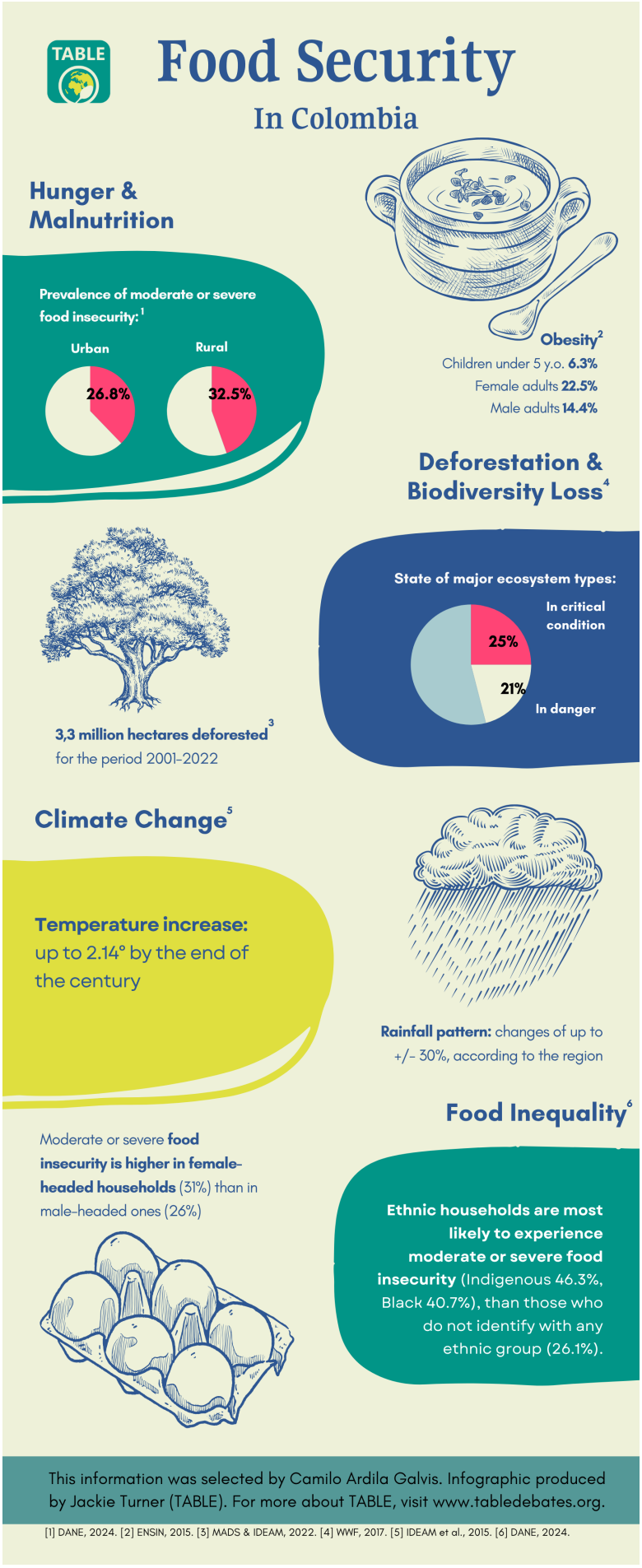


TABLE
Food Security
In Colombia
Hunger & Malnutrition
Prevalence of moderate or severe food insecurity:[1]
Urban
26.8%
Rural
32.5%
Obesity[2]
Children under 5 y.o. 6.3%
Female adults 22.5%
Male adults 14.4%
Deforestation & Biodiversity Loss[4]
State of major ecosystem types:
In critical condition
25%
21%
In danger
3,3 million hectares deforested[3] for the period 2001-2022
Climate Change[5]
Temperature increase: up to 2.14° by the end of the century
Rainfall pattern: changes of up to +/- 30%, according to the region
Food Inequality[6]
Moderate or severe food insecurity is higher in female-headed households (31%) than in male-headed ones (26%)
Ethnic households are most likely to experience moderate or severe food insecurity (Indigenous 46.3%, Black 40.7%), than those who do not identify with any ethnic group (26.1%).
This information was selected by Camilo Ardila Galvis. Infographic produced by Jackie Turner (TABLE). For more about TABLE, visit www.tabledebates.org.
[1] DANE, 2024. [2] ENSIN, 2015. [3] MADS & IDEAM, 2022. [4] WWF, 2017. [5] IDEAM et al., 2015. [6] DANE, 2024.

