



Series **The food system and the challenges of COVID-19**

**1** COVID-19 and the food phenomena

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**Introduction**

COVID-19 has exposed the underlying inequities in societies. Closures and disruptions show how fragile, how vulnerable the conditions of access to essential goods and services are. In food systems, critical weaknesses and inequalities in the region's prevailing socio-economic development model have come to light. The current health, economic and social crisis is a wake-up call for food systems that must be addressed urgently in order to deal not only with the immediate effects of the pandemic but also with a medium- and long-term view, without neglecting the future consequences.

The multidimensional crisis unleashed by COVID-19 is of particular concern for the food security of countries with the highest poverty levels. In these countries, the population

spends a higher proportion of its income on food. Thus, when family income falls, the quantity and quality of food consumed is affected, impacting on nutritional indicators through deficiencies of essential nutrients from fresh foods and an increase in consumption patterns that are high in calories but low in nutritional value. This worsens overweight and obesity problems, increasing the double nutritional burden.

This article focuses on phenomena that had been occurring even before the current crisis, affecting the food environments. They should be monitored carefully in the medium term as they could deepen their features and effects on decision-making in food acquisition, preparation and consumption (HLPE, 2017).

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## Conceptual approach

The concepts that the author puts forward in this document – phenomena and areas – are based on the conceptual framework of the High Level Panel of Experts on Food Security and Nutrition (HLPE, 2017), which highlights the central role that the food environment plays in promoting more nutritious, healthy and sustainable dietary choices. Accordingly, the suggested definition of a **food phenomenon** is “any situation associated with any of the aspects that characterize the food environment (access, infrastructure, personal determinants,

and regulations) and that affect consumers’ interaction with the food system to make decisions on the purchase, preparation and consumption of food”.

We understand the **areas associated** with the food environment as “ situations that affect the food system, as indicated in the literature and by expert opinion, where potential phenomena could be identified based on the consolidation of the evidence that supports them”.

With these two conceptual clarifications, we suggest the following sub-classification of phenomena:

**Consolidated food phenomena** have a clear and widely shared definition. They stand out for having robust empirical evidence on their impact on food environments. Food deserts and wetlands can be found in this category.

**Emerging food phenomena** are those that affect food environments and for which we have empirical evidence, but not yet the conceptual clarity to define them and measure their impact. Among the emerging phenomena, we consider those associated with: food prices; public food procurement and short marketing circuits; promotion, advertising and marketing of food; regulation of the marketing of products high in critical nutrients; and, finally, those associated with e-commerce.

The **food phenomena to be described** refer to situations that, according to experts and due to their characteristics, could affect the food environment. However, their level of conceptual development and available empirical evidence is still limited. These situations offer new edges in terms of future findings and possible areas of research and intervention.

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## Consolidated food phenomena

**Food deserts.** Places where people have difficulty in physically accessing fresh and nutritious food because no retail stores are available or at an excessive distance from people’s homes (FAO, 2018). The name of food deserts was consolidated based on this phenomenon, which occurs above all in areas and/or territories that are lagging from a socio-economic point of view, concentrating on the low-income population.

**Food swamps.** Food choice environments that encourage the consumption of ultra-processed foods and immediately gratifying food actions,

namely, that generate satisfaction quickly, for the amount of critical nutrients, and because they can be obtained and consumed rapidly (FAO, 2018; Yang *et al.* 2012; Wagner *et al.* 2019; Ghosh-Dastidar *et al.* 2014; Bridle-Fitzpatrick, 2015).

**Geographic and socio-cultural factors associated with the emergence of food deserts and swamps.** The concept of food deserts first appeared in the 1990s, out of a concern to study urban areas with difficulties in accessing retail food markets (Reisig and Hobbiss, 2016).

In general terms, the food desert phenomenon considers two main dimensions:

**1. Territorial or geographical:** these are mainly urban areas, with food access and public health problems.

**2. Commercial:** availability of small, medium or large sales establishments in the areas identified above (Miller, Middendorf and Wood 2015; LeClair y Aksan, 2014).

Over time, the term has evolved, expanding as the evidence has become available. Today, several studies suggest that the availability of food establishments is not synonymous with food access. Some authors have even shown that it suffices to take into account distance from food establishments as a relevant variable for physical access, dietary diversity and food security (Bridle-Fitzpatrick, 2015; Zhong *et al.*, 2018).

**Access, consumption and its consequences on health.** Several studies point out deficiencies in access to and consumption of food and its nutrients (Matson, 2012); showing specifically problems related to both undernutrition and overnutrition (Smith, Butterfass and Richards, 2010). It is possible to link the impacts that food deserts have on health with the economic causes of their presence (Leete, Bania y Sparks-Ibanga 2011) and the conditions of rural areas (Morton, 2007).

On the other hand, Bridle-Fitzpatrick (2015) suggests that food swamps are an even more severe problem than deserts, so public policy should encourage the supply of healthy products to replace those high in critical nutrients that are detrimental to people's health.

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## Emerging food phenomena

**Factors affecting food prices.** The Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020 proposes that "as appropriate to national context, countries consider the use of economic tools that are justified by evidence, and may include **taxes and subsidies**, to improve access to healthy dietary choices and create incentives for behaviours associated with improved health outcomes and discourage the consumption of less healthy options" (WHO, 2014).

Economic theory suggests that increasing the price of foods that are high in nutrients (such as excess energy [caloric content], sodium, sugar, and saturated fat) and/or reducing the price of foods that are high in health-promoting nutrients (such as fibre and unsaturated fat) can improve the nutritional quality of diets. It can also increase income and tax revenues, allow funding for other health interventions or state expenditures, and send a clear message to consumers about which foods are healthier (Engelhard, 2009).