Visions for food system transformation (I)

	Large-scale industrial agriculture	Family farming
Arguments in favour:	Economies of scale Feeding a growing population Lower prices for consumers	Promotion of biodiversity and resilience Higher productivity per unit of land Nutritionally adequate and healthy diets Strengthen cultural traditions
Arguments against:	Impacts on biodiversity and climate change Market concentration Low dietary diversity	Lower scale and technology Low productive efficiency
In Colombia:	Colombian Farmers Society (SAC) Several incentives for agricultural commodities	RENAF, ANUC, ANMUCIC Res. 464/2017 No specific policies

Unclear % of contribution to food security, climate change and employment generation.

Reflections:

- Better characterisation of the (contribution of) different actors participating in agriculture: industry, family farming, peasantry, ethnic groups, urban and periurban.
- Integration of family farming to wider public policy discussions.

This information was selected by Camilo Ardila Galvis. Infographic produced by Jackie Turner (TABLE). For more about TABLE, visit www.tabledebates.org.

Visions for food system transformation (II)

	Genetically-Modified Organisms (GMO)	Native seeds
Arguments in favour:	High yields Lower costs Improved nutritional content Comply with high market standards	Cultural heritage Ecosystem services Local economy Less demand of inputs
Arguments against:	Seed monopoly or oligopoly Health risks Impact on biodiversity: "superweeds" & "superpests"	Higher initial costs Seeds' martket volatility Heterogeneity (appearance) of products
In Colombia:	Law 740/2002 and Decree 4525/2005 Authorized GMOs: Corn, soy, cotton, beetroot & rice Regulatory gap for labeling	5 Indigenous territories & 1 municipality declared GMO-free Incipient regulation: Res 464/2017 & Sentencia T-247-23

Reflections:

- Promote broad, constructive dialogues based on multiple forms of evidence and aiming to identify the sources of disagreements (facts, interests, values or combination)
- Deepen the actions for the regulation, promotion and protection of native seeds, to "level the field".

This information was selected by Camilo Ardila Galvis. Infographic produced by Jackie Turner (TABLE). For more about TABLE, visit www.tabledebates.org.

Visions for food system transformation (III)

	Global food trade	Localized food systems
Arguments in favour:	Expands variety of product for consumers Efficiency & innovation through free trade agreements Boost global economy	Improve access to fresher & healthier food Boost local economies Foster social ties Lower carbon footprint
Arguments against:	Global vulnerability to local shocks (natural disasters, conflict, etc.)	Vulnerability of places with low food-production capacities
	Diversity of scales is essential	
In Colombia:	Top 5 coffee producing countries (livelihoods of >500k families) Food self-sufficiency: 126% fruits	Megadiverse country, high availability of diverse foods Food self-sufficiency: 35% cereals, 56% legumes
	Excessive centralization of food flows towards wholesale centers in 2 main cities	

Reflections:

- More accurate and inclusive balance between the two models
- Consider the expanded /global range of actors and coalitions promoting certain reforms or agendas.

This information was selected by Camilo Ardila Galvis. Infographic produced by Jackie Turner (TABLE). For more about TABLE, visit www.tabledebates.org.