Studies show that reducing the prices of nutritious foods and making unhealthy foods more expensive, for example through taxes and subsidies, can be a way of influencing

consumer behaviour and, therefore, food intake (Eyles *et al.*, 2012).

**Public food procurement and short marketing circuits in food environments.** Public procurement has acquired an essential role in the development agenda, particularly in Latin America and the Caribbean. This is due to the potential impact on local agriculture – through markets generation and distribution networks – and on the population's nutrition, education and health. Despite its great importance, there is still a lack of evidence regarding its real impact on food systems.

Notwithstanding the above, it appears that the use of public procurement as a tool for the provision of food in schools, hospitals, workplaces and government buildings has the potential to influence production, in particular by obtaining food from local producers. This has been observed, for example, in Brazil (Hawkes *et al.*, 2016).

**Promotion, advertising and food marketing.** Evidence suggests that food promotion, marketing and advertising influence consumers in deciding what type of food to buy and eat. This factor affects the food environment, and while there is ample evidence of its effect on

decision-making, it is not yet clear how it could change the food environment.

Data indicate that marketing strategies aimed at children have an impact on their eating preferences and practices (Boyland *et al.*, 2016; Smith, Yeatland and Boyland, 2019). This is why, the World Health Organization (WHO) recommended that countries ensure healthier eating environments by restricting the marketing of energy-intensive products as well as nutrient-poor foods and beverages, particularly products high in saturated fats, sugars and salt (WHO, 2012).

### **Regulation of information and marketing for products high in critical nutrients.**

Nutrition labelling has been a long-standing concern in many countries. It is essential to provide reliable and detailed information on the nutrient content of food as it can affect people's purchasing decisions and, consequently, affect their relationship with food environments. Several countries in the world have already regulated consumer information and marketing of products high in critical nutrients, including Chile, Peru, Uruguay and Mexico.

Evaluations in Chile, one year after the implementation of the front-of-package labelling law (2016), indicate that regulation is changing perceptions, attitudes and behaviours towards healthier eating patterns (Correa *et al.*, 2019). Also, several food and beverage groups decreased their energy, sodium, total sugars and saturated fat content. It remains to be seen how consumers react to

these changes and whether this reformulation has a positive or negative impact on the quality of the overall food supply, taking into account, for example, other nutrients or food components such as non-nutritive sweeteners (Reyes *et al.*, 2020). Clearly, the current socio-economic scenario poses new challenges to this mechanism for modifying food environments.

**e-Commerce.** The e-commerce industry has become a global trend in continuous growth, mainly driven by the advance of the Internet and the increase of connected users in the world. In turn, the concentration of consumers in cities, their easier access to credit and the gradual entry of new digital platforms in commercial stores, have driven the transformation of retail trade and purchasing habits of the population (Torres Torres and Rojas Martínez, 2016).

Like other young markets that are embracing e-commerce, Latin America and the Caribbean have experienced dramatic changes in e-commerce technology and infrastructure, with improvements in payment, shipping and logistics systems, as well as a large growth in the number of retail e-commerce outlets in the region.

To involve agricultural producers in an e-commerce system, bridging the digital divide is essential. Additionally, the marketing design itself should not stray too far from the marketing channels to which producers are accustomed, in terms of sales frequency, forms of payment, sales, effort, expectations, beliefs, and possibilities (Bravo, 2018).



## Food phenomena to be described: vast opportunities

### ***Biotechnology applied to food production.***

There is a growing interest in how the use of biotechnology affects food environments. In particular, how can food with added value be offered to a segment of consumers who value the use of new technologies, especially those that are environmentally friendly. Also important is the role that this discipline could have on the “creation” of foods rich in certain macro or micronutrients that are deficient in conventional diets in a given territory, for example.

### ***Food marketing by social determinants.***

Experts indicate that the food industry mostly directs its advertising and marketing to specific segments of the population (countries, ethnicities, people groups and age groups); which is still not widely studied and is of great interest for the proper design of regulations to improve food environments. (Busts, 2020).

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## Reflections on the current situation

In Latin America and the Caribbean, poverty is expected to increase, which will directly affect access to food. Faced with this complex scenario, the food system needs urgent and innovative solutions, taking into account the particularities of each country (with its risks, opportunities and vulnerabilities) in order to help identify priority areas for developing policies, programmes and investments.

In this new context, new food phenomena will likely emerge, or those already identified will be affected by the pandemic, which would impact the prioritization of its approach. The impact on food supply and demand will depend on countries’ production and trade structures, their levels and degree of income inequality, and external factors related to markets (FAO, 2020). An impact on food supply is also expected due to restrictive measures imposed for health purposes. E-commerce is an emerging phenomenon of particular interest because of the leading role it has played during the health crisis in certain population groups, and its potential impact on health. It is also interesting because of the need to regulate and control food marketing by this modality to promote inclusive participation and avoid market concentration. The emergence of this form of food trade seems to be so important that a special issue in this series will be dedicated to it.

It is essential to maintain focus on the monitoring of nutritional indicators, paying special attention to the double nutritional burden, particularly in countries that, before the pandemic, put their efforts into tackling obesity and overweight and had assumed that undernutrition had been overcome, as is the case in Chile.

Other measures recommended to address the pandemic in the short and medium-term include: ensuring the continuity of meals for students participating in school feeding programmes; encouraging public food procurement, especially from small-scale agricultural producers; promoting short marketing circuits to boost local economies; and designing fiscal measures to promote people’s access to nutritious food at affordable prices.

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