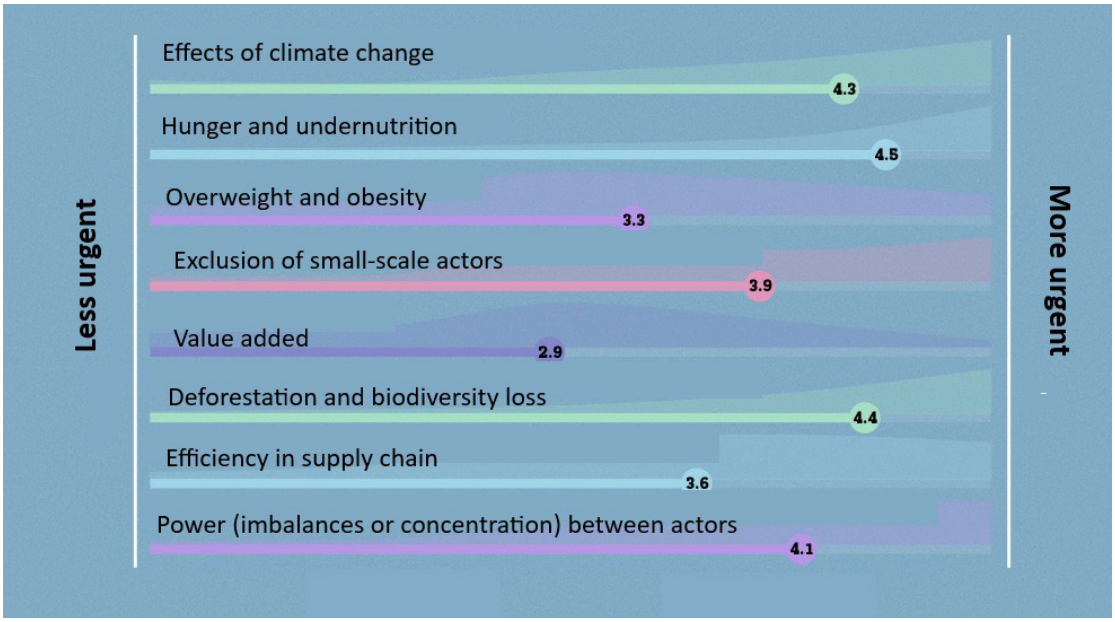
7. Annex

RESULTS OF THE MESA LAUNCH WORKSHOP IN COLOMBIA

On February 21, 2024, the launch of "MESA: Debates on the future of food" took place at Universidad de Los Andes. It seeks to generate debates around the food system, address both global and local problems of hunger, and reflect on the possible futures of food systems in Colombia.

As part of the event, a small survey was conducted on the most important aspects to address in the country's food system, as well as the future prospects of the food system. Both the workshop and the surveys were carried out in Spanish, but a translated version of the results of the four questions are presented below.

1- Rate, on a scale from least urgent to most urgent, the following aspects of the food system in Colombia. Given the consensus of their importance, land access and peace are not including among the options.



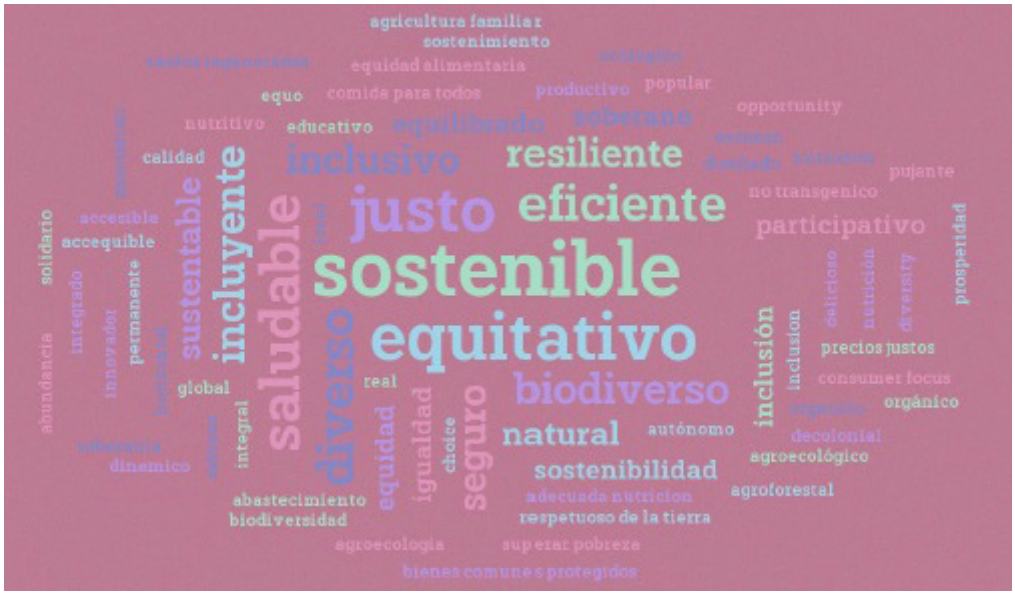
Source: Translated version of the graph generated by Mentimeter. Survey carried out on 21st of february 2024.

2- Write a maximum 3 words that describe how do you imagine the future of the food system in Colombia if the current conditions and trends continue.

- Poverty; hunger; unsustainable; inequitable; inequality, inequity;
- Inefficient; precarious; unequal
- Scarcity; death; violent; pollutant; malnutrition; imbalance;

Source: Translated version of the graph generated by Mentimeter. Survey carried out on 21st of February 2024.

3- Write a maximum of three words that describe how you envision the desired future of the food system in Colombia.



- Sustainable; equitable, fair, healthy, efficient, diverse; biodiverse
- Inclusive; resilient; inclusive*; safe; natural; sustainable; sustainability*;

Source: Translated version of the graph generated by Mentimeter. Survey carried out on 21st of February 2024.

4- Which element, positive or negative, would you highlight from the relation between peace, land, and food systems?

- *Environmental justice*
- *Formal access to land*
- *Inequality*
- *Rural development*
- *Effective climate action*
- *Peasant-land relationship*
- *“Loosen the earth to sow peace”.*
- *Power relationships*
- *Existence of family farming*
- *Social justice*
- *Environmental justice*
- *Good government*
- *Opportunities*
- *Investment security*
- *A true agrarian reform*
- *Better and equitable development for the population*
- *Major socio-environmental conflicts in the agri-food systems in our territories*
- *Nutritional and planetary health*
- *Power relationships*
- *Multipurpose cadastre and recognition of victims*
- *Food equity*
- *Representation*
- *Environmental justice*
- *Land redistribution and greater investment in the agricultural sector.*
- *The peasant and women as central subjects of the system*
- *Harmony*
- *Sustainability*

- *Unequal*
- *Necessary to balance.*
- *Respect for the decisions of those who produce and consume.*
- *Reconnection and reconciliation between societies and the territory*
- *Possibility of building together for the benefit of all*
- *Dignified forms of coexistence*
- *Opportunities wasted by the State but contested jointly by national and international agrarian elites.*
- *Enjoyment of rights*
- *Equity in access, use and tenure of land.*
- *Fair access to land and food sovereignty*
- *Without peace there is no land security and there is no food security*
- *It must be a pillar of agrarian reform.*
- *Social justice*
- *Potential to produce.*
- *Regarding culture*
- *Respect for the environment*
- *Balance*
- *Land grabbing*
- *Justice*
- *Access to justice*
- *Socio-environmental conflicts*
- *Safety for food production*
- *Diversity in production*
- *Sustainability*
- *Legitimate rules and regulations*
- *Cultural component*
- *Opportunities*
- *Effective climate action*
- *Dialogue and awareness about natural resources, the community and the territory.*

- *Lack of equal opportunities*
- *Enjoyment of rights*
- *Intrinsic connection in peace and food sovereignty*
- *A peaceful and stable environment provides the necessary conditions for growing and producing food.*
- *Strengthening capacities of farmers*
- *Collective identity that is formed through food, crops and territory*
- *Clear positioning of the Human Right to Adequate Food for all Colombians*
- *Peace will not be sustainable until the human right to food and access to land is guaranteed.*
- *Resilience.*
- *The concentration of land as a catalyst and/or source of violation of rights*
- *Dispossession*
- *Access to land and the guarantee of peace make it possible to propose and develop a more just, equitable and sustainable food system, which takes into account biological, agricultural and cultural diversity.*
- *Hoarding*
- *With peace we work the land, with land we contribute to food security.*
- *Comprehensive, democratic Agrarian Reform, which allows redistribution of the best soils in the country.*
- *Formalization of property*
- *Rural well-being*
- *Governance*
- *The dispossession of land causes hunger*
- *Possibility of understanding the close connection that exists between these elements and our role in order to achieve a balance between them and enhance them.*
- *Awareness*
- *The inability to analyse the territory in regional visions different from the political-administrative division.*
- *Freedom in the interaction of food system actors*
- *There is talk of the "tip of the iceberg".*
- *Attempt to change the status quo by giving access to the factors of production to farmers.*
- *The localization and search for systemic competitiveness of territorial food systems is not conceived.*

- *Without peace, and in general without an attractive environment for investment, the land will not be able to be properly managed.*
- *The public institutions have not understood that the paradigm has changed, we are faced with guaranteeing the human rights of food over agribusiness.*
- *Centralism and technocracy above guaranteeing the effective participation of the actors and interest groups of the territory.*
- *Equity, care and conservation of the land generates opportunities to implement non-invasive systems of food sovereignty, which allow the reduction of conflicts and progress towards peace.*
- *Become a global agri-food potential, thinking only about the production of commodities over processes that take advantage of the potential of production.*
- *A community at peace and with access to land is a community that has more opportunities to produce without putting pressure on the forest and biodiversity.*
- *The lack of balanced opportunity and the absence of support for small producers highlights the negative aspects of the food system.*

Summary of the workshop in-person participants:

Type of actor	Number of participants
Civil society	**4**
Government	**10**
International cooperation	**4**
NGO	**7**
Private sector	**5**
Academia/research	**11**
Total	**41**